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Investigating the Decision-Making Processes of Preschool Children in Project Works Based on Reggio Emilia Approach*

Tuğba AYDEMİR ÖZALP, Mine Canan DURMUŞOĞLU*****

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ABSTRACT

The purpose of the current study is to investigate the development of the decision-making processes of preschool children through project works based on the Reggio Emilia Approach. The study group of the current study, which was conducted using the collaborative action research method, consisted of a preschool teacher and 14 children. The data collection process lasted for four months by using two action plans. In the study, data were collected using interviews, observations, diaries and the "Decision-making skills assessment tool - child and parent forms". Qualitative data were analyzed by using the content analysis technique, and quantitative data were analyzed by using the Wilcoxon signed-rank test. As a result of the study, it was seen that the children's decision-making skills improved and their decision-making processes emerged iteratively in the projects in four stages. However, it was observed that towards the end of the process, the children were more successful in creating goals, needed less teacher support, were able to develop a greater number of options, and used different methods other than guessing in the options they developed, such as getting advice and benefiting from past experiences. In addition, towards the end of the process, the children were observed to participate more actively in the selection process, exhibit independent decision-making behaviours in individual choices instead of being indecisive and choosing what was suggested and asking for help, and in joint choices, they exhibited behaviours such as counting, persuading and voting instead of obeying or opposing what their friends said.

Keywords: Preschool education, Reggio Emilia approach, thinking skills, decision-making process, project

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1. INTRODUCTION

Early childhood is a period in which cognitive, physical, social-emotional and language development is fastest and children are highly open to acquiring many skills (Milli Eğitim Bakanlığı [MEB, 2013]; Tierney & Nelson, 2009). During this period, a solid foundation is created for children's future lives through the environmental opportunities and effective experiences provided to them. These effective environmental opportunities and experiences can be provided through preschool education (MEB, 2013; Oktay, 2005). The first years of life are very important for the development of decision-making skills, like many cognitive skills. It is stated that thinking training given to children in the first years of life is supportive in the development of many skills such as decision making, questioning, problem solving and critical thinking (Bilgiç & Kandır, 2020).

Decision-making is the identification of alternatives and choosing the most appropriate one among them according to the determined criteria (Marzano & Kendall, 2006). The decision-making process consists of successive stages such as goal setting, option selection, evaluation and conclusion and requires being active (Byrnes, 2002; Kallet, 2014). Although the decision-making process seems simple, it is a complex and repetitive cognitive process in which many cognitive activities are used together or sequentially. Although researchers define different numbers of stages of the decision-making process, it seems that the key points of the process are basically similar (Adair, 2010; Byrnes, 1998; Mettas, 2011; Wales et al., 1986). In this context, the decision-making process begins with realizing the situation in which the decision will be made, and ends with

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** Assist. Prof. Dr., Kütahya Dumlupınar University, Faculty of Education, Department of Primary Education, Division of Early Childhood Education, Kütahya-TÜRKİYE. e-mail: tugbaaydemir08@gmail.com ORCID (0000-0002-9642-3811)

*** Assoc. Prof. Dr., Hacettepe University, Faculty of Education, Department of Primary Education, Division of Early Childhood Education, Ankara-TÜRKİYE. e-mail: sendogdu@hacettepe.edu.tr (ORCID: 0000-0001-6777-9117)

creating a goal, creating options for the goal, or making a choice by evaluating the existing options and evaluating the outcome. Thus, it is possible to say that paying attention, planning, predicting, creative thinking, reasoning and evaluation skills are all used in the decision-making process. The development of the decision-making process will support the development of these skills, and the development of these skills will support the development of the decision-making process (Davey, 2010).

Given that people make many decisions that will affect their lives throughout their lives, it becomes clear how important the decision-making process is. Decision-making is a skill that can be improved through training (Eldeleklioğlu, 1996). According to recent research, ensuring children's participation in the decision-making process affects society in legal, cultural and social contexts (Davey, 2010; Davies et al., 2006). Decision-making is defined as a right in the Convention on the Rights of the Child. It is stated that it is important to ensure the active participation of children in the decision-making process in society and to support the development of this skill from an early age (United Nations Committee on the Rights of the Child, 2009; Council of Europe, 2017). The ever-increasing complexity of life and the diversity of interests and emerging problems arising from individual differences emphasize the need to develop decision-making skills (Jacobs & Klaczynski, 2005).

Decision-making skills are among the least researched skills in the field of thinking skills in early childhood and more research is recommended (Bilgiç & Kandır, 2020). However, it can be said that researchers agree that the decision-making process in childhood develops with age and that effective decision-making skills can be learned (Ersever, 1996). Studies have shown that there are significant changes in executive functions at the ages of three and four. When children are asked to choose from decks, one advantageous and the other disadvantageous, significant differences are seen in their choices depending on age. As a result of the analyses, it has been determined that four-year-old children make more advantageous choices than three-year-old children (Kerr & Zelazo, 2004). Participatory approaches applied in early childhood education support teachers to make decisions and implement them together with children, instead of using approaches where teachers plan and implement the education process without taking into account children's interests, curiosities and thoughts (McGrath et al., 2009). Özeloğlu (2019), in his study examining the views and practices of teachers on preschool children's participation in decision-making, stated that decision-making skills develop depending on the opportunities offered to children. Taking into account children's abilities, wishes, curiosities and personal characteristics and structuring the program accordingly and allowing children to manage the education process increase the decision-making opportunities. Thus, there is a need to take action to investigate and develop children's decision-making process and evaluate this process.

When practices that will support children's decision-making processes are examined, alternative education approaches come to the fore. Alternative education approaches and practices are employed in many areas in early childhood education. The increasing number of studies on alternative education approaches and practices in early childhood and the fact that many pre-school education institutions benefit from these educational approaches in their programs indicate that quality pre-school education is given importance (Aydemir-Özalp & İnan, 2020; Aydemir-Özalp & İnan, 2021; Karataş, Uzun & Uğurlu, 2024; Koç-Akran & Kocaman-Gelir, 2024). Educational reforms in the 20th century and policies that gave importance to child education affected pre-school education. From these education reforms, various alternative education approaches have emerged (Lohmander, 2004). At this point, the Reggio Emilia Approach, a contemporary method in which children actively participate in decision-making processes, comes to the forefront. Originating in Italy after World War II and inspiring many countries today, this approach involves children in the creation of the program and the process itself. Throughout this process, the teacher meticulously documents everything, making learning visible (Katz & Chard, 1997; Malaguzzi, 1998). According to the Reggio Emilia Approach, the child is seen as a free, motivated, and attentive worker who sets goals on topics of interest, makes plans accordingly, generates options, makes decisions, solves problems, thinks differently, and expresses themselves and their emotions. The child is regarded as an explorer in this approach (Edwards et al., 1998). In the Reggio Emilia Approach, learning takes place through projects which children are interested in and curious about. During projects, children propose different hypotheses, construct their own knowledge, and engage in reflective thinking. With the teacher supporting all these processes, children are given the opportunity to generate ideas and exchange them in a democratic and scientific environment, resulting in insights into their decision-making processes (Hewett, 2001; Rinaldi, 1998). In Reggio Emilia schools, the degree of decision-making and the rate of participation in decisions by children are observed to be significantly higher compared to models such as the thematic approach, unit approach, and single concept teaching. The decision-making process involves the participation of everyone, including children and teachers. When disagreements arise during this process, multiple roadmaps can emerge. Through art-supported scientific research, the decision-making process of children is continually supported (İnan et al., 2010; Helm & Katz, 2001).

In the Preschool Education Program of the Ministry of National Education implemented in Turkey, it is emphasized that project works in which subjects are used as tools according to the interests and needs of children can be conducted (MEB, 2013; MEB,2024). It can be said that children being active is a common feature of the Ministry of National Education Preschool Education Program (2013; 2024) implemented in Turkey and of project works based on the Reggio Emilia Approach. In this regard, there is a need for research examining the decision-making processes of children in project works based on the Reggio Emilia Approach.

Research on decision-making is concentrated in the fields of health (Bechara et al., 1994, 2000; Marewski & Gigerenzer, 2022; Reyna et al., 2015), management (Bakioğlu & Demiral, 2013; Kıral, 2015; Saaty, 1985), economics (Bülbül & Köse, 2011; Payne

et al., 1991; Klein & Sharma, 2022; Yüksekbilgili, 2016), and psychology (Franken & Muris, 2005; Kerr & Zelazo, 2004; Klaczynski et al., 2001). When research conducted in the field of education is examined, it is seen that studies are generally focused on the decision-making skills of students from different age groups, with a special emphasis on the period of adolescence (Akaydın et al., 2020; Akyol, 2021; Baumberger-Henry, 2005; Baysal et al., 2021; Bednar & Fisher, 2003; Crone & Van Der Molen, 2007; Demirbaş-Nemli et al., 2019; Ersoy & Deniz, 2016; Gao et al., 2009; Garon & Moore, 2004; 2007; Güvendi, 2019; Özeloğlu, 2019; Pekdoğan, 2019; Pekdoğan & Ulutaş, 2018; Tekin & Ulaş, 2016; Uçar, 2019; Van Leijenhorst et al., 2008; Yalın, 2021). The current study was deemed necessary due to the lack of studies that concretely reveal the decision-making processes of preschool children in detail and utilize the Reggio Emilia Approach to elucidate these processes.

1.1. Statement of the Problem

The problem of the study is "What are the decision-making processes of preschool children in Reggio Emilia Approach-based project works?" In light of this problem, the following research questions were posed:

1. What is the current state of the children and the teacher regarding the decision-making processes before carrying out project works based on the Reggio Emilia Approach?
2. What are the changes taking place in the children's decision-making processes during their Reggio Emilia Approach-based project works?

1.2. Purpose of the Study

The purpose of the current study is to investigate the development of preschool children's decision-making processes through Reggio Emilia Approach-based project works. The answers to the determined problems and sub-problems were found. In this context, it is believed that this study will contribute to the literature by enriching the programs and activities in preschools, drawing attention to the decision-making processes of children, providing guidance for further studies and showing how to support children's decision-making skills.

2. METHODOLOGY

The current study was designed as collaborative action research. Yıldırım and Şimşek (2013, p. 333) define action research as "a research approach conducted either directly by a practitioner involved in the practice, such as an administrator, teacher, educational specialist working in a school, or other experts working in various organizations, or by a practitioner in collaboration with a researcher, to identify problems related to the practice process." The current study was designed as an action research as it aimed to determine the current state of the children and the teacher in relation to decision-making process and the Reggio Emilia Approach and plan and implement practices to develop the decision-making process.

Berg (2001) classified action research into three types: "technical/scientific/collaborative", "practical/mutual collaboration/deliberative" and "emancipating/enhancing/critical". In the current study, technical/scientific/collaborative action research was used, and under the guidance of the researcher, the preschool teacher carried out Reggio Emilia Approach-based projects with the children in the classroom. During the implementation process, the children's decision-making processes and their development were examined. The steps undertaken during the research process are schematized in Figure 1:

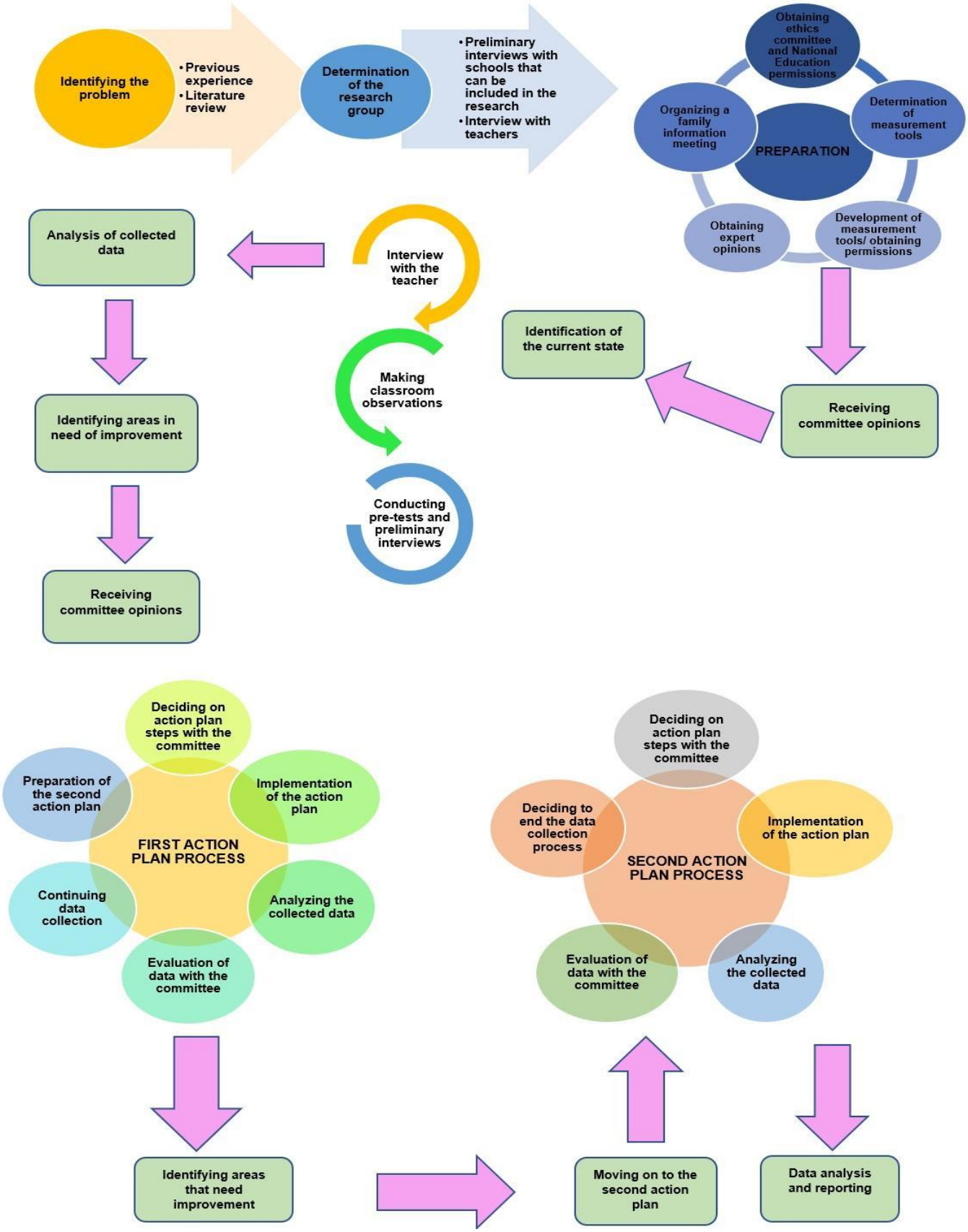

Figure 1. Research Process

2.1. Participants

The study group consisted of a teacher from a private school where the project works based on the Reggio Emilia Approach were conducted, the children in her class, the researcher and members of the credibility committee. Purposive sampling was used to determine the study group (Patton, 2014). In action research, the sample is selected for a purpose since solutions should be found to the problems of a person, class or an institution. Sampling from a population is not preferred because generalization is not aimed at (Tekindal, 2021).

2.1.1. Teacher

The teacher has 3 years of professional experience. She continues her graduate studies. She took courses on alternative educational approaches and research methods during her undergraduate and graduate education. She is currently working with 5-year-old students in a private pre-school education institution. The teacher stated that she allocates 2 hours for children to play freely during the day, includes all the activity types defined in the curriculum in her plan, and generally organizes large group activities. She stated that she shares the children's work, photographs and videos with their families and fill out the development form at regular intervals and deliver it to the families (Interview - September 13, 2021).

2.1.2. Children

In the first semester of the 2021-2022 academic year, the data of a total of 14 children, eight girls and six boys, aged 5 years in the teacher's class are given in the table with their code names.

Table 1.
Demographic Information About Children

The child's code name	Duration of pre-school education	Number of siblings	Education level of parents	Parents' profession	Asking for the child's opinion when making decisions at home
Öner	1	1	Undergraduate-Undergraduate	Teacher- Engineer	Yes
Derin	2	0	Postgraduate - Undergraduate	Teacher - Tradesmen	Yes
Zerrin	0	0	Undergraduate-Undergraduate	Accountant - Salesperson	Yes
Kadir	0	0	Undergraduate - Postgraduate	Engineer -Vet	Yes
Tuğra	2	0	Undergraduate - Postgraduate	Teacher - Teacher	Yes
Songül	2	1	Postgraduate - Postgraduate	Teacher - Teacher	Yes
Ayşe	1	1	Undergraduate-Undergraduate	Engineer - Engineer	Yes
Nehir	1	0	Undergraduate-Undergraduate	Lawyer- Expert	Yes
Akın	0	0	Undergraduate-Undergraduate	Lawyer - Lawyer	Sometimes
İpek	1	0	Undergraduate-Undergraduate	Nurse-Chef	Yes
Büşra	0	1	Undergraduate-Undergraduate	Teacher - Expert	Yes
Ahmet	0	1	Undergraduate-Undergraduate	Teacher - Air traffic controller	Yes
Efe	0	0	Undergraduate-Undergraduate	Architect- Engineer	Sometimes
Iraz	0	2	High school- high school	Housewife -Tradesmen	Sometimes

Half of the children are in their first year of pre-school education and the other half are in their second or third year. While eight of the children have no siblings, five have one sibling and one has two siblings. While one child's parents have high school education, the remaining parents have undergraduate or postgraduate education. The parents are from different professions. Twelve families stated that their children's opinions are asked for while decisions are made at home. Two families stated that they sometimes ask for their children's opinions while making decisions at home.

2.1.3. Researcher and researcher's role

The researcher attended a ten-day training on the Reggio Emilia Approach held at the Loris Malaguzzi International Centre in Italy in 2014. She attended training webinars organized by Reggio Children and took courses on research methods during her graduate studies. The researcher has given many seminars on the Reggio Emilia Approach. In action research, the researcher herself is one of the participants due to the nature of the research (Bogdan & Biklen, 2007). The main aim of the researcher in technical/scientific/collaborative action research is to describe the process developed based on collaboration (Yıldırım & Şimşek, 2013). In the role of a participant observer, the researcher observes and analyzes the current situation during the process, develops action plans and presents them to the credibility committee, informs the teacher on the issues she needs to consider in the implementation of the decisions taken in accordance with the action plans, supports the teacher by providing materials, exchanges ideas with the teacher, arranges the environment and documents the project works and collects and analyses data.

2.1.4. Credibility committee

In research, it is the group credibility committee where the data collected from the planning stage to the completion of the research is shared, action plans are presented for opinions, opinions are received about the development of the research, and decisions that enable the development of the next action plan are made together (Johnson, 2015). The credibility committee included three faculty members experienced in action research and preschool education. The committee members supported the development of the research process by providing ideas in the analysis of the current state and development of the action plans of the study. In addition, they made evaluations about the difficulties experienced in the implemented action plans and their solutions and the measures that should be taken. Credibility committee meetings were held through online meetings and correspondence.

2.2. Data Collection and Procedure

Since action research involves a dynamic and multidimensional process, both quantitative and qualitative data collection tools can be used (Creswell, 2017; Johnson, 2015). Research data were collected through observations, semi-structured and structured interviews, products, documents, scales and diaries (Johnson, 2015). The type of data and data collection tools used to answer the research questions are shown in Table 2.

Table 2.
Data Collection Tools Used during the Research

Type of data	Research question	Data collection tools	Participants
Quantitative and Qualitative	What is the current state of the children and the teacher regarding their decision-making processes before carrying out Reggio Emilia Approach-based project works?	• Observation • Interview • Decision-making skills assessment tool – parent form • Decision-making skills assessment tool – child form • Teacher diary • Researcher diary	• Children • Children, teacher • Parents • Children
Quantitative and Qualitative	What are the changes in the children's decision-making processes throughout the Reggio Emilia Approach-based project works?	• Decision-making skills assessment tool - child form • Decision-making skills assessment tool - parent form • Interview • Observation • Documents • Teacher diary • Researcher diary	• Children • Parents • Children, teacher • Children

During the project works, data were collected using the "Reggio Emilia Approach-based project process general observation form" developed by the researcher. While creating this form, a pool of 10 items was created based on the stages of the decision-making process in the literature and on which the current study is grounded. It is stated that in order to ensure content validity, opinions from field experts should be sought during the development of the measurement tool (Büyüköztürk, 2019). The draft observation form was sent to five experts and the feedback was evaluated with the Lawshe Technique to establish content validity (Lawshe, 1975). The final version of the observation form consisted of four items. It was used by the researcher throughout the project works.

In order to understand the teacher's perspective on the decision-making process, semi-structured interview questions were prepared by the researcher, taking into account the principles stated by Bogdan and Biklen (2007). The prepared form was sent to three field experts and one preschool teacher for review. Field experts examined the interview questions for content, and the preschool teacher, as a practitioner, examined them for comprehensibility. In addition, planning and feedback meetings were held as unstructured interviews between the researcher and the teacher throughout the implementation of project works. These meetings were held whenever needed, regarding the start of a new project, the supply of required materials during the implementation of project works, the problems encountered and the teacher's behaviours during the implementation process.

In order to reveal the stages of children's decision-making processes, the researcher prepared scenario-based structured interview questions by reviewing the relevant literature and sent them to three experts. Based on the feedback received, a scenario-based decision-making process structured interview form for children was created. It consists of four scenarios – one is with specified options, one is with no specified options, one is a single-step scenario and one is a two-step scenario – including a total of 16 questions designed to reflect the children's decision-making processes. Interviews were held with the children through this form twice, before and after the project works. In addition to the observations and interviews

conducted, products such as the school's workshop program, the teacher's activity plans, photographs, videos and audio recordings throughout the entire implementation process were collected.

The "Decision-Making Skills Assessment Tool" (DMSAT) was developed by Pekdoğan and Ulutaş (2016) to measure the decision-making skills of 5-6 year old children regarding the sub-dimensions of independent decision-making, being determined, difficulty in decision-making and emotions involved in decision-making. The tool consists of two forms: "Decision-Making Skills Assessment Tool-Child Form (DMSAT-CF)" and "Decision-Making Skills Assessment Tool-Parent Form (DMSAT-PF)". DMSAT-CF consists of 29 items in five sub-dimensions. The skill levels are expressed as low, medium, and high, based on the reference ranges for the minimum and maximum scores for each sub-dimension and the total scores of the scale. According to the statistical analysis, the reliability coefficient of DMSAT-CF is .89 (Pekdoğan & Ulutaş, 2016). DMSAT-PF was prepared for parents to evaluate their children's decision-making skills based on their observations. It consists of nine items of five-point Likert type. The skill levels are expressed as low, medium, and high, based on the reference ranges for the minimum and maximum total scores of the scale. According to the statistical analysis, the reliability coefficient of DMSAT-PF is .76 (Pekdoğan & Ulutaş, 2016).

In the study, the researcher and the teacher noted their feelings, thoughts, comments, ideas and evaluations in their diaries throughout the process. The researcher diary includes the researcher's steps in planning, implementing and ending the research and her inquiries and reflections. Moreover, the researcher structured the situations that needed to be corrected in the data collection process in a way that would help her develop and implement action plans, plan the next action, and present the results of the action taken in an orderly manner. The teacher diary contains the teacher's opinions, information, feelings, thoughts and evaluations regarding the implementation process.

During the project implementation process, preparations were made for the projects, the project was initiated, implemented and ended. The process of reflecting and planning together with the teacher regarding the projects conducted and collecting data regarding the changes to be made was carried out. All the implemented practices were presented to the review of the credibility committee. These studies were repeated cyclically throughout the four projects carried out during the research process, as seen in Figure 2.

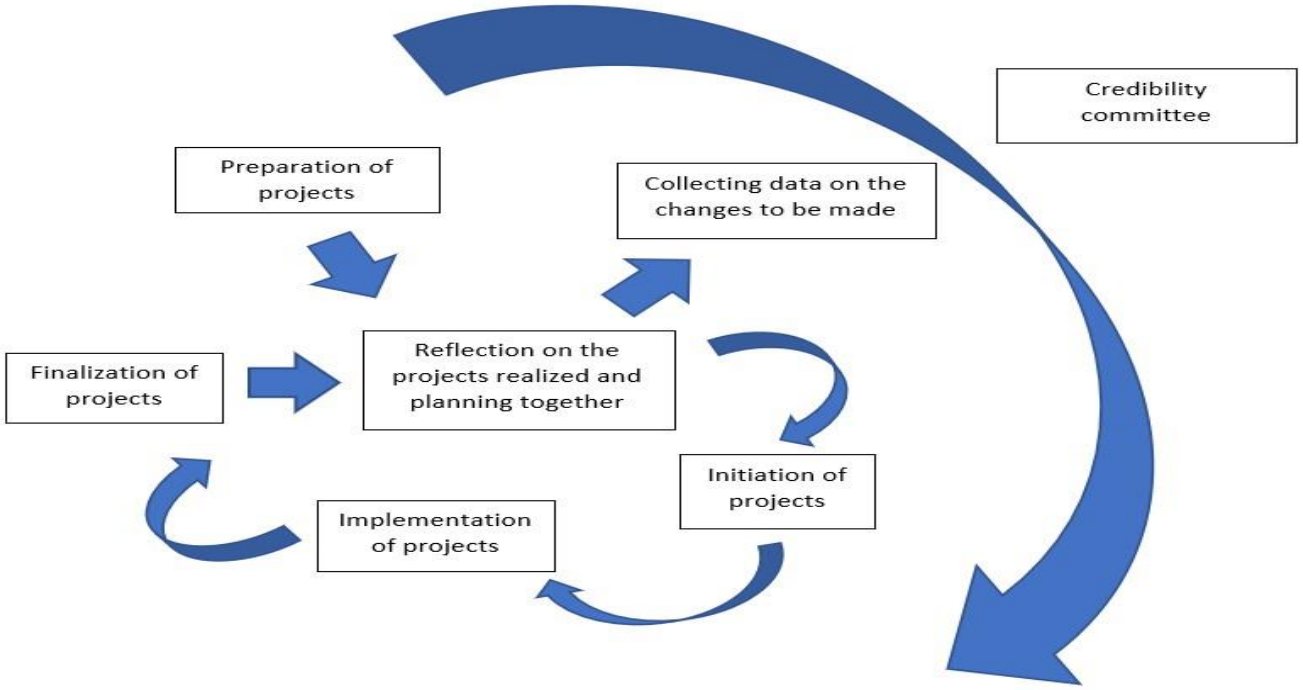

Figure 2. Project Implementation Process

A second action plan addressing the problems and solutions from the first project was developed, and the project activities continued. Mills (2011) stated two criteria for terminating the data collection process in action research: "data duplication" and "data saturation". It is stated that data duplication and data saturation are reached during the research process when no new findings are found or new patterns are not identified. Four projects were carried out during the implementation process, and since data duplication and saturation were reached in the last project, the implementation process was terminated with the approval of the credibility committee members. The four projects carried out throughout the research and the names of the activities conducted in the projects are given in Table 3 below:

Table 3.
Projects and Works Done within the Projects

	Works done in the project "Why are our eyes different?"	**Works done in the project "Planets"**	**Works done in the project "Papers"**	**Works done in the project "Vehicles"**
Project start and end dates and duration	25.10.2021-12.11.2021 Three weeks	25.11.2021- 03.12.2021 One week	06.12.2021- 30.12.2021 Four weeks	28.12.2021- 13.01.2022 Three weeks
	Self-portrait drawing	Investigation at the provocation centre	"What do I know? – What do I want to learn?"	Wheel examination
	Eye drawing	Space rocket construction	Investigation at the provocation centre	"What do I know? – What do I want to learn?"
	"What do I know? – What do I want to learn?"	Planet drawing	How is paper made? research	Investigation at the provocation centre
	Investigation at the provocation centre	Creative planet colours	Paper production work	Traffic rules game
	Making eyes with clay	Space rocket construction	We are going to the bank and reading a section in the magazine	Observational drawing of vehicles
	Examining the snake eye	Studying the distances of planets	Paper money examination and design	Aircraft manufacturing
	Examining the mole's eye	Moon sand making	Shopping game	Measuring the length of vehicles
	Why do we blink? research	Reading the solar system rally book	Making a piggy bank	Vehicle type investigation trip
	Reading the "Why do we cry?" book		How does paper come out when you send it to a photocopy? research	Let's make a vehicle clay work
	What would happen if we had many eyes? drama		Making a paper man	Composing songs
	What would happen if we had only one eye? game		Finding a name for a paper person work	Microphone making
	What would happen if we had our eyes behind us? drama		Making a snowman from paper pulp	
	Let's design our own eye work		How to erase writing from paper without an eraser? experiment	
	What are our eyes used for? examination		Cargo planes game	
	Who writes a book? research		Making a snowman for a New Year's party	
	Expert visit (Author)			

2.3. Data Analysis

In action research, data analysis begins with data collection. In this simultaneously developing process, the researcher reaches patterns by summarizing and analyzing the collected data (Mertler, 2014, Yıldırım & Şimşek, 2013). The systematic analytical analysis method was used in the analysis of the data from the observations, interviews and diaries in the study (Miles & Huberman, 2015). In a systematic analytical analysis, data collection and data analysis are performed simultaneously. In addition, the analyses made during the process form the basis of the next action plan. In this context, for the analysis of the observations and interviews regarding the current state, the data were first classified and the interview records were transcribed. Then, coding was done. Categories and themes were reached from the coding. A code list was created for the first codes determined. To ensure coder reliability, three random observation data and interview data selected from the data were given to the other coder. The codes obtained by the other coder and the codes obtained by the researcher were compared, and similarities and differences were discussed and thus a consensus was reached, resulting in the final version of the codes, categories, and themes.

In order to ensure coder reliability throughout the entire data analysis process, the formula suggested by Miles and Huberman (2015) "Reliability = Agreement / (Agreement + Disagreement)" was applied. Although there is no definitive information on how much of the collected data will be subject to coder reliability, Barber and Walczak (2009) stated that 20-25% of the data is sufficient. In this context, three randomly selected observations of the current state, 6 randomly selected interviews with children, and observations made throughout a randomly selected project were included in the scope of coder reliability. While the formula value was found to be 89.3% in the analyses made regarding the current state, the formula value was determined to be 91% in the analyses made regarding the data collected in the project implementation, and 98% in the analyses made regarding the interviews with children.

The scale data collected in the study were analyzed at the end of the process. When deciding which analysis techniques to use in the analysis process, it was deemed appropriate to perform non-parametric analyses since the size of the sample is smaller than 30 (Can, 2014; Cohen & Manion, 1994). Wilcoxon analysis is a type of non-parametric analysis used to test the significance of the difference between scores for two related sets of measurements (Can, 2014). In this context, Wilcoxon analysis was conducted to determine whether there was a difference between the pre-test and post-test scores using the child and parent forms of the decision-making skills scale.

2.4. Credibility and Research Ethics

To ensure credibility in the study, attention was paid to the strategies suggested by Lincoln and Guba (1985) and Creswell and Miller (2000). Moreover, before starting the research process, permissions from the ethics committee and the provincial directorate of national education and the consent of all the participants were obtained. In addition, all the participants were informed that the data collected during the research process would be used only for scientific purposes, that audio and video recordings would not be shared with anyone other than the researcher and the credibility committee members, that names, photographs and expressions that could reveal their identities would not be used, and that all the participants would be given code names.

3. FINDINGS

3.1. Findings on the Current State of the Children and the Teacher Regarding Decision-Making Processes Before Conducting Reggio Emilia Approach-Based Project Works

The current state of the decision-making of the children and the teacher was examined. In this context, the findings were examined as qualitative and quantitative findings. Qualitative findings were collected under the categories of the teacher and the children.

Table 4.
Coding Key for Qualitative Findings on the Current State of Decision-Making

Theme	Category	Sub-category	Code
Current state of decision-making	Teacher	Activities	Asking questions
			Creating classroom rules together with children
			Allowing children to exchange ideas with each other
			Children's not being able to make choices
			Restricted activities
			The teacher's always deciding on the arrangement of the classroom
		Opinions	An important skill
			An abstract skill for children
			A skill that needs to be developed in children
			A skill not emphasized enough in the program
	Children	Stages of the decision-making process	Setting goals
			Generating options/considering existing options
			Choosing one of the existing options
			Evaluating the result

In the observations made on the teacher's classroom practices, the planning, implementation and evaluation processes of the activities and the practices that support and do not support children's decision-making processes in daily routines were examined. The data regarding the practices obtained from the observations were interpreted and evaluated together with the data obtained from the interview with the teacher. The finding that can be given as an example of practices that support the decision-making process is as follows:

It was observed that the teacher asked questions that allowed the children to make decisions during the activities. The researcher explained this situation in her diary as *"the teacher asks crucial questions that will really lead to decision-making"* (A.G., September 20, 2021). In the "Let's make an octopus from a roll" activity held on September 20, 2021, the teacher asked the children to bring a roll from home. The children took the rolls out of their bags, but Öner forgot to bring a roll from home, while Iraz and Nehir brought unused rolls. The dialogue that occurs between the children at that moment is as follows:

Derin: Ms., they brought unopened rolls, what do we do?
Teacher: Let me think about what we should do?
Ayşe: Yes, let's open this and use it so that it will be the same.
Öner: Let's cut off the white parts.
Teacher: Wouldn't it be a waste if we cut it?
Ayşe: Let's use.

Teacher: Can we use them all right now?
Whole class: No
Teacher: Then, what should we do?
Kadir: Let's find another empty roll. Shall I check the toilet, Ms.?
Teacher: OK, go and check
Kadir: I found these; let's use them so the rolls won't be wasted.
… (GN, 20 September 2021)

In this dialogue, the goal-setting and option determination part of the children's decision-making process regarding what to do for their friends who did not bring the correct materials required for the activity is given. In addition, in the pre-interview with the teacher, the teacher said that she uses questioning for children to offer ideas and develop options and to motivate them to decide by asking such questions as: "*... do you think it is possible?*" *Do you like it?* … *What else can it be?*" (Interview, September 13, 2021). It is observed that the teacher, instead of directly bringing and presenting the material, asks leading questions for the children to develop options for what to do in this situation and to implement one of the suggested options. Teaching was improved by making preparations in the action plan regarding practices that did not support the decision-making process. One of the observed example situations related to this finding is as follows:

The teacher created the class rules together with the children, but she always made decisions herself regarding the class organization in activity processes and routines, such as which paints can be used in which activities, who sits at which tables, and who will be the assistant of the teacher that day. This was considered as a practice that does not support children's decision-making process. In the "Let's make an octopus from a roll" activity on September 20, 2021, before reading a book on the carpet, the teacher called the children one by one by name and told them where each one would sit. Similarly, in the "If emotions had a voice" activity on September 22, 2021, the teacher asked the children to sit where she said. The researcher also stated this finding in her diary as follows: "*Every morning when the children come to school, the teacher tells them which table and where they will sit.*" (AG, 16 September 2021). The children determined by the teacher in the morning routines take on different responsibilities during the day in the tasks again determined by the teacher. Throughout the observation period, some children expressed their discomfort with this situation by saying, *"But you didn't make me responsible at all today, teacher."* The teacher responded by saying, "*Desk manager, materials manager, toy manager, environment manager, calendar manager... You can be one tomorrow, now go back to your seat...*" (GN, September 13, 2021). In the "Emotional Minds" activity held on September 17, 2021, a conversation about emotions was held in the classroom and a book was read. Then, the teacher gave each child white paper, eyes and mouths in different shapes. She asked them to color these different mouths and eyes in the colors they wanted and stick them on the paper. In the meantime, Efe decided to draw a nose on his paper. When he said this, the teacher heard him and said, "No, just stick the mouth and eyes for now, wait, don't do anything else," and did not allow Efe to make his choice (GN, September 17, 2021).

In the pre-interview held with the teacher, contrary to the observation findings, the teacher mentioned that the children are able to make choices during the day by saying, *"In some activities, yes, I decide and say take these pens, take your crayons, but sometimes I also give them options, like I say let's see, those sitting at yellow table can take the pens they want and come, so I am actually giving them a choice because we have four types of paints, and they will try to choose the appropriate one. For instance, they can't choose watercolours because we don't have it at that moment, so the options are reduced to three, and they have to decide between those three paints"* and *"I do give them opportunities to choose their paint, the colour of their paper, their place, maybe even their chair while doing an activity sometimes."* At this point, observation and interview findings are not similar. In general, it is seen that the teacher has practices that directly or indirectly support or do not support the decision-making process in the classroom. Asking questions for children to generate options, creating rules together with them, and allowing them to exchange ideas are considered practices that support the decision-making process. On the other hand, the inability of the children to make their own choices and the teacher always making decisions about the daily processes, leaving the children to merely comply with these decisions, are considered practices that do not support the decision-making process.

In the current state of decision-making, the teacher used the following expressions to define the decision-making skill: "Important", "An abstract skill for children", "A skill that needs to be developed in children" and "A skill that is not emphasized enough in the program". The teacher's opinions regarding this finding are as follows:

> *"I actually consider it an abstract concept, which is difficult to master both at a young age and an older age, but I think it's a skill that must be acquired at a young age. If developed at a younger age, perhaps people make decisions more easily when they grow older. However, I don't think it's a concept that is pondered upon too much in general, both in preschool education programs and this is also true for me. I mean, am I really pondering over decision-making? I don't think so..." (Interview, September 13, 2021).*

Pre-interviews were conducted through scenario-based interview questions to see at which stages of the decision-making process the children were at the beginning. From the interview data, the following codes were derived; "Setting a goal", "Generating options / considering the existing options", "Choosing one of the generated/existing options" and "Evaluating the outcome".

Table 5.
Analysis of the "Goal Setting" Code Derived from the Scenario-Based Structured Pre-Interview

Setting a goal	**Number of the participants for the 1st scenario (f)**	**Number of the participants for the 2nd scenario (f)**	**Number of the participants for the 3rd scenario (f)**	**Number of the participants for the 4th scenario (f)**
Set a goal	6	6	9	12
Didn't set a goal	8	8	5	2

Table 5 presents the results showing whether the children noticed the goals in the given scenarios. Examples of the opinions of children who set a goal and those who could not set a goal are as follows: **Those setting goals:** "*going back to its nest*" (Kadir), "*going back its home"* (Derin, Efe, Tuğra, Iraz, Ahmet). "*as they are cold*" (Songül, Büşra, Öner). **Those not setting goals**: "*The crab wanted to watch them"* (Büşra), *"falling down"* (Iraz). *"Her pocket is torn*" (Kadir), *"saw the crab"* (Ahmet).

Table 6.
Analysis of the "Generating Options" Code Derived from the Scenario-Based Structured Pre-Interview

Number of generated options	**Number of the participants for the 1st scenario (f)**	**Number of the participants for the 2nd scenario (f)**	**Number of the participants for the 3rd scenario (f)**	**Number of the participants for the 4th scenario (f)**
0 options	1	1		4
1 option	7	8	12	5
2 options	3	3	2	5
3 options	3	2		

Table 6 presents the results of the analysis conducted on the number of the options generated by the children for the situations given. Some of the opinions expressed by children in this regard are as follows: "*He/she can take other stones and make a road."* (Derin), *"He/she can stand in the closed area there.*" (Derin), *"He/she can quickly jump over the stones and go home.*" (Songül) "*He/she might scare them so that they can fly elsewhere."* (Arda), "*He/she should hold it in his/her hand, it will make him/her warm when he/she hugs it.*" (Iraz), "*We build a technological house for birds and put the birds in it like a school."* (Tuğra), "*He/she says "Can I play too"?"* (Songül, Akın, Ayşe).

Table 7.
Analysis of the "Choosing One of the Options" Code Derived from the Scenario-Based Structured Pre-Interview

Choosing one of the options	**Number of the participants for the 1st scenario (f)**	**Number of the participants for the 2nd scenario (f)**	**Number of the participants for the 3rd scenario (f)**	**Number of the participants for the 4th scenario (f)**
Related to the outcome	7	6	11	6
Not related to the outcome	7	8	3	8

Table 7 presents the results of the analysis conducted on the state of the children's generating or choosing one of the options given for the scenarios. Some of the opinions expressed by children on this subject are as follows: **Those choosing options related to the outcome**: "*He/she must wait because the waters are too high, so he/she might drown.*" (Derin), "*He/she asks whether he/she can play too."* (Songül, Ayşe, Akın, Zerrin). "*He/she should stitch.*" (Nehir, Songül, Derin), *"He/she should glue.*" (Büşra). **Those choosing options not related to the outcome:** "*He/she might try to come by swimming.*" (Songül), "*He/she had better cross by swimming.*" (Nehir, İpek), "*They might take it to the veterinary."* (Nehir). "*He/she must give a reward."* (İpek), "*funny"* (Iraz), "*I don't know.*" (Kadir). "*They might take it to the repair shop.*" (Kadir).

Table 8.
Analysis of the "Evaluating the Outcome" Code Derived from the Scenario-Based Structured Pre-Interview

Evaluating the outcome	**Number of the participants for the 1st scenario (f)**	**Number of the participants for the 2nd scenario (f)**	**Number of the participants for the 3rd scenario (f)**	**Number of the participants for the 4th scenario (f)**
Evaluated the outcome	7	8	11	8
Didn't evaluate the outcome	7	6	3	6

Table 8 presents the results of the analysis of the children's evaluation of whether the outcomes of the options they chose worked or not. Some of the opinions expressed by children in this regard are as follows: **Those who evaluated the outcome**: "*He/she must wait for the rain to stop.*" (Songül, İpek). "*He/she must build a nest."* (Kadir, İpek, Ayşe, Efe, Songül, Derin). "*He/she goes to them and asks if he/she can play too."* (Derin, Nehir, Ayşe, Akın). *"He/she should stitch."* (Iraz, Ayşe, Nehir, Songül, Derin). **Those who didn't evaluate the outcome:** "*He/she should look at the window.*" (Iraz), "*He/she must teach."* (Iraz), "*He/she plays correctly.*" (Kadir), "*He/she must give an award.*" (İpek). "*He/she must knit with thread.*" (Ahmet).

When the goal-setting analyses of the scenario-based structured interview form were examined, it was seen that the children's states of goal setting and not setting were close to each other. It was determined that the number of options was one and two to a large extent. The stages of choosing one of the options and evaluating the outcome showed a similar distribution to the stages of goal setting. No significant difference was observed between the scenarios where the options were clear and where they were not in terms of choosing one of the options and evaluating the outcome. This might indicate that giving the options or children's generating the options themselves is not an important factor in the decision-making process.

Quantitative data, along with qualitative data, were collected regarding the current state of the children's decision-making skills. In this context, DMSAT-CF was administered to the children. The arithmetic means, standard deviations and standard error values of the scores taken from DMSAT-CF and its sub-dimensions and DMSAT-PF are given in Table 9.

Table 9.
Descriptive Statistics Table for DMSAT-CF and DMSAT-PF

	$\bar{x}$	ss	Sh_x
DMSAT-CF Total	11.29	1.62	6.06
Being Determined	5.07	0.86	3.22
Independent Decision-Making	1.57	0.33	1.22
Emotions Involved in Decision-Making	2.14	0.46	1.70
Difficulty in Decision-Making	2.50	0.33	1.22
DMSAT-PF	26.78	1.41	5.30

When Table 9 is examined, it can be seen that the mean decision-making skills scores of children in the pretest are at a medium level, close to low, according to the scale value ranges. It is seen that the mean scores for the sub-dimensions are as follows: the mean score for being determined is at a medium level, the mean score for independent decision-making is at a low level, the mean score for emotions involved in decision-making is at a medium level, and the mean score for difficulty in decision-making is also at a medium level. When the table is examined for DMSAT-PF, it is seen that the decision-making skills of the children in the parent form are at a medium level according to the scale value ranges in the pretest scores. In this context, it can be said that the results obtained from the child form of the scale administered to the children one-on-one by the researcher and the results obtained from the parent form filled out by parents considering their children support each other.

3.2. Findings Regarding Changes in the Children's Decision-Making Processes during Reggio Emilia Approach-Based Project Works

Changes in the decision-making process were examined for the children. Throughout the process, data were collected with qualitative and quantitative tools to obtain findings regarding the changes. The findings are presented under 4 subheadings.

3.2.1. Findings and discussion of scenario-based structured pre- and post-interviews

Post-interviews were conducted using the scenario-based interview questions in order to reveal the final state of the children in the stages of the decision-making process. The data obtained from the interviews are presented under the following codes; "Setting a goal", "Generating options / considering the existing options", "Choosing one of the created/existing options" and "Evaluating the outcome".

Table 10.
Comparative Analysis of the "Goal Setting" Code in the Scenario-Based Structured Pre- and Post-Interviews

Setting a Goal	**Number of the participants for the 1st scenario (f)**		**Number of the participants for the 2nd scenario (f)**		**Number of the participants for the 3rd scenario (f)**		**Number of the participants for the 4th scenario (f)**	
	Pre	**Post**	**Pre**	**Post**	**Pre**	**Post**	**Pre**	**Post**
Set a goal	6	10	6	10	9	11	12	14
Didn't set a goal	8	4	8	4	5	3	2	0

It was investigated whether the children were able to recognize the goals in four different scenarios given to them in the pre- and post-interviews and the results are presented in Table 10. Here, it is seen that the number of children who were able to set goals in the 1st, 2nd, 3rd and 4th scenarios increased. Table 11 presents the comparative analysis of the "Generating Options" code in the scenario-based structured pre- and post-interviews.

Table 11.
Comparative Analysis of the "Generating Options" Code in the Scenario-Based Structured Pre- and Post-Interviews

Number of generated options	**Number of the participants for the 1st scenario (f)**		**Number of the participants for the 2nd scenario (f)**		**Number of the participants for the 3rd scenario (f)**		**Number of the participants for the 4th scenario (f)**	
	Pre	**Post**	**Pre**	**Post**	**Pre**	**Post**	**Pre**	**Post**
0 options	1		1				4	
1 option	7		8		12	4	5	
2 options	3	2	3	4	2	7	5	8
3 options	3	2	2	4				5
4 options		8		5		2		
5 options		1		1				1
6 options and more		1				1		

When compared to the options generated in the pre-interviews, the children generated many more options in the post-interviews. The number of the options generated by the children for the scenarios given to them is examined and the results are presented in Table 11. Here, it can be seen that in all the scenarios, while there were 6 children who could not generate any options in the pre-interviews, there were no children who could not generate any options in the post-interviews. While the children were generating options, the researcher asked such questions as "what else could it be?" in the pre-interviews, in the post-interviews, the children started to generate options without needing such questions. Table 12 presents the comparative analysis of the "Choosing One of the Options" code in the scenario-based structured pre- and post-interviews.

Table 12.
Comparative Analysis of the "Choosing One of the Options" Code in the Scenario-Based Structured Pre- and Post-Interviews

Choosing one of the options	**Number of the participants for the 1st scenario (f)**		**Number of the participants for the 2nd scenario (f)**		**Number of the participants for the 3rd scenario (f)**		**Number of the participants for the 4th scenario (f)**	
	Pre	**Post**	**Pre**	**Post**	**Pre**	**Post**	**Pre**	**Post**
Related to the outcome	7	9	6	10	11	12	6	11
Not related to the outcome	7	5	8	4	3	2	8	3

It was determined that in the pre-interviews, children always stated the options they generated themselves as the outcome, whether they worked or not, whereas in the post-interviews, even if they generated a different option themselves, they were able to evaluate the outcome by choosing the one that worked the best. Table 13 presents the results of the analysis on the children's evaluation of whether the outcome of the options they chose worked or not.

Table 13.
Comparative Analysis of the "Evaluating the Outcome" Code in the Scenario-Based Structured Pre- and Post-Interviews

Evaluating the outcome	**Number of the participants for the 1st scenario (f)**		**Number of the participants for the 2nd scenario (f)**		**Number of the participants for the 3rd scenario (f)**		**Number of the participants for the 4th scenario (f)**	
	Pre	**Post**	**Pre**	**Post**	**Pre**	**Post**	**Pre**	**Post**
Evaluated the outcome	7	10	8	11	11	13	8	11
Didn't evaluate the outcome	7	4	6	3	3	1	6	3

It was determined that in the pre-interviews, children always stated the options they generated themselves as the outcome, whether they worked or not, whereas in the post-interviews, even if they generated a different option themselves, they were able to evaluate the outcome by choosing the one that worked the best.

When the scenario-based structured interview form goal setting pre- and post-analyses were examined, it was seen that the children's ability to set goals increased in the post-interviews. It was determined that in the pre-interviews, the number of options concentrated on one, two, and three options, but in the post-interviews, the number of options generated increased, reaching up to six or more options. Similar trends were observed in the sub-dimensions of choosing one of the options and evaluating the outcome in favour of the post-interviews. In this case, it can be said that project works based on the Reggio Emilia Approach are effective in improving children's decision-making processes in terms of creating goals, generating options, choosing the option related to the outcome and evaluating the outcome.

3.2.2. *Findings regarding the decision-making process in project works*

In the current study, decision-making processes were examined in detail throughout the Reggio Emilia Approach-based project works. The theme of changes in the decision-making process consists of four categories. The codes for these categories are presented in Table 14.

Table 14.
Coding Key for Qualitative Findings Regarding the Decision-Making Process in Project Works

Theme	**Category**	**Sub-Category**	**Code**
Changes regarding the decision-making process	Goal setting		A situation of interest A problem encountered
	Generating options / considering the existing options		Options related to the outcome Options related to the strategy
	Choosing one of the generated or existing options	Individual choices	Independent decision-making, having difficulty (asking for help, choosing what is suggested, remaining undecided)
		Joint choices	Agreeing, opposing, counting-out game, persuading, voting
	Evaluating the outcome		Expected outcomes Unexpected outcomes

Four projects carried out throughout the process were examined. It was determined that the stages of decision-making were cyclically repeated in each project. This finding can be seen in the project decision-making process stages tables below.

Table 15.
1st Project: Stages of the Decision-Making Process in "Why Are Our Eyes Different?"

Goal setting	**Generating options / considering the existing options**	**Choosing one of the generated/ existing options**	**Evaluating the outcome**
Efe: Whose eye is this? Efe: How will we find?	Öner: Lion eye Ayşe: Old person Efe: Horse eye Derin: Human eye Ayşe: Let's look at these books Tuğra: Let's look at it on the computer.	Öner: No, it's dark, the corner of our eyes is light. Tuğra: Let's check it from the computer	Teacher: Then could this be the human eye? Songül: No this is something else. Ayşe: It's an ostrich's eye, not a human eye.
Tuğra: What would we see if we had 17 eyes?	Tuğra: space…, Derin: behind the walls..., Efe: faraway places..., Öner: clouds.., Zerrin: inside the sea..., Kadir: I see a chest under the ground, there is money in it..., Ayşe: even around us..., Efe: the class next door..., Songül: inside the cupboards...	Tuğra: space…, Derin: behind the walls..., Efe: faraway places..., Öner: clouds..., Zerrin: inside the sea..., Kadir: I see a chest under the ground, there is money in it..., Ayşe: even around us..., Efe: the class next door..., Songül: inside the cupboards...	Tuğra: Oh yes I can see space. Derin: I can see it too …
Teacher: Where would you like your eyes to be on your body?	Tuğra: Above my head to see up..., Nehir: On my back…, Akın: On my arms..., Ayşe: On the back of my head	Tuğra: Above my head to see up..., Nehir: On my back…, Akın: On my arms..., Ayşe: On the back of my head	Teacher: Our eyes can only see the direction they are looking at, right? Children: Yes
Teacher: If we had only one eye or no eyes at all, could we still see?	Children: If we don't have two eyes, we can't see, but we can see with one eye.	Children: If we don't have two eyes, we can't see, but we can see with one eye.	Kadir: I couldn't see with both eyes closed, the ball didn't drop. Songül: I saw the ball but I couldn't drop it.
Teacher: How can we find out how many eyes snakes have?	Derin: Let's take a look at the books over there, shall we? Zerrin: We can check it	Teacher: So which one should we do? Tuğra, Kadir, Zerrin and Öner: Let's check it from	Teacher: Yes, I searched and found it here. Do you think this method worked? Children: Yes, yes, teacher,

	from the computer.	the computer	it worked
Tuğra: Do snakes have 1 eye or 3 eyes?	Kadir, Büşra, Ayşe: 1 Tuğra, Songül: 3 Derin, Ahmet, Zerrin, Efe, Öner, Nehir, Akın: 2 İpek, Iraz: I don't know	Kadir, Büşra, Ayşe: 1 Tuğra, Songül: 3 Derin, Ahmet, Zerrin, Efe, Öner, Nehir, Akın: 2 İnci ve Iraz: 2	Kadir: I said it had one eye, I know there is a snake with one eye. Tuğra: I saw a snake with three eyes, it was true. Efe: I said it had 2 eyes, I didn't see the snake with 3 eyes.
Teacher: You want to make eyes, how can we make eyes?	Derin: From the egg Akın: We should draw something round Ayşe: Circle Efe: Something round Öner: Circle Kadir: Circle Songül: Sphere	Akın: We should draw something round Ayşe: Circle Efe: Something round Öner: Circle Kadir: Circle Songül: Sphere	Akın, Tuğra, Derin: Yes, it was sphere.
Derin: How will we make the sphere?	Akın: With paper	Akın: With paper The whole class choose the suggested one.	Kadir: This sphere is not good.
Teacher: … now what do you need for the eyes? … How will you do it?	Derin: Pupil Kadir: Eyelash Songül: Eyebrow Öner: I will draw with paint. Teacher: Iraz, have you decided how you will do it? Iraz: I don't know, I can't decide	Derin: Pupil Kadir: Eyelash Songül: Eyebrow Öner: I will draw with paint. Kadir: You make eyelashes too (to Efe) Efe: I will make eyelashes. Tuğra: I will use these papers. Derin: Teacher, can you give me blue paper for blue eyes? İpek: Let me make the eyelashes with black paper	Teacher: Iraz, have you decided how you will do it? Iraz: I don't know, I can't decide. Efe: The eye I made was very beautiful. Songül: I made its back as well and it was nice.
Derin: Why do we blink? Teacher: How can we learn this? Who can we ask?	Kadir: To protect it from dust Songül: To prevent soil from getting into our eyes Derin: While crying Öner: From Ankara Kadir: To scientists Akın: To Istanbul Ayşe: Engineers. My father is an engineer, we can ask him. Ahmet: Ophthalmologist	(Each child chooses the option suggested by himself/herself and it is tried.)	Kadir: What I said is true. Songül: Mine, too. Akın: I said it was from Istanbul, but it was from scientists, where do these scientists live?
Teacher: We saw it while watching the video and you wondered. Why do you think we cry? Teacher: Do onions really make you cry? Teacher: What else makes us cry while chopping?	Derin: If there are no tears, our eyes will dry out. Nehir: I have tears in my eyes when I blink. Kadir: We cry when something painful happens. Songül: We cry when we feel pain. Tuğra: We cry when we fall down. Songül, Derin, Nehir, Öner, Tuğra and Ali: Yes Kadir, Ahmet: No Öner: Apple	Teacher: Let me bring you onions and apples, then we see what you have decided?	Zerrin: I haven't cried yet. Should I get it a little closer to my eyes? Öner: The apple did not make me cry at all. Ahmet: There's a tear in my eye, look.

Table 16.
4th Project: Stages of the Decision-Making Process in "Stones"

Goal setting	**Generating options / considering the existing options**	**Choosing one of the generated/ existing options**	**Evaluating the outcome**
Iraz: Teacher, let's make a cars table. Teacher: We can do it if you want, but should we just bring cars or something else?	Iraz, Ayşe: Bus Kadir: Colourful cars Akın: I will bring a ship. Efe: Let it be a helicopter. Derin: Bike Songül: Books, too Nehir: Van Tuğra: Remote-controlled car Zerrin: Road İpek, Büşra: Journal Öner: Puzzle Ahmet: Garbage truck Ayşe: Train Tuğra: Plane	Teacher: Has everyone made their decision? Shall we choose what to bring? Nehir, Tuğra, Öner: Let's bring what we have said. (Each child chooses the option they have suggested)	
Derin: On which table should we put what we have brought?	Songül: Let it be this table. Kadir: I think we should put it on our table. Zerrin: No, no, let's put it on our table. Derin: I will put it on our table. Songül: Then let's put it on the teacher's desk, it won't work if everyone puts it on their own desk.	Conflict arises when each child wants to choose the option they suggested. Songül convinces them, and they decide together to use the table with the teacher's notebook on.	Songül: I think this place is good. Zerrin: It's far from us. Nehir: I can't see. Tuğra: It is close to all of us. Akın: Let it remain here, we play in turn. Ahmet, Ayşe, Tuğra, Zerrin, Akın , Derin , Öner: It is very good. Iraz: It is fun. Büşra: It looks better when you put these there. Kadir: We have a lot of toys, it's great.
Zerrin: I couldn't decide how to draw this train, it doesn't work like this?	Ayşe: When you place it on it and draw along the edge of the paper, it works. Kadir: Put it next to it and follow it with your eyes when you look at it. Songül: When I draw, I paint it in the same colours. Zerrin: I'll draw it in black first.	Zerrin: Let me draw it with my eyes and put it on top.	Zerrin: It didn't work when I drew it with my eyes. Zerrin: I think it works when I put it on.
Teacher: Has anyone ever been on a helicopter? Efe: Aren't helicopters and planes the same? They both have wings. Teacher: Do you think a helicopter and a plane are the same thing?	Derin: No, the helicopter is small. Kadir: No, many people get on planes, but few people on helicopters. Derin: The helicopter also has wings on its tail. Iraz: I don't know, I just saw a plane. Tuğra: The helicopter has no wings.	Derin: Teacher, there is a picture of a helicopter in the book I brought, can I show it?	İpek: I've never been in this helicopter, it has wings on top. Derin: Look, I told you it had wings on its tail.
Teacher: So, do you think this is the wing of a helicopter or something else?	İpek: I got on a plane in Germany, it has wings, and the helicopter doesn't have wings. Efe, İpek: Yes	Teacher: Who says wing? İpek, Efe, Büşra, Iraz raise their hands Teacher: Who says propeller? Tuğra, Kadir, Öner, Songül, Derin, Ayşe, Öner raise their	Büşra: It's not a wing, it's a propeller. Tuğra: I told you so, I know. Ayşe: I got it right, propeller.

	Songül: It doesn't look like a wing. Kadir: A wing is long and large; this one is thin. Tuğra: A helicopter doesn't have wings; it has just its propeller.	hands.	
Büşra: Do helicopters fly without wings?	Öner: They fly with their powerful engine. Ahmet: They can't fly, my father works at the airport, I saw its propeller spinning. Büşra: I think they fly.	Teacher: Who says it flies? Büşra, Efe, Öner, Songül: Me Teacher: Who says it can't fly? Ahmet, İpek, Ayşe, Tuğra, Iraz, Kadir, Derin: Me	Ahmet: They can't fly; I got it right. Büşra: I said it could fly, but it can't.
Teacher: So how can we find the answer to this question?	Songül: Fly Tuğra: Let's open a video on the computer.	Teacher: Okay, let's decide which one first?	
Teacher: Akin, we made planes with different wings and propellers, and planes with propellers and no wings. Ask your friends which ones they will decide on. Akın: Does this fly?	Akın: Teacher, I can make different planes from paper, let's try it. Tuğra: This one has small wings, this one flies little. Derin: The one with the biggest wings flies the farthest. Iraz: This one flies little. Büşra: This helicopter with a propeller cannot fly. Kadir: Those without wings cannot fly and crash.	All the children: Let's make it from the paper. Helicopters and planes are flown in turn and the distances they fly are measured.	Iraz: This little one flew less. Kadir: As I said, it couldn't fly without wings. Derin: The one with the largest wings flew short.
Tuğra: What sound do cars make? Songül: How do cars emit exhaust? Efe: How does the vehicle horn sound? Kadir: What is the inside of the vehicle doors like?	Kadir: When I turn the key, the engine starts and a whirring sound is heard. Öner: There is a hose at the back of the car and exhaust comes out from there. Derin: It sounds like honk, honk, honk. Tuğra: There are robotic electrics and cables for opening windows.	Teacher: Does everyone choose the option they generated? Children: Yes Teacher: Let's look at these options on our trip.	Öner: This is where the exhaust comes out, as I said, it's the hose. Derin: It goes "honk honk" but there's another horn sound too, I have just learned. Tuğra: We couldn't see the electricity and cables, we would have seen it if we had opened it.
Iraz: I'm going to make the wheels of the bus now, how should I do it?	Büşra: I think you can thin it out with this and cut it into rounds, or make it like this with your hand, but make it bigger. Iraz: No, I will make it small.	Iraz: Lines like this	Iraz: It's done, it's very nice, I liked it, what do you think?
Ayşe: This time let's use a different microphone. What should the microphone be? Ayşe: Teacher, he/she does not give the microphone. Derin: I want a microphone too. I think we should do a microphone activity today.	Büşra: I think it should be this pen. Derin: I think it should be a maraca, and we can make music with it too. Efe: Let it be a water bottle. Öner: Let it be a drum. Kadir: Let it be a Lego. Ayşe: I think it should be a bowling pin. Iraz: Let it be a dough cutter. Kadir: If only we all had separate microphones. Akın: I want. All children: We, too.	Teacher: Which one? How will we decide? Songül: Let's vote (As a result of the voting, the maraca was chosen with 11 votes) Ayşe: Let everyone do as they wish. (Each child works according to the options they	Ayşe: oh that's not what I said. Derin: What I said turned out to be correct, very nice microphone; I'll be the first to use it. Öner: The cardboard cylinder

Teacher: Okay, let's make a new microphone for everyone, what kind of microphone should it be?	Öner: We make cylinders from cardboard. Ayşe: It's like a round ball; we'll put on it like this. Derin: Let's put pom-poms. Kadir: Let's make a sphere. Songül: We'll take an empty toilet paper roll, hold it, and then make a ball on top of it. Kadir: We pierce the sphere and they become sound holes.	themselves generated)	was not good enough, so I will make it from a roll. Derin: It's very nice, let me embellish it a little more. Büşra: I liked it very much, I will add glitter too.

Tables of two of the four projects carried out are given as examples. When the projects are examined, it is seen that each of them includes the stages of the decision-making process. In this case, when the stages of the decision-making process are evaluated holistically, it can be said that the projects based on the Reggio Emilia Approach actually include decision-making processes and therefore will support the development of these skills of children. When the stages of the decision-making process were evaluated separately, it was determined that there was a development in terms of the children's behaviours. For the goal setting stage, it was observed that in the first projects the children generated goals with the help of the teacher's questions, while in the last projects, it was determined that they generated goals with less support. The teacher expressed her thoughts on this finding in her diary with the words, "*I no longer feel the anxiety I used to about what project we should do because so many wonderful suggestions are coming from the children*..." (ÖG, 06.12.2021). It was observed that in the generating options / considering the existing options stage of the decision-making process, children generated outcome-related and strategy-related options, developed more options in the following projects, and used different ways to develop options. Example statements regarding this finding are as follows:

In the first project, Tuğra set a goal by asking "*What would we see if we had 17 eyes*?". To answer this question, the teacher glued many eyes on a cloak and entered the classroom with that cloak on the next day. The children were very surprised and immediately wanted to wear the cloak. The children took turns wearing the cloak and shared their ideas about what they could see: "*space...* (Tuğra), *behind walls*... (Derin), *faraway places*... (Efe), *clouds*... (Öner), *inside the sea*... (Zerrin), *a chest under the ground with money in it*... (Kadir), *even around us*... (Ayşe), *the classroom next door...* (Efe), *inside the cupboards*... (Songül)" (GN, 27.10.2021).

Figure 3. "If We Had Many Eyes, What Would We See?" Activity

Given that the children encountered the question "What would we see if we had 17 eyes?" for the first time and that they have no prior experience on this subject, it can be said that in the decision-making process, they generated options through imagination and guessing using their creativity. Chase et al. (1998) described this situation as follows: individuals make choices based on cues in the decision-making process. If there are no cues; that is, if it is a decision-making process regarding a situation encountered for the first time, they rely solely on guessing. In response to the goal generated with the question "How would we live if we didn't have eyes?" Kadir, one of the children, generated a strategy-related option by saying, "...*My grandmother's tooth decayed, the doctor gave her a spare tooth, we can make spare eyes*." (GN, 27.10.2021).

During the snowman making activity of the third project, the teacher asked the children at each table to decide which part of the snowman they would make. Then, she brought the materials they could use. Meanwhile, the children started talking among themselves about what to do. While Iraz, Derin and Öner were discussing what to do, Iraz stated that she wanted to

make eyelashes and Derin stated that she did not want to make eyelashes. Iraz did not change her decision about the eyelashes, and Derin and Öner decided to work with Iraz and make the eyelashes and eyes together. The children, who again had difficulty deciding the colour of the eyes, made a joint choice this time by playing the counting-out game and decided on one of the options. The dialogue regarding this finding is as follows:

Teacher: While I bring the materials, you decide what part of the snowman you want to make at your table.
Iraz: I will make eyelashes **(Setting a goal – a situation of interest)**
Derin: I don't want eyelashes, let's do something else **(Generating an option related to the outcome)**
Iraz: No, I told my teacher, I said eyelashes **(Generating an option related to the outcome)**
Öner: Okay, then let's make eyelashes and eyes **(Choosing one of the options – joint choices, setting a goal)**
Derin: Okay, let's make blue eyes then **(Generating an option related to the outcome)**
Öner: Let them be black **(Generating an option related to the outcome)**
Derin: Let them be blue, let's play the counting-out game **(Choosing one of the options-joint choices)**
… (GN, 29.12.2021)

In the above dialogue, options were determined within the framework of a goal and a situation arose in which a joint option had to be decided as a group. In this case, it was noticed that Iraz, who chose fewer options and agreed more with the decisions of her friends in previous projects, now produced her own options and made independent decisions. In addition to making independent decisions, it was also noticed that she didn't give up and stood by her decision even when his friends did not approve of her choice. In addition, the efforts of Derin and Öner, who had been actively involved in the decision-making process since the first project, to reach an agreement in different ways instead of showing negative behaviours in case of disagreement in the joint decision-making process were also remarkable. In this case, they chose to make a joint decision by playing the counting-out game at the stage of choosing one of the options in the decision-making process.

A dialogue in the 4th Project is given as an example for using strategies in the joint decision-making process:

Derin: On which table should we put what we have brought? **(Setting a goal-a problem encountered)**
Songül: Let it be that table **(Generating option related to the outcome)**
Kadir: I think we should put them on our table **(Generating an option related to the outcome)**
…
Songül: Then let's put them on the teacher's desk, it won't work if everyone puts them on their own desk **(Generating an option related to the outcome)**
Conflict arises when each child wants to choose the option suggested by themselves.
Songül convinces them, and they decide together to use the table with the teacher's notebook on **(Choosing one of the options-joint choice)**
Songül: I think this place is good **(Evaluating the outcome-an expected outcome)**
Zerrin: It's far from us **(Evaluating the outcome-an unexpected outcome)** (GN, 29.12.2021-30.12.2021).

Figure 4. Centre for Vehicles Where Children Use Joint Decision-Making

In this sample dialogue, it was decided to build a centre and the children were faced with the problem of where the centre would be. After developing options to this end, there was a disagreement at the joint choice stage and the children wanted to choose the option they themselves suggested. A joint decision was made after one child convinced her friends. It is seen that while different techniques such as counting-out and voting are used in joint choices in other projects, the persuasion technique is used in this project. While in the first project works it was observed that children needed more support in producing different ways of choosing an option when a joint decision was to be made, in subsequent projects they participated more actively and made their joint choices using more democratic ways and with less support. A part of an example activity showing that children use the voting method in joint choices and when they encounter unexpected outcomes during the evaluation stage, they turn to the decision-making process again and their option generation behaviour develops is as follows:

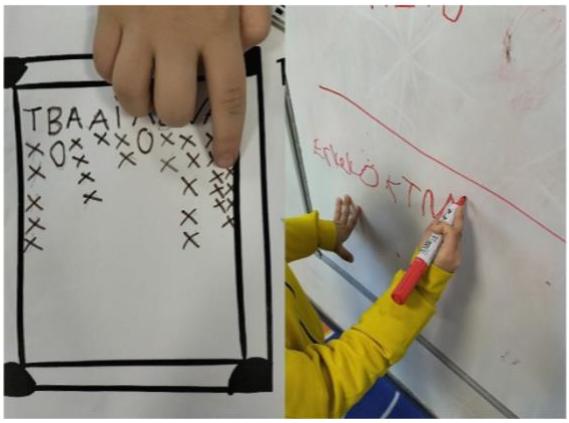

Figure 5. Children's Voting to Decide on the Name of the Paper Doll

In the third project, the children worked collaboratively to finish the paper person, and with Tuğra's suggestion, "Let's name the paper person," the children decided to give a name to the paper person and thus set their **goal**. Immediately afterwards, **options** for what the name would be were started to be determined. When İnci put forward the option "*Let it be İnci"* and Songül "*Let it be Songül*", all the children suggested that it be named after themselves. There occurred a disagreement about **which of the options to choose**, and the teacher asked, "*Everyone wants to have their own name, which one will we choose*?" Thereupon, Songül said, "*Let's vote*." The teacher said the names of all the children in turn and the number of votes they received was counted and a voting tally was kept. The children examined the voting tally and **evaluated the outcome**, and since Tuğra, Nehir and Songül received the same number of votes, a joint decision could not be reached. Then, the teacher **suggested another option**, "*Should we take one of the letters of each person's name and create a new name*?" and the children **accepted this option and it was implemented**. Accordingly, the children took turns writing one letter of their names on the board in the classroom. After Iraz and Efe, who did not come that day, wrote their letters when they arrived, it was decided to choose a name. After all the children's letters were determined, the name "Zadenkiböt" emerged. Children Ahmet, Tuğra, İpek, Büşra, Kadir and Songül **evaluated the outcome** by saying "*this name is not good*" and reached an unexpected outcome. Thereupon, Öner proposed to give the paper person the name of the teacher by generating a new **option** with the words "*We tried to draw the teacher, I think her name should be Pelin*" and the other children accepted Öner's proposal. The name of the paper doll became Pelin as a result of the **joint decision of the children**. Öner evaluated the outcome with the words "*Paper person's name became Pelin*", Ahmet, Tuğra, Büşra with the words "*Very beautiful*" and Ayşe with the words "*Peliiin, hello, you are very beautiful*" and they reached the expected outcome. From that day on, Paper Pelin became a playmate that children included in their games and introduced to their friends from other classes (GN, 28.12.2021).

Figure 6. How to Erase Text without an Eraser? Activity

As an indication of the children's active participation in the decision-making process during the project works and of the teacher's practices that did not support decision-making previously now turning into practices that support decision-making, part of the findings obtained during an activity conducted on papers in the 3rd project work is as follows: While the children were examining the papers in the area created by the teacher, Büşra's attention was attracted by the carbon paper. Büşra examined the carbon paper and asked her teacher what kind of paper it was. The teacher told the name of the paper and asked her to look at her hands. Büşra, whose hands turned black, was surprised by this situation. The name of the carbon paper also attracted the attention of other children:

…
Ayşe: There used to be no erasers in the past, so carbon paper was created for everyone to erase and reuse.
Akın: How did they use to erase the pictures they didn't like? **(Setting a goal-a situation of interest)**
Ayşe: Of course, with our hands and fingers **(Generating a strategy-related option)**
Tuğra, İpek, Ahmet: By wetting the napkin **(Generating a strategy-related option)**

Zerrin: We erase it with carbon paper. **(Generating a strategy-related option)**
…

(Everyone chooses their own option and tries one by one to erase the pictures they have drawn.) **(Choosing one of the options-individual choices)**

…
İpek: My method worked. **(Evaluating the outcome-an expected outcome)**
Ayşe: It was torn, it didn't work. **(Evaluating the outcome-an unexpected outcome)**
(GN, 14.12.2021).

In the dialogue above, a situation of interest by the children was tried to be understood using different ways. When they are interested, children are active in the entire process, including creating options, implementing them, and evaluating the outcome. In this situation, which reflected the decision-making process, the teacher supported the children in making their own decisions without giving direct answers and without criticizing them.

3.2.3. Decision making skills assessment tool - findings from the child and parent forms

In order to reveal the changes in the children's decision-making skills, DMSAT-CF was re-administered to the children after the completion of the project works. DMSAT-PF was delivered to the parents once more. Related findings are presented below.

Table 17.
Descriptive Statistics Table for DMSAT-CF and DMSAT-PF

	Pre-test (N=14)			**Post-test (N=14)**		
	$\bar{x}$	**ss**	**Sh_x**	**$\bar{x}$**	**Ss**	**Sh_x**
DMSAT-CF	11.29	1.62	6.06	22.50	1.35	5.03
Being Determined	5.07	0.86	3.22	10.36	0.81	3.03
Independent Decision-Making	1.57	0.33	1.22	4.14	0.31	1.17
Emotions Involved in Decision-Making	2.14	0.46	1.70	3.71	0.24	0.91
Difficulty in Decision-Making	2.50	0.33	1.22	4.29	0.30	1.14
DMSAT-PF	26.78	1.41	5.30	34.78	1.18	4.44

When Table 17 is examined, it is seen that there is an increase in the mean scores for the children's decision-making skills after the completion of the project works compared to their scores before the implementation of the project works. Similarly, it is seen that the post-test mean scores taken from the sub-dimensions of DMSAT-CF increased compared to the pretest mean scores. In this regard, it is thought that the project works based on the Reggio Emilia approach contributed to the development of the children's decision-making skills. In order to evaluate whether this increase in the children's decision-making skills was statistically significant, in other words, to determine whether the difference between the pretest and post-test scores was significant, the "Wilcoxon Signed-Rank Test" was used. Results of the analysis are given in Table 18.

Table 18.
Results of the Wilcoxon Signed-Rank Test Conducted on the Scores from DMSAT-CF and DMSAT-PF

Score	**Mean**	**Groups**	**N**	**$\bar{X}$ rank**	**∑rank**	**z**	**p**
		Negative Ranks	0	.00	.00		
CFpretest	11.29	Positive Ranks	14	7.50	105.00	-3.298	.001
CFposttest	22.50	Ties	0				
		Total	14				
		Negative Ranks	0	.00	.00		
PFpretest	26.78	Positive Ranks	14	7.50	105.00	-3.300	.001
PFposttest	34.78	Ties	0				
		Total	14				

When the Wilcoxon Signed-Rank Test results given in Table 18 were examined, it was determined that there was a significant difference ($p < .05$) between the pretest and posttest scores in favour of the posttest scores ($Z=-3.298$; $P<.05$ and $Z=-3.300$; $P<.05$). In addition, in the posttest, it was seen that the decision-making skills scores of all 14 children increased (positive rank). In this context, it was determined that the project works based on the Reggio Emilia approach contributed to the development of the children's decision-making skills. It can be seen that the effect size of this significance is ($r=Z/\sqrt{N}$) -.62, meaning it is high (Fritz et al., 2012).

4. RESULTS, DISCUSSION AND RECOMMENDATIONS

As a result of the study, the mean decision-making skills pretest scores taken by the children from DMSAT-CF were at a medium level, close to low, according to the scale value ranges and the pretest mean scores taken from DMSAT-PF were found to be at a medium level according to the scale value ranges. Similar results obtained in the parent and child forms of the scale may reveal the effect of family factors on the development of the decision-making process. It may be related to the decision-making opportunities provided by parents to children and children's decision-making skills. Parallel to this finding, in studies examining the decision-making skills of preschool children, it was determined that the decision-making skills of children were at low or medium levels (Aydemir-Özalp & Durmuşoğlu, 2023; Güvendi, 2019). Uçar (2019) used the measurement tool developed by Pekdoğan and Ulutaş (2016) to examine the decision-making skills of first-grade primary school students. At the end of the study, children's decision-making skills were found to be at a medium level. The mean scores taken from the sub-dimensions of being determined and independent decision-making were also found to be medium. While the mean score taken from the sub-dimension of emotions involved in decision-making was low, the mean score taken from the sub-dimension of difficulty in decision-making was high. In the current study, the children's decision-making skills were found to be at a medium level and the mean scores they took from the sub-dimensions of being determined and independent decision-making were also found to be at a medium level. While the mean score they took from the sub-dimension of emotions involved in decision-making was low, their mean score from the sub-dimension of difficulty in decision-making was high. In this context, when the decision-making skills of preschool children and first-grade students are compared, in general, it is seen that their decision-making skills and determination are at similar levels and that first-grade students score higher in independent decision-making skills, experience less regret in decision-making and more difficulty in decision-making. Yalın (2021) investigated the decision-making skills of 7th-grade students and concluded that the students' total decision-making skill scores were at a high level. It is seen that decision-making skills progress in parallel with cognitive development and are also considered as a cognitive skill. Considering that cognitive processes and decision-making processes develop in the preschool period, it can be said that the findings support the literature. (Benes, 2001; Piaget, 1977; Santrock, 2014). Unlike these findings, Heong et al. (2011) stated that university students' decision-making skill levels are low.

The teacher was found to have practices that supported decision-making processes, such as "*asking questions*", "*creating class rules together with the children*" and "*allowing children to exchange ideas with each other*". However, she was also observed to have practices that did not support decision-making processes, such as "*not allowing children to make their own choices*", "*restricted activities*" and "*the teacher always deciding on the classroom arrangement*". Kuzgun (2006) stated that some conditions must be met for the decision-making process to take place. One of these conditions is that the decision maker should have the freedom to choose the option he/she wants. In this context, it can be said that the teacher's first practices mentioned above did not provide favourable conditions for the decision-making process to take place. In addition, it is important to determine alternative options regarding for a given situation and ask questions that will foster the creation of alternative options during the decision-making process. Byrnes (1998) stated that the support of an experienced adult or peer is important in the decision-making process. Hännikäinen and Rasku-Puttonen (2010) similarly emphasized that teachers' asking questions supports children in developing their decision-making processes.

Studies have shown that although teachers state in theory that children should be able to decide on their educational conditions in the classroom and that this is very important in improving their decision-making, they experience problems in this regard in practice (Hudson, 2012; Özeloğlu, 2019). Similarly, in the interview at the beginning of the current study, the teacher stated that decision-making skills in children are important and necessary, but it was determined that there were problems in supporting the decision-making process in her practices. In the further stages of the process; however, the teacher was observed to change her practices and engage in behaviours that supported children's decision-making skills. In this context, it can be said that project works based on the Reggio Emilia Approach enabled the teacher to conduct practices that would support children's decision-making processes. Thus, when the stages of the decision-making process are evaluated holistically, it can be said that the projects based on the Reggio Emilia Approach actually include decision-making processes, and therefore will support the development of these skills of children. Akar-Gencer and Gönen (2015) revealed in their research that the project works they carried out based on the Reggio Emilia Approach included dimensions of creativity, one of the thinking skills including decision-making, and that the projects developed children's creative thinking skills. In Reggio Emilia schools, it is seen that the degree of children's decision-making and the rate of their participation in decisions are quite high when compared to models such as the theme approach, unit approach, and single-concept teaching. Everyone, including children and teachers, participates in the decision-making process. When there are disagreements in this process, many roadmaps can emerge. Children's decision-making process is constantly supported through scientific research supported by art (İnan et al., 2010; Helm & Katz, 2001).

In the current study, the children's decision-making processes were examined in a process consisting of four stages. It was observed that the mentioned decision-making processes occurred repeatedly in the projects. In the "*goal setting*" stage, it was determined that the children were more successful in setting goals towards the end of the process and needed less teacher support. Sever (2018) investigated the decision-making skills of 4th-grade students and stated that nearly half of the students had problems in defining the problem to be decided, that is, in setting a goal and generating options. Similarly, Yalın (2021) examined the decision-making skills of 7th-grade students through the activity form developed by creating scenarios. The study concluded that more than half of the students could not identify the problem, evaluate the options and make a decision.

It was determined that the children were able to develop more options towards the end of the process during the *"generating options/considering the existing options"* stage. Parallel to this finding, Yaşar (2019) examined the decision-making state of students in the activities prepared by creating scenarios in the action research conducted on 2nd-grade students. At the end of the study, it was determined that the students had problems in the preliminary activities. In the final activities however it was concluded that the students showed improvement in the decision-making process, especially in the option generation stage. Sever (2018) stated that 4th-grade students were able to generate simple options in the decision-making process and were successful in establishing the relationship between their choices and the outcome. In addition, it was determined that children used different methods, such as getting advice and benefiting from past experiences, in addition to using guessing in the options they generated. According to the theory of Byrnes (1998), individuals can generate options in four different ways during the option generation stage of the decision-making process. These are past experiences, analogical reasoning, causal reasoning, and getting advice/help. It has also been stated in the literature that the social environment and experiences affect the decision-making process (Byrnes, 1998; Öncül, 2013; Özeloğlu, 2019).

During the stage of "*Choosing one of the generated/existing options*", it was observed that towards the end of the process, the children participated more actively in the selection process. In individual choices, instead of being indecisive, choosing what is suggested, and asking for help, they displayed behaviours of making independent decisions. In joint decisions, instead of conforming to or opposing what their friends said, they exhibited more democratic behaviours such as taking turns, persuading, and voting. Yıldız-Demirtaş and Sucuoğlu (2009) stated that teachers and children experienced in active learning use methods such as everyone expressing their opinion and voting in the decision-making process.

It was determined that in the "*Evaluating the outcome*" stage, the children needed less teacher support towards the end of the process, and when they encountered an unexpected outcome, they returned to the decision-making process and tried to generate an option that would work better. It was determined that the children's decision-making skill scores increased both in the child form and in the parent form. The current study revealed that children's decision-making processes can be improved by using project works based on the Reggio Emilia Approach in the preschool period. It is seen in the literature that there are studies showing that programs implemented to improve the decision-making skills of children in different age groups have improved children's decision-making skills (Çakmakçı & Özabacı, 2013; Demirbaş-Nemli et al., 2019; Huber, 2003; Gao et al., 2009; Güneypınar, 2021; Pekdoğan, 2015; Yaşar, 2019). Research has shown that different methods are used to develop decision-making skills, such as drama (Çakmakçı & Özabacı, 2013), Stem (Vurucu, 2019) and fairy tale-based activities (Güneypınar, 2021). In the current study, project works based on the Reggio Emilia Approach were used to develop children's decision-making skills. Although there is no research in the literature on the development of decision-making skills through project works based on the Reggio Emilia Approach, researchers have found that children's creative thinking skills (Akar-Gencer & Gönen, 2015) and metacognitive thinking skills (İmir, 2018) are improved through project works based on the Reggio Emilia Approach.

The current study was conducted in a classroom of a private kindergarten in Kütahya in the 2021-2022 school year. The same study can be conducted with participants from different cities and age groups. Studies can be conducted to compare the decision-making processes of children who have been given Reggio Emilia Approach-based project works and those who have not. Moreover, longitudinal studies can be conducted using Reggio Emilia Approach-based project works to examine the changes in the decision-making processes of preschool children in later ages. The development of children's decision-making processes can be examined in schools that have adopted different educational approaches in this age group. To examine the development of the decision-making process in more detail, comparisons can be made by conducting studies with different age groups. In order to improve children's decision-making processes, project works based on the Reggio Emilia Approach can be included more in curriculums. The teacher showed improvements in the subjects covered within the scope of the current study through action research. In addition, many problems encountered during the implementation process were resolved through action plans. For this reason, it is recommended that teachers participate more in action research for their professional development and solutions to practical problems.

Research and Publication Ethics Statement

Hacettepe University Ethics Committee stated that the research was ethically appropriate and necessary permission was given to conduct the research. Before the data collection process, it was clearly stated to the participants that they had the right to choose whether to participate in the study, that they were free to give up at any time after the study started, that this would not impose any responsibility on them, and that all information requested from the participants within the scope of the study would be kept confidential by the researchers. All the information in the article was obtained within the framework of academic rules, and the principles of publication ethics were followed during the article writing process.

Contribution Rates of Authors to the Article

The authors provide equal contributions to this work.

Statement of Interest

There is no conflict of interest between the authors.

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