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Table of Contents

Research Articles

Financial Literacy Skills in Preschool Period and Evaluation of Financial Literacy Skills in 2013 Preschool Education Program 1 - 13

Fatma AVCI

Make It Happen: Our Nature Our Future 14 - 25

Fatma KILIÇ, Derya ATAY Meryem HACIMAN

Financial Literacy Skills in Preschool Period and Evaluation of Financial Literacy Skills in 2013 Preschool Education Program¹

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Abstract

In this study, findings on the definition of financial literacy, which has become one of the life skills of the 21st century, its components and the value of gaining financial literacy skills in the preschool period are presented with the national and international literature review, as well as the importance of including financial literacy skills in the preschool education program. has been studied. Afterwards, it was aimed to present the achievements targeting the development of financial literacy skills by scanning the 2013 pre-school education program being implemented in Turkey. . In this study, in which the document review method was adopted within the scope of qualitative research methods, a literature review was conducted on international and national literature on financial literacy and financial literacy skills in the preschool period, and the results were interpreted and presented. The preschool education program applied in pre-school education institutions is the words "shopping, agreement, bank, borrowing, value, invoice, financial security, financial preference, income, expense, counting, risk, savings, trade, tax, investment" were taken into account. As a result of the examination, it was determined that there were two gains in cognitive and language development areas and one acquisition in the field of social-emotional development in relation to financial literacy skills. According to the findings of the research, there are 63 acquisitions in total in the preschool education program and when the explanation statements presented in connection with these acquisitions are examined, it is seen that 5 (%7.9) acquisitions are related to the development of financial literacy skills. As a result of the research, it has been understood that the Preschool Education Program does not sufficiently support the development of financial literacy skills in children in terms of achievements.

Keywords: Financial literacy, preschool education, preschool education program, achievement, evaluation

1. Introduction

In its most general form, financial literacy is defined as "having the knowledge and understanding of financial concepts and risks, using this knowledge and understanding to make effective decisions in different financial contexts, to improve the financial well-being of individuals and society, and to ensure participation in economic life". (Organization for Economic Co-operation and Development (OECD), 2012). The Jumpstart Coalition (2017), which carries out financial education activities in the USA, defines financial literacy as 'the ability to use knowledge and skills to effectively manage one's financial resources for a lifetime of financial security'. Financial literacy, in the most basic terms, is the ability of an individual to make effective decisions and make informed judgments in the use and management of his money (Noctor et al., 1992). Based on the definitions of financial literacy by various world-renowned organizations and commissions, it is understood that financial literacy affects the whole life of the individual. For this reason, it is thought that it is a skill that should be emphasized from a young age, and that it is not limited to the life of the individual, but is a basic competence area that directly affects the general financial character of the whole society.

In addition to defining the financial literacy skill, its importance in our age should also be explained. Considering important issues such as the rapidly growing e-commerce network today, the increasing importance of financial literacy skills emerges (Yeminoğlu, 2018; Yeo & Fisher, 2017). In the complex economic world of the modern age, it is important for countries to survive. In recent years, various reports and researches have been published by institutions that offer international assessments such as the World Bank and the Organization for Economic Cooperation and Development (OECD), and it is underlined that countries should include the concept of financial literacy more in their government policies. Financial literacy comes to the fore with an increasing emphasis as a new concept that directs the policies and strategies of developed countries with the economies of the modern age. In this context, providing financial literacy skills to children from an early age is seen as an effective decision within the scope of future planning. Educating students of all levels who continue their

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education in schools in personal finance is recognized by governments around the world as an essential requirement, not an option (OECD, 2013).

With the national and international literature review carried out within the scope of the research, findings on the definition of financial literacy, which has become one of the 21st century life skills, its components and the value of gaining financial literacy skills in the preschool period were presented, as well as the importance of including financial literacy skills in the preschool education program. Afterwards, it was aimed to present the achievements targeting the development of financial literacy skills by scanning the 2013 pre-school education program being implemented in Turkey. In this context, the following research questions were tried to be answered in the study;

1. What is financial literacy?
2. What are the components of financial literacy skill?
3. What is the importance of acquiring financial literacy skills in the preschool period?
4. What are the achievements for gaining financial literacy skills in the preschool education program being implemented in Turkey?

2. Literature Review

2.1. Preschool Education

Preschool education is an optional, planned behavior process that supports all aspects of social, language, psycho-motor, cognitive and social development of 0-6 age group children by providing a suitable area for all development areas. This is the period when the development of children is very rapid and critical. It is an important process that also determines the value judgments that form the attitude and personality structure of the child throughout his life and directs his whole life (Balaban, 2017). According to the data of the Ministry of National Education for 2021, there are 1 million 225 thousand 981 children attending pre-school education in Turkey (MEB, 2021). Pre-school education institutions; It can be opened as independent kindergartens, as well as as a practice class in vocational and technical secondary education institutions with child development and education, and as a kindergarten within other educational institutions. There are also private educational institutions providing pre-school education. Solutions are being developed to increase the enrollment rates in pre-school education in Turkey, and efforts are made to increase the number of institutions providing pre-school education services. However, it is seen that there is a decrease in enrollment and attendance to pre-school education due to the optionality of pre-school education and the Covid-19 outbreak (MEB, 2021).

2.2. Financial Education and Financial Literacy

In the research, as an answer to the first research question, the concept of financial literacy was defined first. While explaining the concept of financial literacy, it is necessary to address today's conditions and the lives of today's children. Today's children grow up in fast-paced, consumption-oriented societies that have access to e-shopping 24 hours a day, use a heavy credit card, have easy access to bank loans, have the ability to accumulate financial debt before leaving home. From this perspective, financial literacy is seen as a basic skill for children growing up in a capitalist society where complex financial systems are dominant and consumption is prominent (Lucy & Giannangelo, 2006). In Figure 1, it was presented in the 21st Century Skills Framework in Curriculum and Instruction (P21) and tried to reveal the place of financial literacy among basic life skills.

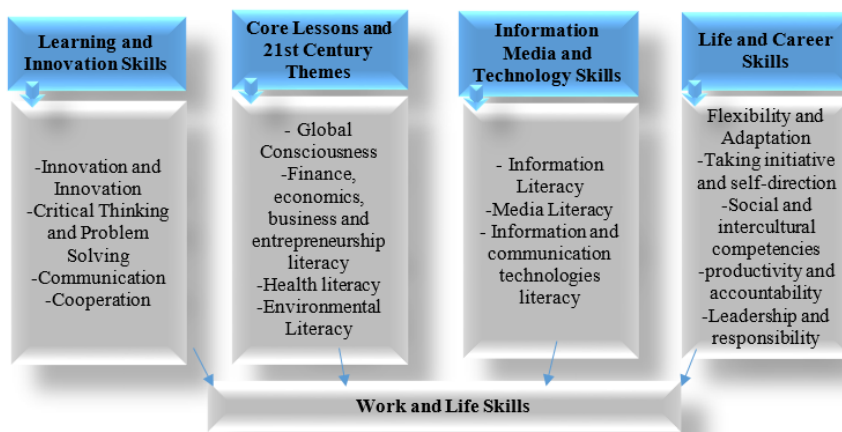


Figure 1. P21- 21st century skills framework in curriculum and instruction

The framework for 21st Century Learning in curriculum and teaching has been developed by teachers, education experts and business leaders in order to enable individuals to acquire the knowledge and skills they need in the 21st century and to be successful in life and citizenship (Gen, 2021) . When this framework is examined, it is seen that financial literacy skills are presented under the title of basic courses and 21st century themes.

Parallel to the increasing importance of financial literacy, interest in financial literacy education is increasing all over the world. When the efforts of different countries regarding financial literacy education are examined, it is seen that the trainings offered to individuals on this subject are carried out through formal trainings within finance and non-governmental organizations (Guvenc, 2015). When considered in terms of formal education; In many countries, it is seen that there are compulsory courses for gaining financial literacy, and learning outcomes related to financial literacy are included in other courses (Oktay, 2010). In Albania, the Czech Republic, Denmark, Finland, Croatia, Sweden, Iceland, Liechtenstein, North Macedonia, Malta, Norway, Poland, Portugal, Romania and Serbia, it is seen that education that provides financial skills begins at an early age (Orton, 2007). In some countries such as Australia (“MoneySmart Teaching” project) and the Netherlands (“Me & Money” project), projects supporting financial literacy skills are implemented in primary schools (Kell, 2012; Ikengeld, 2021). In Turkey, various financial institutions, especially banks, carry out training activities for school-age children within the scope of social responsibility projects, as well as customer-oriented training activities. Some non-governmental organizations support financial literacy education with educational activities for both adults and children and youth of formal education age. There are also some associations established to provide financial literacy education in our country. Some of these associations can be listed as Financial Literacy and Access Association, Visa Europe and Habitat Development Association and Governance Association.

It should be emphasized that financial literacy education should be combined with social skills, citizenship and character education, with programs that teach children to make responsible, ethical and compassionate decisions (Birbili & Kontopoulou, 2015). While financial literacy education includes knowledge of the listed economic concepts and principles, as well as some ethical values, it also includes setting goals, being able to wait without acting impulsively, avoiding irreversible decisions, making good choices and applying the decisions about these choices in practice (ASIC, 2011; Whitebread). and Bingham, 2013). This situation reveals that financial literacy education is geared towards behavior rather than knowledge acquisition or a better understanding of financial issues (ASIC, 2011). From this, it is understood that a practical, hands-on, interactive education program should be designed in which real-life financial and consumer difficulties are addressed, in which students are asked to think about the consequences before taking action on financial literacy (ASIC, 2011).

Financial literacy is not defined as a separate course, except for some compulsory courses taught in vocational high schools in Turkey. Skills and knowledge related to financial literacy are tried to be gained through some elective courses, especially entrepreneurship. However, there is no data on the extent to which these learning outcomes have been achieved. Because the number of studies examining the financial literacy levels of individuals in our country is low. It is seen that these studies are mainly aimed at determining the financial literacy levels of students studying in this field (Ergün, Şahin, & Ergin, 2014). Financial education offered to individuals contributes to the country's economy, as well as to the sustainability of society and development (Camisón-Haba, Almendros, & Guerra, 2018). When the studies in the literature are examined, individuals who receive financial education compared to individuals who have not received financial education; To increase incomes and save more, to be thrifty (Natalie, 2011), to borrow consciously and to make a correct debt management plan, to set financial targets by seeing reality as it is and thinking in this direction (Lusardi & Mitchell, 2007), to be more effective in financial environments. It is seen that they have a tendency to show some basic behaviors such as being self-confident in their decisions on these issues (Lusardi, 2012), knowing consumer rights, budget management, and choosing products more accurately (Capuano & Ramsey, 2012; Opletalova, 2015). In the literature, it is seen that the positive effect of considering financial literacy skills in the programs.

Mandell and Klein (2009) examined the effect of financial literacy education on the financial behavior of high school students in their research whose participant group consisted of high school students. When the students who took personal finance courses were compared with the students who did not, it was determined that the students who took the finance course could not display better financial behaviors than the students who did not take the course. Here, the importance of qualified financial literacy education emerges. Sarıgül (2014) tried to determine the relationship between the level of financial literacy and student characteristics of students from three universities in Konya. The results of the research showed that the financial literacy levels of the participating university students were not sufficient and they needed to improve their financial knowledge levels. Şahin (2014) found that only 28.3% of the participating students were financially literate in his research, which included 127 vocational school students as participants. While it was determined that the most well-known concepts among the participants were interest, stocks and bonds, respectively, it was determined that the

investment preferences of the students were investment instruments such as gold, foreign currency, stocks and deposits, respectively.

While explaining the concept of financial literacy, the phenomenon of consumption, which is expressed as the fresh ideology of the new world order and has multifaceted effects, should also be mentioned (Dal, 2017). The consumption factor, which gradually increases its impact on society, is also closely related to financial literacy. As it is understood, consumption decisions and monetary, that is, financial decisions are intertwined. While consumption-related decisions affect financial decisions, a similar situation is also true for the opposite, that is, financial decisions also affect consumption. While correct and appropriate financial decisions increase the welfare of the individual or family and society at large, wrong decisions have the effect of reducing welfare. Today, however, it is much easier than before to spend money and other money-related resources. It is a concept that he focuses on in his research on consumption culture, which is instilled through tools such as the media that lead individuals to spend more and more (Dal, 2017; Topay & Erdem, 2019). An issue that facilitates consumption and should be handled within the framework of financial literacy skills is that individuals can borrow very easily today. While credit cards and installment opportunities offered by banks make borrowing easier, they also make it difficult for individuals to manage their budgets. For example, credit card use has decreased to an early age (OECD, 2013). This situation requires financial literacy to be given in schools from an early age. Kell (2012) states that “the children of our age grow up in a society where money is “invisible” and they have to make financial decisions at an earlier age and they have to face the consequences of these decisions at an early age.

2.3. Key Components of Financial Literacy Skills

In the study, it was aimed to reveal the components of financial literacy skill with the second research question. The information obtained from the studies reached in the literature review carried out within the scope of this purpose is explained in this section. Gökmen (2012) defines financial literacy as the component consisting of financial knowledge, skills, attitudes and behaviors required to provide and maintain personal financial health. From this perspective, financial literacy; It is stated that it has three basic elements as financial knowledge, financial attitude and financial behavior (Seyhan, 2020). According to Willis (2008), the characteristics of financially literate individuals;

- Adequate knowledge of financial concepts,
- Ability to communicate about financial concepts,
- Personal financial management skills,
- Ability to make appropriate financial decisions,
- To have the knowledge and skills to plan for future financial needs. (OECD), on the other hand, conducts research that reveals the financial literacy level of countries by addressing the financial knowledge, attitude and behavior elements of financial literacy. Figure 2 shows the financial information survey results revealed in the OECD's research on financial literacy.

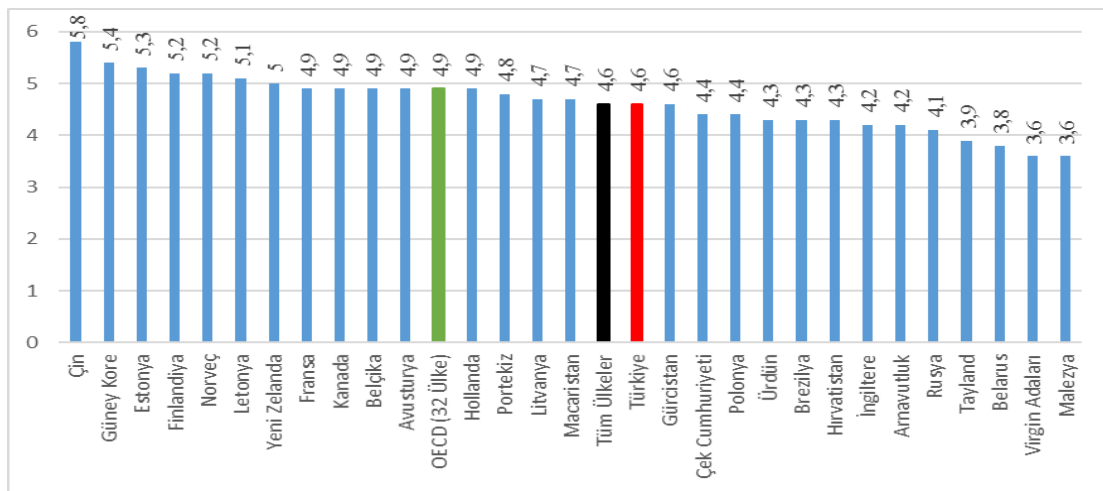


Figure 2. Financial literacy survey financial information survey results (OECD, 2016)

When the financial information survey results in Figure 2 are analyzed, it is seen that Turkey is at the same level as the average of all countries in terms of financial information score. However, looking at the level of

financial literacy in Figure 3, it is seen that Turkey is below the average of all countries. This shows that there is a problem in transforming financial information into financial behavior. Having knowledge about finance means that one will engage in effective financial behavior by displaying the right financial attitude.

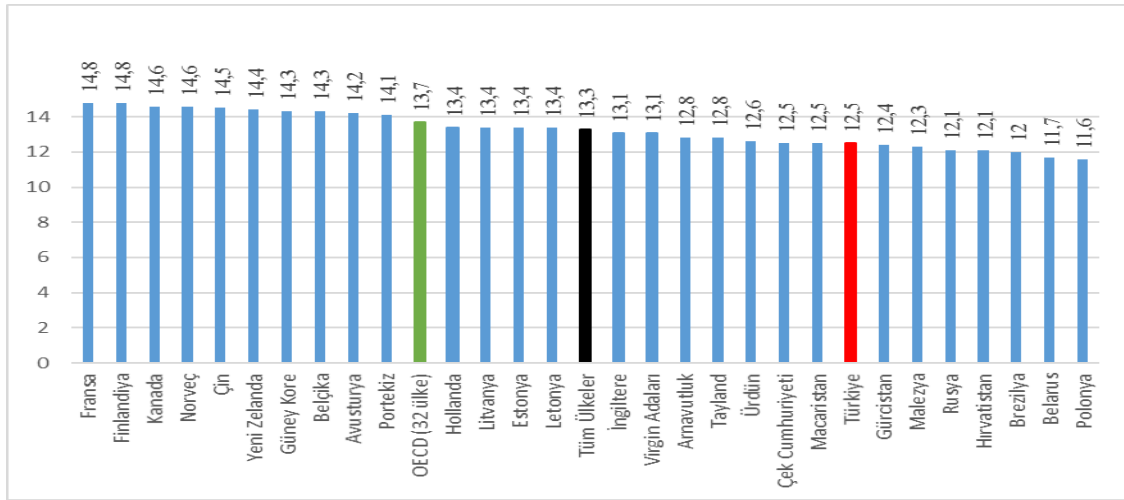


Figure 3. Financial literacy level survey results (OECD, 2016)

In the literature on the subject, some indicators explaining the elements of financial knowledge, attitude and behavior are listed (Alkaya & Yaglı, 2015; Kılıç, Ata & Seyrek, 2015; Temizel, 2010). The main behaviors that individuals should show in terms of financial knowledge, financial attitude and financial behavior are shown in Figure 4.

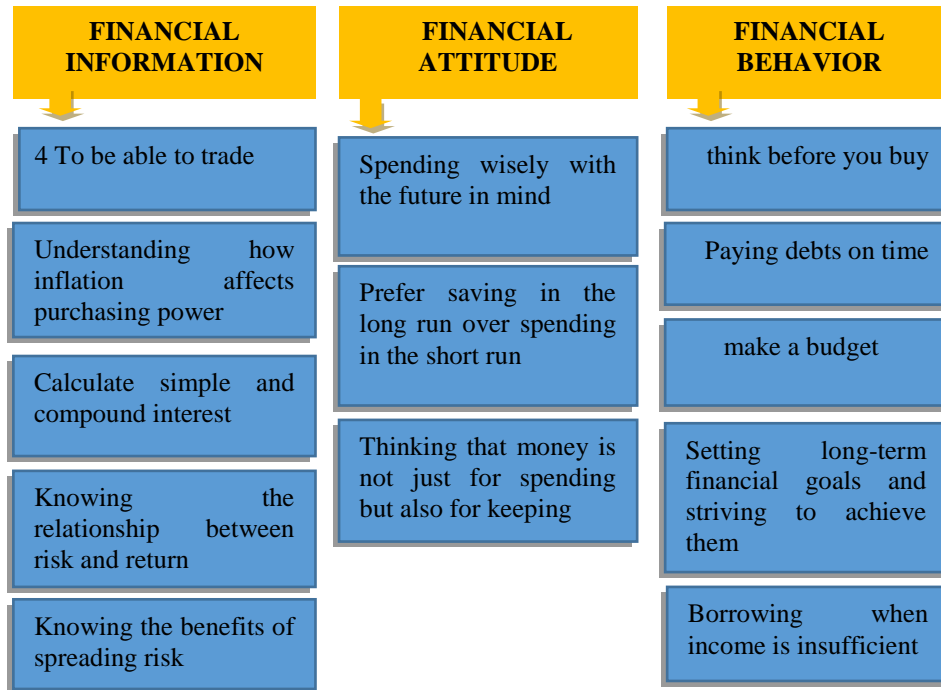


Figure 4. Components and indicators of financial literacy skill

It is useful to explain the components of the financial literacy skill presented in Figure 4 in terms of sufficient detailing. Explanations on financial information, attitudes and behaviors are presented below.

Financial Information; Financial knowledge level is one of the components in determining financial literacy. Individuals need financial information in their long-term economic decisions or in the instant financial events they face. An individual called "financially literate" should have basic financial information such as budget,

insurance, savings, investment, credit, simple interest, compound interest, inflation, risk, return, balance sheet (Willis, 2008).

Financial Attitude; Financial attitude, which concerns future plans and savings and savings, is accepted as an important part of financial literacy.

Financial Behavior; In the most basic sense, financial behavior can be thought of as individuals' monitoring of their personal financial situations, careful shopping, their ability to manage their savings and investments, their personal debts and loans, and their ability to evaluate their investments in the short and long term.

As mentioned in the definitions of financial education, it is not possible to make the right decisions with only information. At the same time, factors such as skills, attitudes, behavior and confidence are also important. Financial education aims to provide skills as well as knowledge and to reflect this knowledge and skill on attitudes and behaviors (Eskici, 2014).

2.4. Acquisition of Financial Literacy Skills in Preschool Period

In the study, the importance of acquiring financial literacy skills in the preschool period was questioned with the third research question. In this context, Lusardi (2015) states that financial literacy is a 21st century skill for students and schools are the best environments to develop the necessary knowledge, skills and abilities in this regard. Addressing financial concepts in the educational process is not new in early childhood education. In America, Australia and many European early childhood programs; In addition to gains such as "can buy a good and service", "gets help and cooperates in meeting their needs and wants", "makes economic choices and decisions while trying to meet both their needs and wants", as well as to help children develop economic understandings. There are targets for their efforts.

Financial literacy is a concept that is more widely recognized at secondary and high school levels, but the effect of considering it in the pre-school education process is discussed in research (Bosshardt & Walstad, 2014; Gold, 2021). Although some financial terms are confusing, research on financial literacy shows that children can understand some basic concepts at a very young age (4-5 years) (Sherraden et al., 2011). Children aged four to five may not understand that coins have different values, that there are certain rules in exchanges, or that invisible transactions can be made between the parties in swaps. On the other hand, preschool children may find it difficult to plan their needs and postpone their wishes, which are the two abilities underlying financial concepts such as saving and making financial decisions (Whitebread & Bingham, 2013). However, while young children are still in the family environment, they are already acquainted with issues such as money use and savings, and they observe the expenditures made according to the financial situation of their families, so they acquire their first financial literacy knowledge and experience in the family environment and see the results in their later life (Webley & Nyhus, 2006). On the other hand, Solheim et al. (2011) states that many parents believe that family financial situations such as income, savings and debt should not be discussed with children. Although some financial situations are shared with the child in the family environment, it is still thought that this acquisition will not be sufficient in the life process (Bozçelik, 2019). Because financial literacy encompasses more than individuals' use of their money and budget management, that is, all of the knowledge and skills we have to determine our financial behavior and goals.

Financial literacy is widely accepted in the literature as an important life skill that should be taught and applied from an early age (Bozçelik, 2019; Seyhan, 2020). This has led to the development of programs that combine financial education with social, civic and character education to teach children how to make responsible, ethical and compassionate decisions. Trainings to be received by students about financial concepts and money management skills; it can equip them to face new financial challenges and adapt effectively to changing personal and economic conditions (Fernandes, Lynch, & Netemeyer, 2014). It is stated that financial and consumer behaviors and decisions often have important consequences for individuals and the communities surrounding them (Aktar, 2021). This information explains that financial literacy is a basic life skill. Personal finance concepts listed in financial literacy skills; numbers, time, money and income, markets and barter, institutions, financial choices and financial ethics etc. It is stated that concepts begin to develop in children in pre-school periods (Whitebread & Bingham, 2013). In order to teach financial literacy skills in preschool education, the acquisitions aiming to reach financial knowledge, financial attitudes and behaviors can be integrated into the programs. Fundamental concepts can be introduced to children by designing activities related to some financial concepts that are aimed to be acquired by children in the preschool education process. For example, opportunities can be offered to children to learn about financial concepts, such as socio-dramatic games, an event organized by the school to raise money for a charity, or identifying the need for and supplying various classroom materials, exchanging money, setting financial goals or designing a financial plan. Financial skills such as reaching a certain financial goal, balancing wishes and needs, making financial decisions are very important, and the foundation can be laid with the activities planned during the preschool education process. Teachers can also choose financial concepts they believe children should work on and develop educational plans of related activities.

Children can thus discover and learn more about the use of money. Through the use of activities that encourage exploratory learning in these training plans, learning the financial concept in their environment can be presented in a more realistic way. Processes can be designed in which children can learn some basic knowledge and skills while learning about money matters. Teachers and parents or other adults can participate in these processes. Birbili and Kontopoulou (2015) in their study on “Financial Education for Preschool Children” mention that two types of education can be effective. The first is the incorporation of financial concepts and money management skills into children's daily social interactions with adults. The second is to include activities that enable the development of financial skills in the education process. Thus, it can be ensured that these experiences and financial skills are closely related to the personal lives of children. In this situation, Özbek and Aydın (2021) explain the concept of financial socialization, “The concept that will ensure the coordination between financial literacy and financial behaviors is financial socialization. Financial socialization offers the individual the opportunity to learn alongside experience, not experience alongside knowledge.” mentioned in terms. From these statements, the importance of the experiences presented to children in the acquisition of basic financial concepts at an early age is understood. Some elements need to be considered in the education programs that develop financial designed skills for children in the pre-school education process. These elements can be listed as follow (Birbili & Kontopoulou, 2015; Whitebread & Bingham, 2013):

- Children's developmental characteristics should be taken into account and attention should be paid to cognitive and social development areas.
- Children's knowledge and understanding of financial matters are affected by their families' "economic experience" and financial situation.
- Each of the children has a different cultural background and this cultural background is effective in financial skills.
- Preschoolers are financially dependent on their parents. There are few or no resources (piggy bank savings, etc.) that they can control and interact with independently.
- The key role of the family in the development of financial literacy skills of preschool children is obvious, and family participation should be ensured in financial literacy education for this age group.

It is understood from the statements listed above that in preschool education programs for the development of financial literacy skills, attention should be paid to the developmental characteristics of children, family and cultural characteristics of children should be given importance, basic financial experiences independent of their families should be presented, and at the same time, care should be taken to ensure family participation in financial literacy education.

Given the realities that financial literacy education and consumer literacy are high on the political agenda of many countries and that many important habits of mind, behavior and value are largely determined in childhood, the necessity of planned and consistent financial literacy programs targeting preschool children is clear (Borden et al., 2013; Whitebread and Bingham, 2013). Long before they start school, children learn about financial matters from a variety of sources (family environment, preschool books, toys, etc.). In fact, research shows that by the age of 7, children will have developed some basic financial behaviors that they will use frequently in their adult lives (ASIC, 2011). The development of financial education among children is becoming a growing area of interest.

2.5. Financial Literacy in Preschool Education Program

In the research, “What are the achievements aimed at the acquisition of financial literacy skills in the preschool education program? The answer to the question has also been sought. Regarding the subject, firstly, the concept of the training program has been discussed. Demirel (2005) defines the education program as “the mechanism of learning experiences provided to the learner through planned activities at school and outside of school”. Posner (1995), on the other hand, describes the series of learning products that allow deciding on the evaluation process, or the plan or content design of all the subjects that are aimed to be learned, including the goal and evaluation dimensions of the field, as a training program. Based on these definitions, a curriculum can be defined as a set of learning experiences provided to students through activities planned both in and outside the school environment. The pre-school education program, on the other hand, is a mechanism that makes the education-teaching process planned for the students who have reached the pre-school education age and continue their education by enrolling in pre-school education institutions (Mammadova, 2020).

Activities aimed at the acquisition of financial literacy skills, which are carried out within the scope of the preschool education program in the preschool education process, also constitute the first step of the process of preparing children for the future. Preschool period is a period in which children's personalities are formed and various behavior patterns are formed. In this process, children need more specific skills, attitudes and basic knowledge about financial matters. A practical, efficient and effective financial education program in pre-school education may be beneficial in increasing the financial education of children.

Collins and Odders-White (2015) explained the purpose of financial education programs as “preparing students for the complex financial decisions they will face as future adults”. Financial concepts may not be concrete for young children, and some educators may not even see financial literacy as an appropriate component of a preschool curriculum. However, Collins and Odders-White (2015) provided evidence in their research to support early initiation into trainings aimed at the development of financial literacy skills. For example, they showed that important concepts related to saving money (ownership, protection, planning, postponing consumption, etc.) can be acquired through planned training in the pre-school education process. According to Sherraden, Johnson, Guo, and Elliott (2011), children also develop in terms of economic and financial concepts as they progress through successive developmental stages. The literature supports the claim that introducing and teaching financial literacy concepts at pre-school and primary school levels is not only developmentally appropriate, but also necessary to establish a strong foundation for future financial learning (Gökmen, 2012; Seyhan, 2020). However, more information is needed on how to effectively integrate economic and financial concepts into an already implemented program (Birbili and Kontopoulou, 2015; Gold, 2021). In developed countries, programs that include financial literacy and are offered to children from an early age tend to focus more on completing and passing courses without explicitly considering children's ability to become better financial decision makers later in life. On the contrary, by answering the question of what the basic concepts should be taught in the programs, attention should be paid to the financial concepts and behaviors that are tried to be developed, timing and the comprehension ability of children.

Preschool education program implemented in Turkey; it is a developmental program designed for children aged between 36-72 months who are enrolled in pre-school education institutions and continue their education. A developmental program aims at the holistic development of the child by covering all development areas listed as social and emotional, motor, cognitive, language development areas and self-care skills (Atlı, 2013; MEB, 2013). In the pre-school education program, activities in the daily education plans, money types, amount of money, savings, savings, effective use of savings etc. Many issues related to financial literacy can be addressed. Table 1 presents the field-gain and explanation expressions associated with the development of financial literacy skills in the preschool education program examined.

Table 1: Acquisitions and Explanations Related to Financial Literacy Skills in Preschool Education Program.

Field	Gain	Description statement
Cognitive domain	Achievement 4. Counts the objects.	After counting a certain number of object groups by touching, the child is expected to realize that the last number he/she says represents the total number of the object group.
Cognitive domain	Learning Outcome 16. Makes simple addition and subtraction using objects.	Adding and subtracting up to 10 must be done using objects only. It should be emphasized that the inclusion of the object in the group is an "increase-increase", and the removal of the object from the group is a "decrease-decrease".
Social and emotional development area	Achievement 10. Fulfills its responsibilities.	Only in this way can the foundations of raising responsible citizens who are conscious consumers be laid.
Language development area	Achievement 10. Reads visual materials.	Examines visual materials. Explains visual materials. Asks questions about visual materials. Answers questions about visual materials. Creates compositions such as events and stories using visual materials.
Language development area	Outcome 12. Writing shows awareness.	The importance of writing in daily life is to recognize the written form of our name and surname, to find our home address, to write letters to our loved ones, to order food from the menu; can emphasize issues such as knowing the departure-arrival times of transportation vehicles such as buses and planes, and preparing a shopping list.

When Table 1 is examined, it is seen that the pre-school education program in practice does not contain enough (7.9%) acquisitions in terms of providing the development of financial literacy skills. "Counts objects",

which are included under the cognitive field in the program book, "Does simple addition and subtraction using objects. With the achievements of "" and "Reads visual materials", basic financial information can be addressed by designing activities on subjects such as examining and recognizing coins and paper money, and the amount of coins for preschoolers.

In the social-emotional field, "Fulfills responsibilities." Educational activities aiming at the development of financial attitudes and behaviors listed as components of financial literacy skills can be carried out. With the educational activities structured by considering this achievement, the issue of saving can be addressed, so that it will be possible to raise children who can use their resources sparingly, balance their income and expenses, and gain awareness about their consumption habits. In the field of language development, "Writing shows awareness." In the explanation statements presented together with the acquisition, the subject of preparing a shopping list, which can be one of the requirements of being a planned and conscious consumer, is mentioned. On the other hand, under the heading of learning centers in the program book (2013 Pre-School Education Program, p. 38), "bank, shopping, commerce, etc.", which were accepted as key words in the research. "bank, post office, restaurant, health institutions, shopping stores, etc. Teachers are informed that different centers can be prepared in the classroom with a statement such as "they can develop and apply their life skills independently in places". Again, there are a few activities that deal with the use of money in the activity guide book, which is presented to preschool teachers in addition to the program (Activity book, p. 153, 169, 170).

3. Method

In this part of the research, there are sub-titles of research design and data collection process, data analysis.

3.1. Research Design and Data Collection Process

In this study, the document analysis method, which is one of the qualitative research approaches, was adopted. Document analysis makes it possible to analyze documents produced within a certain time period about a research problem or documents produced by more than one source and at different intervals on a related subject (Yıldırım and Şimşek, 2008). In this context, resources such as national and international dissertations, scientific articles and websites of world-renowned institutions and organizations on financial literacy skills and financial literacy skills in pre-school period were reached with the document review made in this context. The information obtained from these sources constituted the data of the research.

3.2. Data Analysis Process

In the research, descriptive analysis was made in the analysis of the data obtained as a result of the literature review. The descriptive analysis technique is mostly used in research where the conceptual structure is clearly revealed before the research. In the descriptive analysis technique, the qualitative data obtained in the research are analyzed, summarized and interpreted in line with the predetermined themes (Baltacı, 2019). As a result of the detailed literature review carried out within the scope of the research, the first three research questions, "What is financial literacy?, What are the components of financial literacy skill?, What is the importance of acquiring financial literacy skills in the preschool period?" questions have been answered. In the literature review section, the information obtained as a result of the scanning is summarized and interpreted in the form of answering the research questions under the relevant subheadings. Then, it has been determined that the words "shopping, agreement, bank, borrowing, value, invoice, financial security, financial preference, income, expense, counting, risk, savings, trade, tax, investment" are the basic concepts associated with financial literacy skills in the literature. Considering these identified concepts, the 2013 preschool education program, which is being implemented in pre-school education institutions, was scanned and the results of the screening were presented under the relevant heading.

4. Conclusion and Discussion

While it is seen that financial literacy skills come to the fore in education programs in world states with developed economies, it is seen that financial literacy skills are ignored in the education program changes that are thought to have been carried out comprehensively in Turkey since 2005 (Özkale and Özdemir Erdoğan, 2017). However, financial literacy is a skill that individuals will need throughout their lives, and it is also listed among the 21st century skills. In this context, it is considered important to learn basic financial concepts and gain simple experiences from the pre-school education process. As a result of the research, it is understood that the acquisitions related to financial literacy skills in the preschool education program used in the preschool education processes are not sufficient, and the financial literacy knowledge and skill density in the activities

discussed in the daily education flow plans is also very limited. Similar situations are also valid for primary school and higher education levels (Guvenc, 2017).

On the other hand, another issue that needs to be discussed together with the programs that should be developed by targeting the acquisition of financial literacy skills is that very little is known about the ability of teachers working at pre-school levels to teach financial information (De Beckker et al., 2019). Despite the recognition and awareness of the importance of well-trained teachers as well as educational programs for the effectiveness of financial education (Consumer Financial Protection Bureau 2013; Totenhagen et al., 2015), there is little evidence in the literature that teachers are ready to teach financial literacy. Moreover, some studies scanned in the relevant literature have shown that preschool teachers are reluctant to teach financial literacy because it will add a whole new dimension to their educational planning and compare them with broader concept teaching (Birbili & Kontopoulou, 2015). Another concern of teachers is their lack of self-confidence and insufficient financial skills to successfully apply financial literacy in their classrooms. This is a valid point because effective teaching includes both content knowledge and successful teaching, as well as knowledge of the context. (Lucey and Maxwell, 2011). In addition, teachers should not only be proficient in content knowledge and successful teaching, but should also understand students' previous experiences with money and what prejudices they might come to the classroom with.

Financial literacy is now widely recognized as an important life skill that must be taught and practiced from an early age. They can learn financial concepts and small amounts of money management skills through activities that take into account the cognitive development of preschoolers. Linking these activities to real life as much as possible and linking them to students' personal experiences are seen as two of the most effective teaching approaches. From this perspective, it can be stated that families and society should be mobilized to provide children with as much personal economic experience as possible. Shopping, bank visit, etc. on a limited budget. Organizing real events and giving children the opportunity to make simple but real financial decisions by allowing them to control some money can be effective in providing them with social and emotional motivation to learn more about the processes behind financial issues (Whitebread & Bringham, 2013).

When the issue is evaluated on a large scale, the lack of programs aiming to gain financial literacy skills in Turkey and their inadequate handling in existing programs bring along some disadvantageous situations. Although our country, as a founding member of the OECD, took part in all PISA exams held between 2003 and 2018, it cannot participate in the financial literacy exams added to the scope of the PISA exam in 2012. Considering the practices related to financial literacy in countries with developed economies, it is thought that the strategies presented below, together with the student, teacher and education program, can contribute to the development of financial literacy in the context of Turkey;

- Financial literacy education should be started as early as possible. This education, which started with basic financial concepts and skills in the pre-school education process, should be continued throughout the student's school life.
- The pre-school education program should be updated on the scale of 21st century skills, and gains and indicators that support financial literacy skills should be given more space. It will be possible to plan educational activities in which basic financial concepts can be given with the gains and indicators presented in the field of cognitive development.
- In the updating of the preschool education program, it should be emphasized that the gains and indicators that support financial literacy skills in the field of social emotional development should be included, because the development of financial attitudes and behaviors can be handled with the gains and indicators listed under this development area.
- In addition to the subject of preparing a shopping list in the field of language development in the program, it may be useful to include explanations such as the determination of wishes and needs that can be associated with financial literacy skills.
- Based on the idea that financial skills begin to be acquired in the family environment before the pre-school education process, families should be educated. In this context, innovative channels (public advertisements, projects involving individuals of all ages, etc.) should be designed with the aim of gaining financial literacy skills to all members of the society.
- Within the scope of acquiring financial literacy skills, a learning framework should be established in which objectives, learning outcomes, content, pedagogical approaches, resources and assessment plans are determined in schools. Learning contents should cover knowledge, skills, values and attitudes about financial literacy.
- Teachers should have the necessary training and resource equipment on financial literacy education and should be aware of the importance of acquiring financial literacy skills. Schools and teachers should provide easily accessible, qualified and effective learning materials and pedagogical resources appropriate to children's levels.
- Evaluations should be made in schools regarding the financial literacy skills of students.

- Research on financial literacy skills of adults as well as children and young people should be expanded. However, the level of impact of financial education practices should be investigated and more effective education programs should be studied.

With the research, it has been tried to draw attention to the importance of gaining some basic concepts and behaviors related to financial literacy skills in the early stages of the preschool education process. In this context, it is aimed to guide pre-school teachers and school administrators working in pre-school education institutions, policy makers related to pre-school education and researchers interested in the subject. Researchers working on this subject are recommended to do more research on financial literacy, which is thought to be more important as a 21st century skill, to develop programs that support financial literacy skills to be implemented in the preschool education process, and to share their results in a scientific framework and bring them to the literature.

References

- Aktar, A. (2021). Finansal okuryazarlık. *Güncel Finansal Yönetim Yaklaşımları 2* içinde (ss. 129-154). Ö.F. Aslan ve B. Erden (Ed.). İstanbul.
- Alkaya, A., ve Yağlı, İ. (2015). Finansal okuryazarlık-f finansal bilgi, davranış ve tutum: Nevşehir Hacı Bektaş Veli Üniversitesi İİBF öğrencileri üzerine bir uygulama. *Uluslararası Sosyal Araştırmalar Dergisi*, 8(40), 585-599.
- Atlı, A. (2013). Türkiye’de ve Avrupa Birliği ülkelerinde uygulanan okul öncesi eğitim programları. *Eğitimde Politika Analizi Dergisi*, 2(2), 56-76.
- Australian Securities and Investments Commission. (2011). *In: National financial literacy strategy*. (229). Sydney: Australian Securities and Investments Commission
- Australian Securities and Investments Commission. (2014). *Moneysmart teaching. Teacher guide for teachers of primary and secondary students*. Melbourne, Australia: Author.
- Balaban, E. (2017). Türkiye’de okul öncesi eğitim ve okul öncesi öğretmenlerinin yönetim sürecinde karşılaştıkları sorunlar. Trakya Üniversitesi, Sosyal Bilimler Enstitüsü, Edirne.
- Baltacı, A. (2019). Nitel araştırma süreci: Nitel bir araştırma nasıl yapılır? *Ahi Evran Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 5(2), 368-388.
- Birbili, M., & M. Kontopoulou. (2015). Okul öncesi çocuklar için finansal eğitim: Küçük çocukları 21. yüzyıla hazırlamak. *Çocukluk Eğitimi*, 91, 46-53. doi: 10.1080/00094056.2015.1001670
- Borden, L.M., Arias, W., Jr., Bosch, L., Casper, D., Faber, K., M., Hawkey, K.R., & Bracamonte Wiggs, C. (2013). *Financial readiness for youth: A review of the literature and programs in the United States*. Tucson, AZ: The Arizona Center for Research and Outreach, University of Arizona.
- Bozçelik, E.E. (2019). Aile bütçesinin yeni okuması: Finansal okuryazarlık. *YeniFikir*, 10(23), 57-70.
- Camisón-Haba, S., Almendros, J.A.C. & Guerra M.I.B. (2018). Financial literacy and level of financial competence in pre-university students: A comparison by academic, personal and family profile. *European Journal of Economics and Business Studies*. 4(1), 177-192.
- Capuano, A., & Ramsay, I. (2011). What causes suboptimal financial behaviour? An exploration of financial literacy, social influences and behavioural economics. U of Melbourne Legal Studies Research. Paper No. 540. <http://dx.doi.org/10.2139/ssrn.1793502>.
- Collins, J. M., & E. Odders-White. (2015). A framework for developing and testing financial capability education programs targeted to elementary schools. *The Journal of Economic Education*, 46, 105-120. doi:10.1080/00220485.2014.976325
- Dal, N.E. (2017). Tüketim toplumu ve tüketim toplumuna yöneltilen eleştiriler üzerine bir tartışma. *Mehmet Akif Ersoy Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 9(19), 1-21.
- Demirel, Ö. (2005). *Kuramdan uygulamaya eğitimde program geliştirme* (8.Baskı). Ankara.
- Ergün, B., Şahin, A., ve Ergin, E. (2014). Finansal okuryazarlık: İşletme Bölümü öğrencileri üzerine bir araştırma. *Uluslararası Sosyal Araştırmalar Dergisi*, 7(34), 847-864.
- Eskici, Y. (2014). *Seçilmiş ülke örnekleriyle finansal okuryazarlığın önemi ve tasarruflar üzerindeki etkileri*. (Yayımlanmamış yüksek lisans tezi). Adnan Menderes Üniversitesi, Sosyal Bilimler Enstitüsü, Aydın.
- Etkinlik kitabı (MEB). (2019). Ankara: Milli Eğitim Bakanlığı Yayınları.
- Fernandes, D., Lynch, J.G. & Netemeyer, R.G. (2014). Financial literacy, financial education and downstream financial behaviors? *Management Science*, 60(8), 1861-1883.
- Gelen, İ. (2017). P21-Program ve öğretimde 21. yüzyıl beceri çerçeveleri (ABD Uygulamaları). *Disiplinlerarası Eğitim Araştırmaları Dergisi*, 1(2), 15-29.
- Gökmen, H. (2012) *Finansal okuryazarlık*. İstanbul: Hiperlink Yayınları.
- Grody, A. D., Grody, D., Kromann, E., & Sutliff, J. (2008). *A financial literacy and financial services program for elementary school grades-results of a pilot study*. Kromann, Erin & Sutliff, Jim (Eds.) *In a financial*

- literacy and financial services program for elementary school grades results of a pilot study (May 12, 2008).
- Güvenç, H. (2017). Öğretim programlarımızda finansal okuryazarlık. *İlköğretim Online*, 16(3), 935-948. doi: 10.17051/ilkonline.2017.330233
- Kell, P. (2012). MoneySmart Teaching: Bringing, financial literacy lessons to life in the classroom. *Curriculum Leadership Journal*, 10(20).
- Kılıç, Y., Ata, H.A., ve Seyrek, H.İ. (2015). Finansal okuryazarlık: Üniversite öğrencilerine yönelik bir araştırma. *Muhasebe ve Finansman Dergisi*, 130-151.
- Kozina, F. L., Perčič, T., & Koch, V. (2011). Critical Point in financial learning process of primary school children in Slovenia. *Problems Of Education in the 21st Century*, 30, 35-46.
- Levon, E.B., & Grootenboer, P. (2019). A praxis approach to financial literacy education, *Journal of Curriculum Studies*, 51(5), 755-770. Doi: 10.1080/00220272.2019.1650115
- Lindsay A.G. (2021). Financial literacy in the Ohio K-2 classroom: A mixed methods study. *Education*, 3-13, Doi: 10.1080/03004279.2021.1905018
- Lucey, T.A., & Maxwell, S.A. (2011). Teaching Mathematical Connections to Financial Literacy in Grades K-8: Clarifying the Issues. *Investigations in Mathematics Learning*, 3(3), 46-55.
- Lucy, T.A., & Giannangelo, D.M. (2006). Short Changed: The Importance Of Facilitating Equitable Financial Education İn Urban Society. *Education. Urban*, 38(3), 268-287. Doi:10.1177/0013124506286942
- Lusardi, A., & Mitchell, O.S. (2007). *Financial literacy and retirement planning*. Michigan: New Evidence from the Rand American Life Panel.
- Lusardi, A. (2012). *Numeracy, financial literacy, and financial decision-making*, National Bureau of Economic Research.
- Lusardi, A. (2015). Financial literacy skills for the 21st century: Evidence from PISA. *Journal of Consumer Affairs*, 49, 639-659.
- Mammadova, G. (2020). *İlkokul ve ortaokul öğretim programlarındaki kazanımlarda finansal okuryazarlıkla ilgili öğrencilerin tutum ve görüşleri*. (Yayımlanmamış Yüksek Lisans Tezi). Ondokuz Mayıs Üniversitesi, Eğitim Bilimleri Anabilim Dalı, Samsun.
- Millî Eğitim Bakanlığı. (2013). *Okul öncesi eğitim programı*. <http://tegm.meb.gov.tr/dosya/okuloncesi/ooproram.pdf>. Erişim tarihi: 26.08.2021.
- Millî Eğitim Bakanlığı. (2021). *Millî eğitim istatistikleri örgün eğitim*. https://sgb.meb.gov.tr/meb_iys_dosyalar/2021_09/10141326_meb_istatistikleri_orgun_egitim_2020_2021.pdf
- Natalie, G., Cameron, N., & Chrisann, P. (2011). Framework for assessing financial literacy and superannuation investment choice decisions. *Australian Accounting Business and Finance Journal*, 5(2), 3-22.
- Noctor, M., Stoney, S., & Stradling, R. (1992). *Financial literacy: A discussion of concepts and competences of financial literacy and opportunities for its introduction into young people's learning*. London: National Foundation for Educational Research.
- Oktay, A. (2010). 21. Yüzyılda yeni eğilimler ve eğitim. 21. yüzyılda eğitim ve Türk eğitim sistemi. Oğuz, O., Oktay, A., ve Ayhan, H. (Ed.). *21. Yüzyılda eğitim ve Türk eğitim sistemi* içinde (ss.1-19). Ankara: Pegem A Yayınevi (2. Basım).
- Opletalova, A. (2015). Financial education and financial literacy in the Czech education system. *Procedia-Social and Behavioral Sciences*, 171, 1176-1184. Doi: 10.1016/j.sbspro.2015.01.229
- Organisation for Economic and Cooperative Development (OECD). (2012). *PISA 2012 financial literacy assessment framework*. PISA: OECD Publishing.
- Organisation for Economic and Cooperative Development (OECD). (2013). *Assessment and analytical framework: Mathematics, reading, science, problem solving and financial literacy*. Paris: OECD Publishing. D:10.1787/9789264190511-7-en
- Organisation for Economic and Cooperative Development (OECD). (2016). *OECD/INFE International survey of adult financial literacy competencies*. <https://www.oecd.org/daf/fin/financial-education/OECD-INFE-International-Survey-of-Adult-Financial-Literacy-Competencies.pdf>. Erişim tarihi: 26.08.2021.
- Orton, L. (2007). *Financial literacy: Lessons from international experience*. Canadian Policy.
- Özbek, A., ve Aydın, A. (2021). Finansal okuryazarlığın gelişiminde finansal sosyalizasyon temelli bir model önerisi. *Uluslararası Anadolu Sosyal Bilimler Dergisi*, 4(5), 1342-1349.
- Özkale, A. (2018). *Finansal okuryazarlık ve matematiksel okuryazarlık perspektifinde Türkiye ve Kanada (Ontario) öğretim programlarının incelenmesi ve bir model önerisi*. (Yayımlanmamış doktora tezi). Anadolu Üniversitesi, Eğitim Bilimleri Enstitüsü, Eskişehir.
- Posner, G.J. (1995). *Analyzing the curriculum* (2nd ed.). New York: McGraw-Hill.
- Seyhan, A. (2020). Sosyal bilgiler dersinde finansal okuryazarlık becerisinin kazandırılmasına yönelik öğretmen görüşleri. *Recep Tayyip Erdoğan Üniversitesi Sosyal Bilimler Dergisi*, 11, 88-113. Doi: 10.34086/rteusbe.726511

- Sherraden, M.S., Johnson, L., Guo, B., & Elliott, W. (2011). Financial capability in children: Effects of participation in a school-based financial education and savings program. *Journal of Family & Economic Issues*, 32(3), 385-399.
- Solheim, C.A., Zuiker, V.S., & Levchenko, P. (2011). Financial socialization family pathways: Reflections from college students' narratives. *Family Science Review*, 16(2), 97-112.
- Temizel, F. (2010). *Mavi yakalılarda ekonomi okuryazarlık*. İstanbul: Beta Yayınları.
- The National Financial Educators Council. 2018. <https://www.financialeducatorscouncil.org/financial-literacy-definition/>. Erişim tarihi: 26.08.2021.
- Topay, G., ve Erdem, R. (2019). Türkiye'de tüketim kültürünün gelişimine dair kavramsal bir inceleme. *Süleyman Demirel Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 35, 162-183.
- Yeminoğlu, D. (2018). *Finansal okuryazarlığın mobil alışveriş yapma eğilimi üzerine etkisi*. (Yayımlanmamış Yüksek Lisans Tezi). Hasan Kalyoncu Üniversitesi, Sosyal Bilimler Enstitüsü, Gaziantep.
- Yeo, J. & Fisher, P. (2017). Mobile financial technology and consumers' financial capability in the United States. *Journal of Education & Social Policy*, 7(1), 80-93.
- Yıldırım, A., ve Şimşek, H. (2018). *Sosyal bilimlerde nitel araştırma yöntemleri*. Ankara.
- Webley, P., & Nyhus, E.K. (2006). Parents' influence on children's future orientation and saving. *Journal of Economic Psychology*, 27, 140-164.
- Whitebread, D., & Bingham, S. (2013). *Habit formation and learning in young children*. London, England: The Money Advice Service.
- Willis, L.E. (2008). Against financial literacy education. *Iowa Law Review*, 94, 197-285. <http://www.ikengeld.nl/>. Erişim tarihi: 26.08.2021.

Make It Happen: Our Nature Our Future¹

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Abstract

The aim of this study is to draw attention to the global problems in the world and to gain ecological awareness by integrating the self-consciousness with education. Activities that will enable students to better understand the Sustainable Development Goals were implemented with project-based education method with using Web.2 Tools. Each teacher has integrated their course achievements with project activities into the curriculum and their students' learning outcomes have increased. This study is an eTwinning Project. It lasted five months. It was conducted with 25 teachers and 186 secondary school students from Turkey, Romania, Lithuania, Spain and Portugal. The aims and objectives of the study matched up with the 2023 year vision and 21st century skills of our Ministry of National Education. By creating student teams in accordance with the SDGs, posters, the logo competition, games, e-books, word clouds, story writing, interviews, the song, the poem, cultivation, water and carbon footprint measurements, personality test were prepared and applied. After the student-centered work, they were informed and about the monthly activities with the Project-based education method and the results were evaluated. Process-oriented evaluations were made individually at the teachers and students meetings every month. Before the study, pre-surveys were applied to measure the readiness of teachers and students. Activities were shaped according to the data obtained. According to the results of the study, teachers and students gained awareness about recognizing the SDGs, having information about the work done in the world and taking responsibility individually. It has been seen that they realize that the change begins with us.

Keywords: Sustainable development goals, environmental education, environmental responsibility.

1. Introduction

Western countries started to look for new ways of searching in development, upon the understanding that the relative increase in welfare throughout the world with the industrialization process has serious environmental costs over time. The total GDP of the countries in the world for the year 2020 is around 84 trillion dollars (<https://tr.wikipedia.org>, 2022), which gives us important information about the pollution of natural resources in the world. With industrialization, the rapid spread of polluting technologies around the world and the consequent pollution of the seas, the melting of glaciers, the destruction of forests, and the reduction of biological diversity have turned into a global environmental problem in a short time. Moreover, when the population increase in the world is added to this, the size and severity of environmental problems have increased. When it was understood that the savage development approach followed in western countries and the developing countries that followed it could not be sustained, western countries started to seek a new way of development with the effect of rising social reactions against environmental degradation that started after the 1960s. The idea of sustainable development has emerged as an alternative thought and a new hope to the idea of wild development in the face of the rapid pollution of nature and the danger of resource depletion in Western countries. In the emergence of sustainable development, the strengthening of the symptoms of the irreversible deterioration of the relationship between the environment and the economy in West has been effective (Kılıç, 2012: 204).

Table 1. Sustainable development goals

Goal 1: No Poverty	Goal 10: Reduced Inequality
Goal 2: Zero Hunger	Goal 11: Sustainable Cities and Communities
Goal 3: Good Health and Well-being	Goal 12: Responsible Consumption and Production
Goal 4: Quality Education	Goal 13: Climate Action

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Table 1 (continued)

Goal 5: Gender Quality	Goal 14: Life Below Water
Goal 6: Clean Water and Sanitation	Goal 15: Life On Land
Goal 7: Affordable and Clean Energy	Goal 16: Peace, Justice and Strong Institutions
Goal 8: Desent Work and Economic Growth	Goal 17: Partnerships for the Goals
Goal 9: Industry, Innovatioan and Infrastructure	

Source: <https://www.tr.undp.org/content/turkey/tr/home/sustainable-development-goals.html>

Şahinöz, who defends that current natural resources do not belong only to current generations, but that future generations have the right to do so, although there is a very large literature in the background regarding the historical development of the concept of sustainable development, the concept was recognized worldwide with the report called *Our Common Future*, published by the UN in 1987 (2019: 79) In the definition of the study, also known as the Brundlant Report, sustainable development is defined as “meeting the needs of the present without compromising the needs of future generations”. Although sustainable development emerged as a very limited and theoretical approach, it is seen that the concept started to materialize over time and became a concept used in many areas from environmental policies to EIA applications. In fact, sustainable development has three pillars: human, environment and economy (Unesco, 2007) and it is a development approach that aims at the most ideal harmony with another or fusion of the environment, society and economy as a whole (Özmehmet, 2008: 4). 17 sustainable development goals have been determined based on these three pillars. Thus, solutions were sought for global environmental problems, economic and social problems inevitably.

The concept of sustainable development, contrary to those who advocate zero growth, did not exclude the human element. Even in the 1970s, it was understood that the developing countries did not look at the environmental protection issue because of the hunger and poverty problems in their countries. In fact, the words that best reflect the perspectives of developing countries on environmental protection are undoubtedly Indira Gandhi's words "The biggest environmental pollution is poverty" (Şahinöz, 2019: 96). It is an action plan that aims to unite all humanity on a common ground in the protection of an environment that includes peace and prosperity, which aims to eradicate poverty worldwide by protecting the environment. Because today, world resources, especially fossil fuels, are consumed unconsciously, and as a result, environmental pollution leads to irreversible environmental destruction. In order to combat environmental pollution, everyone from seven to seventy has important duties and responsibilities. It has been understood that only making legal arrangements and using intensive technology are not sufficient to combat problems such as climate change, which is one of the most threatening developments in the world ecosystem among environmental problems today. First of all, there is a need for a radical change in the behavior of individuals, in other words, human behavior. However, the change of positive attitudes and behaviors towards the environment depends on an education that will ensure the change in consciousness and value judgments of people (Şeker & Hacıeminoğlu, 2021: 5; Tekin, 2021: 19). Due to the well-known role of education in the change of individual behaviors, all aspects of education programs should be changed in terms of purpose and content to be compatible with the foundations of sustainable (Tekin, 2021: 32).

It is seen that some studies on education and sustainable development goals also support this subject. According to the results of the studies on it, it has been concluded that the adoption of the concept of sustainable development by teachers and students in the education system is a fundamental phenomenon. In a sense, education has become the most important building block of the idea of sustainable development. Because the adoption of this by current generations and the achievement of goals means a better social life, a better environment and a better economy for future generations (Eser, 2018: 404-417; Tekin 2021: 19-32).

One of the most important elements holding the society together is the existence of a structure based on common values undoubtedly. In order for this structure to maintain its existence for a long time, it depends on the fact that individual interests can be ignored in the face of social interests. It is a value that can only be gained in the school environment that the individual has to maintain a balance between social interests and individual interests. The awareness that environmental values are the common value of all humanity and the idea that they should be strictly protected can of course be gained through education in the best way.

Environmental protection and education are among the topics that come to the fore from time to time in various international meetings. One of the important meetings dealing with sustainable development and education is undoubtedly the United Nations Sustainable Development Summit held in New York between 25-27 September 2015. At this summit, the article "*Providing quality education that covers everyone and provides equal quality education to everyone and providing lifelong education to everyone*", which is included in the 2030 Sustainable Development Goals, is important in terms of supporting quality and lifelong learning opportunities, and this decision has become one of the main issues of the UNESCO education sector (UNESCO, 2021).

In this context, the years between 2005-2014 were named as the "Decade of Education for Sustainable Development by the United Nations ". By this means, the organization emphasized that everyone should receive education regarding sustainable development within ten years and in this context, it tried to instill in societies how important education is (Bulut & Özgül, 2019: 35; MEB, 2022).

The most effective method for achieving sustainable development goals, protecting the environment and raising individuals with high environmental awareness can be achieved with a intensive inclusive education given to individuals at a very early age. The success of these trainings depends on the quality of the training as well as the quantity. The success of these trainings depends on the quality of the training as well as the quantity. For this reason, the content of the education given should always cover topics and values such as "environmental literacy", "critical thinking", "empathy", "problem solving", "social participation", "perceiving time and chronology" and "working in groups". These values, which will be brought to individuals, will not only help individuals to perceive and solve environmental problems, but also to solve other problems they encounter in the social arena.

2. Goals and Subgoals

- The priority of the project is to draw attention to the global problems in the world, to realize the importance of sustainable development and to gain the awareness of individual responsibility by integrating it with education.
 - It is aimed to raise environmentalist individuals who know that students should accept nature as a living being and live in harmony with nature.
 - It is aimed to use Web 2.0 tools effectively in education and to develop foreign language skills.
 - It is aimed to ensure the safe use of technologies such as computers and mobile phones.
 - The aims and objectives of the study coincide with the 2023 vision and 21st century skills of our Ministry of National Education.
 - With an interdisciplinary approach, permanent learning was aimed by integrating the achievements suitable for each teacher's branch in the project with the project activities.

3. Method

With this study, qualitative and quantitative analyzes, especially project-based teaching methods and techniques, were used to determine whether students and teachers adopt an environmentalist lifestyle, whether they are aware of global environmental problems and whether they are ready to take individual responsibility for the solution of these problems. Within the scope of action-oriented research, a literature review was conducted on this field. In this context, it was decided to conduct a survey to measure the environmentalist attitudes of students and teachers and questions were prepared in this direction. In the study, student-centered, doing-living, group work, collaborative teaching methods and techniques were also used within the scope of the project. The results of the questionnaires applied to the students and teachers were evaluated using a fivefold Likert and the article was shaped in line with the information obtained from it (Table 2).

Table 2. Project working process and monthly themes

October	1- Preparatory work 2- Creating a Project Working Plan 3- Choosing the Logo 4- Pre-surveys for Teachers and Students 5- First Collaborative Product “ What is The Most Important Environmental Problem In Your Area?”
November	1- Second Collaborative Product “What are the Sustainable Development Goals?” 2- Mixed International Teams 1.Team: Goal 2,3 2.Team: Goal 6,14,15 3.Team: Goal 7.11 4.Team: Goal 12,13 3- Mixed School Team Meetings (A team will meet each day to exchange ideas about group work) 4- Student presentations (Canva, Google presentation, Prezi or Emaze)
December	1- Evaluation (Student,Teacher Mid-Project Evaluations) 2- We celebrate the New Year with the Wishes of the Realization of teh SDG. 3- We Interview about SDG. 4- “Common Product” Our New Year Song 5- Sponsor a Penguin
January	1- Preparing a New Year’s Calender (Common Product) 2- Writing the “Our Future Beautiful, Sustainable, Together” with Bookmarks (Common Product) 3- Calculate Carbon Footprint, Water Footprint and Make Decisions to Reduce the Footprints

Table 2 (continued)

	4- Make It Happen: "Our Nature Our Future" Acrostic Poem (Common Product)
	5- Preparing a Personality Test on Environmental Awareness with the APESTER Program
February	1- Project Final Survey
	2- Safer Internet Day – Mind Map (Collaborative Product)
	3- Our Second Home- Around Our School
	4- Final Product (Story)
	5- Virtual Exhibition
	6- Project First and Last Survey Comparison and Project Final Report
	7- Student ans Teacher Project Evaluations

3.1. Working Group

It was conducted with 25 teachers and 186 high school students from Turkey, Romania, Spain, Lithuania and Portugal.

3.2. Data Collection Tool

In order to collect data in the research, the scale applied in the literature review in the article The environmental attitudes inventory: A valid and reliable measure to assess the structure of environmental attitudes by Taciano L. Milfont and John Duckitt was used. In order to test the structural validity of the scale, the Cronbach Alpha reliability test was used and the coefficient of 80 found is within the reliability limits (Milfont ve Duckitt, 2006).

4. Result

4.1. Student Pre-Survey –Last-Survey Analysis

In the pre-survey applied to the students about what an environmentally sustainable society means, the rate of those who said that it would not harm natural resources was 8.9% and the rate of those who said that it would protect resources for future generations was 15.2%, these rates increased to 13.6% and 18.4%, respectively after the study (Table 3).

Table 3. An environmentally sustainable society

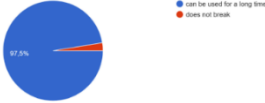
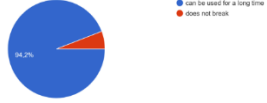
Pre-survey	Last-survey
<p>1. An environmentally sustainable society 60 / 79 doğru yanıt</p> <p>does not damage its natural resources: 7 (8.9%) protects resources for future generations: 12 (15.2%) ✓ All of the above: 60 (75.9%)</p>	<p>1. An environmentally sustainable society 70 / 100 doğru yanıt</p> <p>does not damage its natural resources: 14 (13.6%) protects resources for future generations: 19 (18.4%) ✓ All of the above: 70 (70%)</p>
<p>Sources that do not harm their naturalness % 8.9 Protects resources for future generations % 15.2 All of the above % 75.9</p>	<p>Sources that do not harm their naturalness % 13.6 Protects resources for future generations % 18.4 All of the above % 68</p>

Students were asked whether they had heard about the sustainable development goals before, 65.8% of the rate in the pre-survey stated that they had heard about it before, but this rate increased to 76.7% in the survey conducted at the end of the study (Table 4).

Table 4. Have you heard about "Sustainable Development Goals" before?

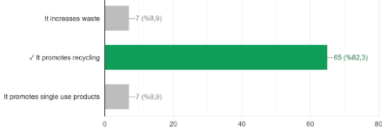
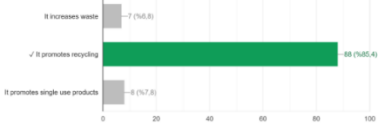
Pre-survey	Last-survey
<p>2. Have you heard about "Sustainable Development Goals" before? 79 / 79 doğru yanıt</p> <p>✓ Yes: 52 (65.8%) ✓ No: 27 (34.2%)</p>	<p>2. "Sürdürülebilir Kalkınma Hedefleri"ni daha önce duydunuz mu? 103 / 103 doğru yanıt</p> <p>✓ Yes: 79 (76.7%) ✓ No: 24 (23.3%)</p>
<p>Yes % 65.8, No % 34.2</p>	<p>Yes % 76.7, No % 23.3</p>

Table 5. A sustainable product is one that

Pre-survey	Last-survey
<p>3. A sustainable product is one that 79 yanı</p>  <p>Can be used for a long time % 97.5 Unbreakable % 2.5</p>	<p>3. A sustainable product is one that 103 yanı</p>  <p>Can be used for a long time % 94.2 Unbreakable % 5.8</p>

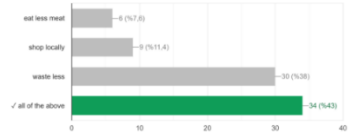
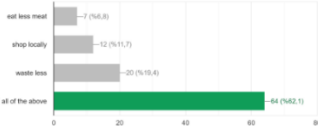
The students were asked what a sustainable product is, the rate of those who said it could be used for a long time in the pre-survey was 97.5%, and 94.2% in the last survey. However, due to the fact that the problem was not fully understood by the students, it was concluded that there was such a result. In fact, what is meant by sustainable product in this question is products that are renewable and do not harm the nature (Table 5).

Table 6. How does circular economy promote sustainability?

Pre-survey	Last-survey
<p>4. How does circular economy promote sustainability? 65 / 79 değıru yanı</p>  <p>Increases waste % 8.9 It encourages recycling % 82.3 Promotes disposable products % 8.9</p>	<p>4. How does circular economy promote sustainability? 88 / 103 değıru yanı</p>  <p>Increases waste % 6.8 It encourages % 85.4 Promotes disposable products % 8.7</p>

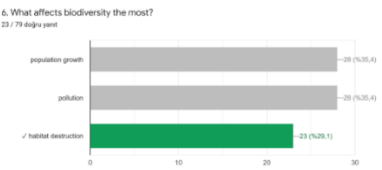
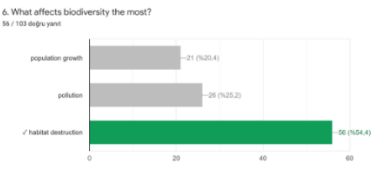
The question of how a circular economy supports sustainability was asked to the students; 82.3% of the students participating in the first survey encourage recycling and 8.9% increase waste. In the second survey, these rates were 85.4% and 6.8% respectively (Table 6).

Table 7. What are ways to eat more sustainably?

Pre-survey	Last-survey
<p>5. What are ways to eat more sustainably? 34 / 79 değıru yanı</p>  <p>Eat less meat % 7.6 Do the shopping locally % 11.4 Waste less % 38, All of the above % 43</p>	<p>5. What are ways to eat more sustainably? 64 / 103 değıru yanı</p>  <p>Eat less meat % 6.8 Do the shopping locally % 11.7 Waste less % 19.4, All of the above % 62.1</p>

The students were asked what the ways of a more sustainable diet are, and 43% of the students answered positively to the total of the options such as *consuming less meat, do the shopping locally, and wasting less* in the first survey, while this rate increased to 62.1% in the last-survey (Table 7).

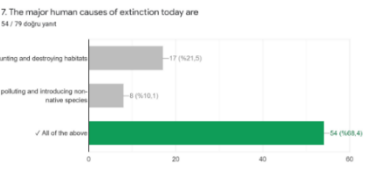
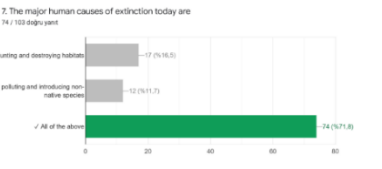
Table 8. What affects biodiversity the most?

Pre-survey	Last-survey
 <p>6. What affects biodiversity the most? 23 / 79 deŋru yant</p> <p>Population growth % 35.4, Pollution % 35.4 Habitat destruction % 29.1</p>	 <p>6. What affects biodiversity the most? 56 / 103 deŋru yant</p> <p>Population growth % 20.4, Pollution % 25.2 Habitat destruction % 54.4</p>

The students were asked what affects biodiversity the most; While 29.1% of the students in the pre-survey said habitat destruction, this rate increased to 54.4% in the last-survey (Table 8).

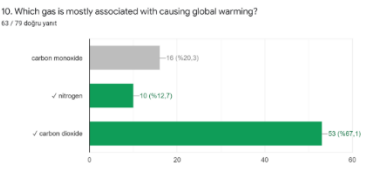
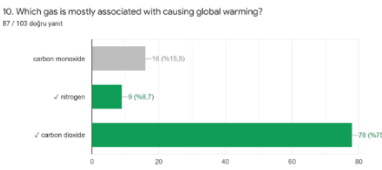
The students were asked what the reasons for the decrease in biodiversity are in the world. In the pre-survey, 68.4% of the students answered as hunting, pollution of nature, intervention in wildlife, while this rate was 71.8% in the last-survey (Table 9).

Table 9. The major human causes of extinction today are

Pre-survey	Last-survey
 <p>7. The major human causes of extinction today are 54 / 79 deŋru yant</p> <p>Hunting and destroying habitats % 21.5 Introduce polluting and non-native species % 10.1 All of the above % 68.4</p>	 <p>7. The major human causes of extinction today are 74 / 103 deŋru yant</p> <p>Hunting and destroying habitats % 16.5 Introduce polluting and non-native species % 11.7 All of the above % 71.8</p>

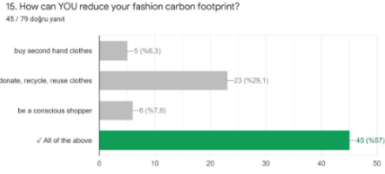
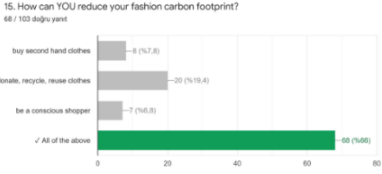
The students were asked about the gases that cause global warming in the atmosphere, while the rate of those who said carbon dioxide in the first survey was 67.1%, this rate reached 75.7% in the second survey (Table 10).

Table 10. Which gas is mostly associated with causing global warming?

Pre-survey	Last-survey
 <p>10. Which gas is mostly associated with causing global warming? 63 / 79 deŋru yant</p> <p>Carbon monoxide % 20.3, Nitrogen % 12.7 Carbon dioxide % 67.1</p>	 <p>10. Which gas is mostly associated with causing global warming? 87 / 103 deŋru yant</p> <p>Carbon monoxide % 15.5, Nitrogen % 8.7 Carbon dioxide % 75.7</p>

The students were asked what should be done to reduce their carbon footprint. In the first survey, 57% of the students answered as evaluating second-hand clothes and being a conscious consumer, while this rate increased to 66% in the second survey (Table 11).

Table 11. How can you reduce your fashion carbon footprint?

Pre-survey	Last-survey
 <p>15. How can YOU reduce your fashion carbon footprint? 45 / 79 doğru yanıt</p> <p>buy second hand clothes 5 (%6,3) donate, recycle, reuse clothes 23 (%29,1) be a conscious shopper 6 (%7,6) ✓ All of the above 15 (%37,7)</p>	 <p>15. How can YOU reduce your fashion carbon footprint? 66 / 103 doğru yanıt</p> <p>buy second hand clothes 8 (%7,8) donate, recycle, reuse clothes 20 (%19,4) be a conscious shopper 7 (%6,8) ✓ All of the above 29 (%28)</p>
<p>Buy second hand clothes % 6.3 Donate, recycle, reuse clothes % 29.1 Be a conscious consumer % 7.6 All of the above % 57</p>	<p>Buy second hand clothes % 7.8 Donate, recycle, reuse clothes % 19.4 Be a conscious consumer % 6.8 All of the above % 66</p>

Students were asked whether they had heard about the sustainable development goals before, 65.8% of the rate in the pre-survey stated that they had heard about it before, but this rate increased to 76.7% in the survey conducted at the end of the study.

The pre-survey results of the students show that they are aware of the effects of climate change on the planet and how important it is to reduce our carbon footprint. In general, they know how we can live more sustainably and they try to pollute less. They believe that we are responsible for causing harm to the world as human beings.

66% of students are familiar with or at least have heard of the Sustainable Global Goals.

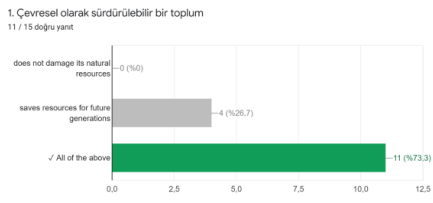
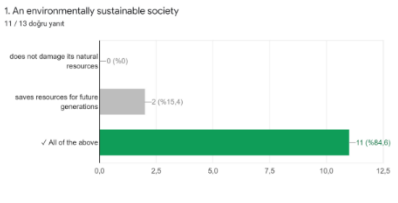
The last survey results of the students show that they became more aware of the effects of climate change on the planet after this study. They have learned to lead a more sustainable lifestyle and to respect and protect biodiversity.

77% of students are familiar with or at least heard about the Sustainable Global Goals, which is 10% more than the results of the pre-survey.

4.2. Teacher Pre-Survey –Last-Survey Analysis

In the pre-survey applied to teachers about what an environmentally sustainable society means, the rate of those who said that they do not harm natural resources, protect resources for future generations, all of them was 73.3%, while this rate increased to 84.6% in the last survey (Table 12).

Table 12. An environmentally sustainable society

Pre-survey	Last-survey
 <p>1. Çevresel olarak sürdürülebilir bir toplum 11 / 15 doğru yanıt</p> <p>does not damage its natural resources 0 (%0) saves resources for future generations 4 (%26,7) ✓ All of the above 11 (%73,3)</p>	 <p>1. An environmentally sustainable society 11 / 13 doğru yanıt</p> <p>does not damage its natural resources 0 (%0) saves resources for future generations 2 (%15,4) ✓ All of the above 11 (%84,6)</p>
<p>Sources that do not harm their naturalness % 0 Protects resources for future generations % 26.7 All of the above % 73.3</p>	<p>Sources that do not harm their naturalness % 0 Protects resources for future generations % 15.4 All of the above % 84.6</p>

The teachers were asked whether the sustainable development goals had been heard before, 93.3% of the rate of them in the pre-survey stated that they had heard it before, but this rate increased to 100% in the survey conducted at the end of the study (Table 13).

Table 13. Have you heard about "Sustainable Development Goals" before?

Pre-survey	Last-survey
<p>2. Have you heard about "Sustainable Development Goals" before? 15 / 15 (100%)</p> <p>Yes % 93.3, No % 6.7</p>	<p>2. Have you heard about "Sustainable Development Goals" before? 13 / 13 (100%)</p> <p>Yes % 100, No % 0</p>

Teachers were asked what is a sustainable product, while the rate of those who said that it can be used for a long time in the pre-survey was 86.7%, this rate increased to 100% in the last survey (Table 14).

Table 14. A sustainable product is one that

Pre-survey	Last-survey
<p>3. A sustainable product is one that 13 years</p> <p>Can be used for a long time % 86.7 Unbreakable % 13.3</p>	<p>3. A sustainable product is one that 13 years</p> <p>Can be used for a long time % 100 Unbreakable % 0</p>

The teachers were asked the question of how a circular economy supports sustainability; 100% of the them who participated in the pre-survey and the last survey answered in the way of that they encourage recycling (Table 15).

Table 15. How does circular economy promote sustainability?

Pre-survey	Last-survey
<p>4. How does circular economy promote sustainability? 15 / 15 (100%)</p> <p>Increases waste % 0 It encourages recycling % 100 Promotes disposable products % 0</p>	<p>4. How does circular economy promote sustainability? 13 / 13 (100%)</p> <p>Increases waste % 0 It encourages recycling % 100 Promotes disposable products % 0</p>

Teachers were asked what are the ways of a more sustainable diet, while 80% of the teachers answered positively to the total of the options such as *consuming less meat, shopping locally and saving money* in the pre-survey, while this rate increased to 92.3% in the last survey (Table 16).

Table 16. What are ways to eat more sustainably?

Pre-survey	Last-survey
<p>5. What are ways to eat more sustainably? 12 / 15 doğru yanıt</p> <p>Eat less meat % 0, Do the shopping locally % 0 Waste less % 20, All of the above % 80</p>	<p>5. What are ways to eat more sustainably? 12 / 13 doğru yanıt</p> <p>Eat less meat % 0, Do the shopping locally % 0 Waste less % 7.7, All of the above % 92.3</p>

Teachers were asked what affects biodiversity the most; In the pre-survey, 40% of the teachers said habitat destruction, while in the last survey, this rate increased to 46.2% (Table 17).

Table 17. What affects biodiversity the most?

Pre-survey	Last-survey
<p>6. What affects biodiversity the most? 6 / 15 doğru yanıt</p> <p>Population growth % 26.7, Pollution % 33.3 Habitat destruction % 40</p>	<p>6. What affects biodiversity the most? 6 / 13 doğru yanıt</p> <p>Population growth % 23.1, Pollution % 30.8 Habitat destruction % 46.2</p>

The teachers were asked what the reasons for the decrease in biodiversity in the world were, in the first survey 93.3% of the teachers answered as hunting, pollution of nature, intervention in wildlife, while this rate was 100% in the last survey (Table 18).

Table 18. The major human causes of extinction today are

Pre-survey	Last-survey
<p>7. The major human causes of extinction today are 14 / 15 doğru yanıt</p> <p>Hunting and destroying habitats % 0 Introduce polluting and non-native species % 6.7 All of the above % 93.3</p>	<p>7. The major human causes of extinction today are 13 / 13 doğru yanıt</p> <p>Hunting and destroying habitats % 0 Introduce polluting and non-native species % 0 All of the above % 100</p>

Teachers were asked whether human activities have caused climate change. The rate of those who said yes was 100% in the first and last survey (Table 19).

Table 19. Human activities have caused climate change

Pre-survey	Last-survey
<p>8. Human activities have caused climate change. 15 / 15 dogru yanit</p> <p>✓ True 15 (%100) False 0 (%0)</p> <p>Yes % 100, No % 0</p>	<p>8. Human activities have caused climate change. 13 / 13 dogru yanit</p> <p>✓ True 13 (%100) False 0 (%0)</p> <p>Yes % 100, No % 0</p>

The teachers were asked about the gases that cause global warming in the atmosphere, while the rate of those who said carbon dioxide in the pre-survey was 73.3%, this rate reached 84.6% in the last-survey (Table 20).

Table 20. Which gas is mostly associated with causing global warming?

Pre-survey	Last-survey
<p>10. Which gas is mostly associated with causing global warming? 12 / 15 dogru yanit</p> <p>carbon monoxide 3 (%20) ✓ nitrogen 1 (%6,7) ✓ carbon dioxide 11 (%73,3)</p> <p>Carbon monoxide % 20, Nitrogen % 6.7 Carbon dioxide % 73.3</p>	<p>10. Which gas is mostly associated with causing global warming? 11 / 13 dogru yanit</p> <p>carbon monoxide 2 (%15,4) ✓ nitrogen 0 (%0) ✓ carbon dioxide 11 (%84,6)</p> <p>Carbon monoxide % 15.4, Nitrogen % 0 Carbon dioxide % 84.6</p>

Table 21. Which of these energy sources are non-renewable?

Pre-survey	Last-survey
<p>14. Which of these energy sources are non-renewable? 10 / 15 dogru yanit</p> <p>solar 1 (%6,7) ✓ natural gas 10 (%66,7) wind 1 (%6,7) hydropower 3 (%20)</p> <p>Solar % 6.7, Natural gas % 66.7 Rwind % 6.7, Hydroelectric % 20</p>	<p>14. Which of these energy sources are non-renewable? 9 / 13 dogru yanit</p> <p>solar 1 (%7,7) ✓ natural gas 9 (%69,2) wind 0 (%0) hydropower 3 (%23,1)</p> <p>Solar % 7.7, Natural gas % 69.2 Rwind % 0, Hydroelectric % 23.1</p>

The teachers were asked which non-renewable energy sources were. In the pre-survey, 66.7% of the teachers said natural gas, while this rate increased to 69.2% in the last- survey (Table 21).

Teachers were asked what should be done to reduce their carbon footprint. In the pre-survey, 86.7% of them answered as evaluating second-hand clothes and being a conscious consumer, while this rate increased to 92.3% in the last-survey (Table 22).

Table 22. How can you reduce your fashion carbon footprint?

Pre-survey	Last-survey
<p>15. How can YOU reduce your fashion carbon footprint? 13 / 15 dogru yanit</p> <p>buy second hand clothes 0 (%0) donate, recycle, reuse clothes 2 (%13,3) be a conscious shopper 0 (%0) ✓ All of the above 13 (%86,7)</p> <p>Buy second hand clothes % 0 Donate, recycle, reuse clothes % 13.3</p>	<p>15. How can YOU reduce your fashion carbon footprint? 12 / 13 dogru yanit</p> <p>buy second hand clothes 0 (%0) donate, recycle, reuse clothes 1 (%7,7) be a conscious shopper 0 (%0) ✓ All of the above 12 (%92,3)</p> <p>Buy second hand clothes % 0 Donate, recycle, reuse clothes % 7.7</p>

Table 22 (continued)

Be a conscious consumer % 0	Be a conscious consumer % 0
All of the above % 86.7	All of the above % 92.3

Table 23. We humans have become a threat to our own survival.

Pre-survey	Last-survey
<p>16. We humans have become a threat to our own survival. 15 / 15 doğru yanıt</p> <p>✓ True 15 (%100)</p> <p>False 0 (%0)</p>	<p>16. We humans have become a threat to our own survival. 13 / 13 doğru yanıt</p> <p>✓ True 13 (%100)</p> <p>False 0 (%0)</p>
True % 100, False % 0	True % 100, False % 0

When the teachers were asked whether *we have become a threat to our survival as humans*, 100% of the them said yes in both the first and the last survey, and it was seen that they knew that they are the creatures that cause our their destruction while harming the nature, therefore they believe that it is necessary to raise awareness of people through such studies (Table 23).

The last-survey results applied to the teachers show that there is a high awareness of the impact of climate change and what needs to be done to protect the environment and live more sustainably. Ensuring sustainability and seeing its benefits can only be achieved through education. In this direction, an education system and its most important elements that are teachers and students should be made aware in the best way (Tekin 2021:19).

In order to achieve the desired goals in education for the sustainable development, many practices have been carried out to raise awareness in both formal and non-formal education all over the world for ten years, and it has been seen that these practices have reached their goals with the measurements performed at the end of the decade. Today, the United Nations Educational, Scientific and Cultural Organization (UNESCO), the Global Program of Action in Education for Sustainable Development (GAP) and the Education Committee aim to expand successful projects in education for the sustainable development and involve more schools and institutions in these projects (Bulut ve Özgül, 2019: 43).

5. Conclusion and Recommendations

- Within this study, by drawing attention to the global problems in the world, the development of individual responsibility awareness in order to create environmental awareness and leave a more livable world to future generations was integrated into education and an environmentalist lifestyle was given to the students.
- Behavioral changes in students who realized that there is no other planet to live on and that individual measures should be taken to achieve sustainable development goals were determined by conducting the surveys.
- According to the results of the surveys applied to the students, it was seen that the students' skills of foreign language, digital competence, learning to learn ability, creativity, cooperation, recognizing different cultures were supported by these studies.
- Students and teachers have gained awareness about recognizing the Sustainable Development Goals, having information about the work done in the world and taking individual responsibility.
- Since this is an international study, English as the common language supported the students' foreign language skills.
- It was observed that the teachers were in effective communication with all the participants throughout the study and their awareness of the Sustainable Development Goals increased with the activities.
- This study has been a milestone for reviewing educational methods and ways of teaching and learning.
- An awareness study covering all segments of the society can be carried out for the dissemination of sustainable development goals.
- Sustainable Development Goals can be integrated into the curriculum at all levels.
- In order to increase social awareness, public service announcements on Sustainable Development Goals can be prepared.
- By developing project-based education methods for Sustainable Development Goals, students and teachers can learn by doing and experiencing.
- With in-service training, teachers' knowledge and awareness on sustainable development can be increased.

- In terms of education, teachers can improve themselves by following the sample education activities held in the world on the europeanschoolnetacademy. (<https://www.europeanschoolnetacademy.eu/about> website).
- Local governments and non-governmental organizations can make some arrangements to inform the public about the Sustainable Development Goals.
- Each goal of the Sustainable Development Goals can be addressed as a research topic.
- An academic article can be created by using the process and results of this study.
- Symposiums can be organized to raise awareness of Sustainable Development Goals and Environment.

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References

- Bulut, Y & Özgül, P. (2019). *Erken çocukluk eğitiminde sürdürülebilirlik kavramının incelenmesi*. Fırat Üniversitesi İİBF Uluslararası İktisadi ve İdari Bilimler Dergisi, 3(2), 35-49.
- Eser, M. (2018). *Meslek yüksekokulu öğrencilerinin sürdürülebilir kalkınmaya ilişkin tutumları: Nazilli Meslek Yüksekokulu örneği*. Adnan Menderes Üniversitesi. Nazilli M.Y.O. Kesit Akademi Dergisi Yıl: 4, Sayı:17.416-417 <https://www.kureselamaclar.org/>. (erişim tarihi.04.10.2021)
- Kılıç, S. (2012). *Sürdürülebilir kalkınma anlayışının ekonomik boyutuna ekolojik bir yaklaşım*, İ.Ü. Siyasal Bilgiler Fakültesi Dergisi No:47. (Ekim 2012): 201-226
- MEB (2022), *Sürdürülebilir kalkınma için eğitim on yılı sonuç raporu*, <https://abdigm.meb.gov.tr/www/surdurulebilir-kalkinma-icin-egitim-on-yili-sonuc-raporu/icerik/526>. (erişim tarihi. 09.04.2022)
- Milfont, Taciano L. and Duckitt, John (2010), *The environmental attitudes inventory: A valid and reliable measure to assess the structure of environmental attitudes*, Journal of Environmental Psychology 30 (2010) 80–94,
- Özmehmet, E. (2008). *Dünyada ve Türkiye sürdürülebilir kalkınma yaklaşımları*. Yaşar Üniversitesi e Dergisi. Cilt 3, sayı 12. 4.
- Şahinöz, A. (2019). *Sürdürülebilir Kalkınma* . Ufuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi yıl:8 sayı:15. 79.
- Şeker, S & Haceminoğlu, E. (2021). *Sürdürülebilir kalkınma ve iklim değişikliği*. İksad Yayınevi. [5.https://iksyayinevi.com/wp-content/uploads/2021/06/SURDURULEBILIR-KALKINMA-ve-IKLIM-DEGISIKLIGI.pdf](https://iksyayinevi.com/wp-content/uploads/2021/06/SURDURULEBILIR-KALKINMA-ve-IKLIM-DEGISIKLIGI.pdf), (erişim tarihi. 14.10.2021)
- Tekin, Z. (2021). *Sürdürülebilir kalkınma için eğitime yönelik olarak öğretmenlerin değer ve inançlarının incelenmesi*. Yayınlanmış Yüksek Lisans Tezi. Bursa Uludağ Üniversitesi Eğitim Bilimleri Enstitüsü. Türkçe Ve Sosyal Bilimler Eğitimi Anabilim Dalı.19-32 https://acikerisim.uludag.edu.tr/bitstream/11452/19888/1/Zeynep_TEK%c4%b0N.pdf. (erişim tarihi. 21.11.2021)
- TÜBİTAK. (2003). *Çevre ve sürdürülebilir kalkınma paneli vizyon ve öngörü raporu*. Ankara: TÜBİTAK.
- UNDP (2022), *Sürdürülebilir kalkınma amaçları*, <https://www.tr.undp.org/content/turkey/tr/home/sustainable-development-goals.html> (erişim tarihi. 04.10.2021)
- UNESCO (2022) *Sürdürülebilir kalkınma için eğitim*, <https://www.unesco.org/tr/Pages/14/52/S%C3%BCrd%C3%BCr%C3%BClebilir-Kalk%C4%B1nma-%C4%B0%C3%A7in-E%C4%9Fitim>, 21.04.2022
- Wikipedia (2022), *Nominal gsyih değerlerine göre ülkeler listesi*, https://tr.wikipedia.org/wiki/Nominal_GSY%C4%B0H_de%C4%9Ferlerine_g%C3%B6re_%C3%BClkeler_listesi (erişim tarihi.22.04.2022)