

A QUALITATIVE INVESTIGATION OF DISTRIBUTED LEADERSHIP IN
ECO-SCHOOLS

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF SOCIAL SCIENCES
OF
MIDDLE EAST TECHNICAL UNIVERSITY

BY
BAŞAK BAĞCI

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF MASTER OF SCIENCE
IN
THE DEPARTMENT OF EDUCATIONAL SCIENCES

JANUARY 2020

Approval of the Graduate School of Social Sciences

Prof. Dr. Yaşar Kondakçı
Director

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Science.

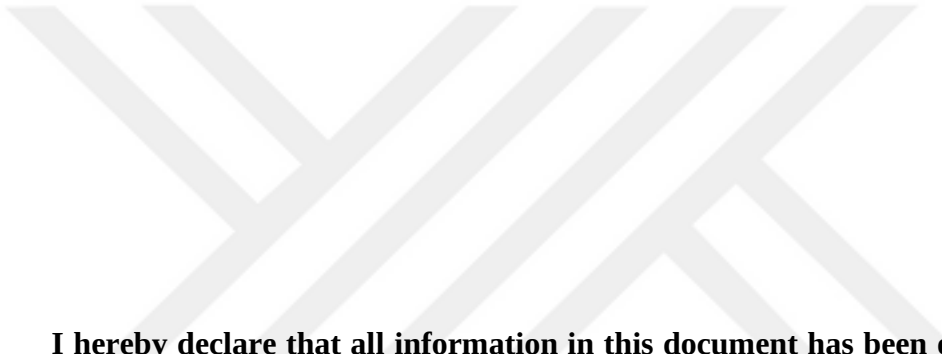
Prof. Dr. Cennet Engin-Demir
Head of Department

This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Science.

Prof. Dr. Yaşar Kondakçı
Supervisor

Examining Committee Members

Prof. Dr. Cennet Engin-Demir	(METU, EDS)	_____
Prof. Dr. Yaşar Kondakçı	(METU, EDS)	_____
Assist. Prof. Dr. Deniz Örüü	(Başkent Uni., EYD)	_____



I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name, Last name : Başak BAĞCI

Signature :

ABSTRACT

A QUALITATIVE INVESTIGATION OF DISTRIBUTED LEADERSHIP IN ECO-SCHOOLS

Bağcı, Başak

M.S., Department of Educational Sciences

Supervisor: Prof. Dr. Yaşar Kondakçı

January 2020, 170 pages

This study aims to explore the nature of distributed leadership in eco-school practice. The structure and application of the eco-school program in the school have included in the school's collective environment. This ethnographic study examined the role of various forms of leadership in the face of this environment. Data obtained from long-term observation of situations, interactions and behaviors within eco-school and other environmental activities in the school portrayed an image of eco-school culture. Semi-structured interviewing along with the documents and observation ensured in-depth analysis while satisfying the triangulation of the data.

Findings presented an insight into eco-school practices and forms of leadership situating during environmental management in the school. It is obtained that practicing eco-school allowed an environment where differentiated leadership features arose and encouraged. It is required to be acted and supported by several

environmental performances in the school through the themes proposed by the program. This practice flourished teacher leaders in the formal role who were expertise in the context of sustainability as being coordinators, as well as to encourage student leadership within the teams. The principal had a definite role in this context as being supporter and as one of the pieces of the collaboration. The common purpose on environmental values provided an atmosphere in which collaborative work supported by different unites, which showed the distribution of leadership to other teams and individuals. Findings stated that the ultimate aim of education for a more sustainable future could be best achieved by sharing ideas and leadership in the schools.

Keywords: eco-schools, leadership for sustainability, distributed leadership, education for sustainable development

ÖZ

EKO-OKULLARDA DAĞITIMCI LİDERLİK ÜZERİNE NİTEL BİR ARAŞTIRMA

Bağcı, Başak

Yüksek Lisans, Eğitim Bilimleri Bölümü

Tez Yöneticisi: Prof. Dr. Yaşar Kondakçı

Ocak 2020, 170 sayfa

Bu çalışmanın amacı, eko-okul uygulamalarında dağıtımci liderliğin doğasını araştırmaktır. Araştırmadaki okulda eko-okul programı uygulamaları, okulda var olan kolektif kültürde gerçekleştirilmiştir. Bu etnografik araştırma, çevre ve sürdürülebilirlik konularında çeşitli liderlik şekillerinin rolünü incelemiştir. Veri toplama; gözlem, görüşme ve dokümanlar yoluyla sağlanmıştır. Eko-okul faaliyetleri ve okuldaki diğer çevre çalışmaları dahilindeki durum, davranış ve etkileşimlerin uzun bir dönem süren gözlemler sonucunda elde edilmesiyle oluşturulan veriler, eko-okul kültürünü tasvir etmiştir. Yazılı ve görsel dokümanlarla birlikte gerçekleştirilmiş olan yarı yapılandırılmış görüşmeler, verilerin derinlemesine analizini ve güvenilirliğini sağlamayı amaçlamıştır. Bulgular, eko-okul uygulamaları ve okuldaki çevre yönetimi sistemi sırasında gözlemlenen liderlik şekilleri hakkında bilgi sunmuştur. Eko-okul programının

uygulanmasının, okulda farklı liderlik özelliklerinin ortaya çıktığı ve teşvik edildiği bir ortama izin verdiği nitel verilerle elde edilmiştir. Eko-okul faaliyetleri, program tarafından önerilen temalar aracılığıyla okuldaki çeşitli çevresel etkinlikleri hareket geçirmekte ve desteklenmektedir. Bu faaliyetler, koordinatör rolünde bulunarak sürdürülebilirlik bağlamında uzmanlığa sahip olan ve aynı zamanda takımlar içinde öğrenci liderliğini teşvik eden formal öğretmen liderler yetiştirmiştir. Araştırılan eko-okulda çevre konularıyla ilgili var olan ortak amaç, farklı okul paydaşlarının desteklediği işbirliği çalışmalarıyla, liderliğin takımlara ve bireylere dağıtılmasını sağlayan bir atmosfer yaratmıştır. Bulgular, daha sürdürülebilir bir gelecek için eğitimin esas amacının, fikirlerin ve liderliğin paylaşılmasıyla en iyi şekilde elde edilebileceğini göstermiştir. Bu bağlamda okul müdürü, destekleyici ve ortaya çıkan işbirliğinin parçalarından biri olarak etkili bir rol oynamıştır. Çevreyle ilgili değerlere ilişkin ortak bir vizyona odaklanırken sorumlulukların ve fikirlerin paylaşılmasıyla desteklenen kolektif okul kültürü, okuldaki çevre yönetim sistemini en iyi şekilde teşvik etmiştir.

Anahtar Kelimeler: eko-okullar, sürdürülebilirlik için eğitim, dağıtımçı liderlik, sürdürülebilir kalkınma için eğitim



To dad

ACKNOWLEDGEMENTS

I am grateful to the children and educators whom I encounter while practicing my research for their inspiration.

I would like to thank my supervisor Prof. Dr. Yaşar Kondakçı for suggestions and guidance in completing this thesis. This has been a long road, thank you for patience and continued support. I would also like to thank to my committee members Prof. Dr. Cennet-Engin Demir and Assist. Prof. Dr. Deniz Örücü for sharing their comments and intellectual insights.

This has been a long road indeed. My beloved friends and wider family deserve many thanks for their emotional support and patience.

I would like to thank my special friends Melike Öztaş and Gamzegül Kınalı deeply, for their contribution, valuable intellectual support and encouragement when I got lost.

Most importantly, as being the most precious thing in my life, I am grateful to my family. I would like to thank my mother Semiha Bağcı for endless love and motivation. You are the strongest woman to me reminding me not to give up. I would also like to thank my brother M.Barış Bağcı, as being one of my best friends on this road. You are the joy of this thesis journey, and also my life. Finally, I would like to thank to my father Ferman Bağcı. Thank you for lightening my road. You wanted me to be free, now I am free.

TABLE OF CONTENTS

PLAGIARISM	iii
ABSTRACT	iv
ÖZ.....	vi
DEDICATION	viii
ACKNOWLEDGEMENTS	ix
TABLE OF CONTENTS	x
LIST OF ABBREVIATIONS	xiii
CHAPTER	
1. INTRODUCTION.....	1
1.1. Background of the Study	1
1.1.1. Leadership, Sustainability and Eco Schools.....	6
1.2. Purpose of the Study.....	8
1.3. Significance of the Study	8
1.4. Definition of the Terms	9
2. LITERATURE REVIEW.....	11
2.1. Eco-Schools.....	12
2.2. Culture of Eco Schools.....	20
2.4. Distributed Leadership in Eco-Schools	28

3. METHODOLOGY	32
3.1. Design of the Study	32
3.2. Context of the Study	34
3.3. Participants of the Study	35
3.4. Data Collection Process	38
3.5. Interviews	39
3.6. Observation	40
3.7. Field Notes	41
3.8. Documents.....	42
3.9. Pilot Study	42
3.10. Data Analysis	43
3.11. Validity and Reliability	45
3.12. Limitations	46
4. FINDINGS	48
4.1. School's Perspective on Education	48
4.2. Perspectives of Teachers and Administrators on Sustainability	49
4.3. Eco-School	53
4.3.1. Definition of Eco-School.....	53
4.3.1.1. <i>Teacher Participants</i>	53
4.3.1.2. <i>School Administrators</i>	60
4.3.2. The Practice of Eco-School.....	63
4.3.2.1. <i>Roles of People</i>	63
4.3.2.2. <i>Eco-School Process</i>	65
4.3.2.3. <i>Eco-School Activities</i>	67

4.3.3. Challenges in Eco-School.....	75
4.3.4. Motivation for Eco-School	81
4.4. Leadership and Eco-School.....	85
4.4.1. Manifestation of Leadership Styles	85
4.4.2. Leadership Distribution in the Eco-School Practice.....	87
4.5. The role of Distributed Leadership in Eco-school Practice.....	102
5. DISCUSSION, CONCLUSION AND IMPLICATIONS.....	113
5.1. Discussion.....	113
5.1.1. The Role of Leadership in Eco-School Environment	113
5.1.2. Distribution of Leadership in Eco-schools	117
5.2. Conclusion and Implications	123
5.3. Recommendations	125
REFERENCES.....	127
APPENDICES	
A. INTERVIEW QUESTIONS.....	138
B. ACTIVITY OBSERVATION SHEET	149
C. APPROVAL OF METU HUMAN SUBJECTS ETHICS COMMITTEE.....	151
D. TURKISH SUMMARY / TRKE ZET.....	152
E. TEZ İZİN FORMU/THESIS PERMISSION FORM	170

LIST OF ABBREVIATIONS

EPA	Environmental Protection Agency
ESD	Education for Sustainable Development
FEE	Foundation for Environmental Education
OECD	The Organization for Economic Co-operation and Development
SDG	Sustainable Development Goals
UN	United Nations
UNECE	United Nations Economic Commission for Europe
UNEP	The United Nations Environment Program
UNESCO	United Nations Educational Scientific and Cultural Organization

CHAPTER 1

INTRODUCTION

1.1. Background of the Study

The Earth is facing serious environmental problems. Increase in world population along with the rise of consumption culture, the limited natural resources have been diminishing very fast, resulting in a huge damage on the environment. Pollution and depletion of lands lead to biodiversity loss, whereas air pollution causes Earth's one of the biggest challenges, climate change. These interrelated environmental issues are no longer responsibility of only the ecologists. The responsibility is distributed to entire humanity from institutions to persons, governments to NGOs, academics to students. There needs to be action of national and international organizations in terms of such environmental risks since all nations have a potential to be damaged by these global problems (United Nations General Assembly, 1987).

This holistic and inclusive idea of environmental issues caused a major concern of “sustainability”, which is a complex concept defined differently and attributed different meanings in different fields. Most common definition of sustainability is associated with the idea that humans and other living organisms need resources of the nature to sustain their lives. In that sense, Environmental Protection Agency (EPA) defined sustainability as the effort for support the harmony between humans and nature to promote the needs of future generations as well as present generations (2012, p.4). The concept of sustainability conceptualized on three cores; environment, economy and society. The prominent emphasis of this

conceptualization explains that “sustainability is the continued protection of human health and the environment while fostering economic prosperity and societal wellbeing” (EPA, 2012, p.5). Therefore, the principle of sustainable development is defined as “seeking meet the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations General Assembly, 1987, p. 43).

The concept of sustainability is intrinsically an ethical and moral involvement as well as being economic and social phenomenon (Mathar, 2013). At this point, the role of education for sustainability is neither just being an attender nor an audience (Harris, 2008). In response to environmental challenges, all around the world, education has taken a stand for sustainability including both instructional and managerial reforms in schools (UN, 2012).

It is an undeniable fact that the society comprises of by citizens who are grew by the education systems. For more sustainable future, there could not be thought of a future generation raised by formal and informal education without internalizing sustainable practices. Another important point of education is that it can create a platform for the solutions to newly developed and future environmental problems since today’s knowledge and skills on environmental action do not have solutions for global ecological problems (UN, 2012).

Agenda 21, action plan of the United Nations in respect to sustainable development, points out the role of practicing sustainable efforts for different communities and fields (UNCED, 1992). The role of education has been mentioned in all chapters of the report as common consensus, revealing the importance of education for sustainable future. United Nations declared Education for Sustainable Development (ESD) as the interrelated subject to balance environment as well as social justice and poverty (UN, 2012). ESD is described as a large point of view on environmental issues and sustainability which goes further than teaching knowledge and principles. Aims and characteristics of ESD can be summarized as chasing for sustainable

development, encompassing life-long learning, including both formal and informal education and being interdisciplinary (UN, 2012).

On the other hand, education has been considered a core element in the 2030 Agenda for Sustainable Development, presented by United Nations in 2015 in order to enable common understanding for sustainable conditions for people and the planet by presenting Sustainable Development Goals (SDG) (UNESCO, 2017). The perspective of this agenda develops the former concept of sustainable development and provides an insight that activism to reduce social deprivation must go parallel with performance to support economic progress, education and health while fighting for environmental problems (“UN-AGENDA 2030 & SDG 4”, n.d.). The Agenda emphasizes significance of proper education with its cross-cutting impact correlating cross-cutting skills of education for sustainable development (UNESCO, 2017). Even though there is one specific goal about the education called “quality education”, the agenda implies education in many ways as being in the center for implementing other Sustainable Development Goals (“Quality Education: Why it Matters”, n.d.). It is stated that education is a core element to have success for enabling rest of the goals. The agenda presents education as a multidimensional and prudential act. The director of UNESCO states that “A fundamental change is needed in the way we think about education’s role in global development, because it has a catalytic impact on the well-being of individuals and the future of our planet. ... Now, more than ever, education has a responsibility to be in gear with 21st century challenges and aspirations, and foster the right types of values and skills that will lead to sustainable and inclusive growth, peaceful living together.” (2017, p.7). Not only poverty could be decreased with the qualified and equal education, but also healthy and sustainable lifestyle are encouraged through educational settings. In other words, education is not one of the SDGs but also a goal which is diagonally cross-cutting other SDGs. Education have a great potential to generate awareness in other sustainable development goals like “Clean Water and Sanitation”, “Good Health and Well-being”, “Life on Land”, “Climate Action” and “Life Below Water.”

in terms of instructional, pedagogical and institutional support. One of the reasons for the ecological crisis on earth refers to huge consumption behaviors of people, which SDGs draw attention under the title of “Responsible Consumption and Production”. In that sense, education has a unique power to generate future generations reducing the waste they produce, recycle and reuse the items they interact, changing consumption patterns of humankind in order to break the understanding that humans have a right to demolish the nature (“Responsible Consumption and Production”: Why it Matter, n.d.). In addition, existence of educational programs for girls and women in society empower another sustainable development goal called “Gender Equity” (“Gender Equity: Why it Matters”, n.d.).

Along with all these responsibilities, educational institutions have revealed their position for environmental protection and embodied sustainable issues into curriculum for two decades (McCrea, 2006). Whereas environmental education (EE) has created respectable positive results on students’ environmental knowledge and values, many scholars believe that there are proven deficiencies in restricting environmental issues into traditional lesson contents (Kensler, 2012; Higgs & McMillan, 2006; Schelly, Cross, Franzen & Reeve, 2010). As John Dewey says, “Education is life.” Schools need to be reflections of real life where students and whole school community see and practice for more sustainable actions (Harris, 2008). Education requires sustainability to be not only a school subject in a science classroom, but also be a style which schools internalize as a whole and take an identity for environmental awareness. This point associates with the view of ESD; taking its roots from environmental education, however presented a more holistic program called whole-school approach to sustainability (UN, 2012).

Education could become a method to reconstruct the society towards sustainable development. Seeing ecological problems as an example of social problems which are community’s responsibility, Social Reconstructivist Theory suggests that sustainable development should be presented with constructivist hands-on learning tools in schools (Dewey, 1938; McNeil, 1996). According to Social Reconstruction

Theory, people could gain knowledge and skills using significant societal issues in order to solve real -world problems (Sameipour, 2017). The model asserts that “school curriculum should confront learners with severe problems facing humankind and that these problems should be addressed by every discipline.” (Agbaje, Martin & Williams, 2001, p.39). Teachers could comprehend the problems and motivate students to realize and find solutions. The Theory of Social Reconstructivism asserts experience-based learning which individuals share their knowledge and create collective environment is necessary for the aim (Sameipour, 2017). Position and vision of the learning should be towards the meaningful aim. In order to achieve goals through sustainability, this approach suggests that teachers could guide students to be active in sustainability practices. Sustainable development requires changes in the attitudes of individuals towards to complicated and multidisciplinary sight.

In schools, teaching the concept of sustainability needed a true action of whole school for this real-world social value (Gough, 1997; Higgs & McMillan, 2006; Schelly et al., 2010; Kensler, 2012). Whole- school approach to sustainability refers to an educational institution which is embodied sustainable practices and values in every school feature by every school component (UNESCO, 2017). These practices are reflected on every part of school life from curriculum to daily practices, school vision to interactions of people, policies to decision-making in school (UN, 2012). This approach is explained as “the active involvement of all internal and external school stakeholders, namely students, teachers, school staff at all levels and the wider school community such as families and community members in reflecting and acting on sustainability is key to a successful implementation of the whole-school approach” (UNESCO, 2017, p.2). Whole-school approach emphasizes that school community needs to be a hub of sustainability together involving school governance, teachers, curriculum, resources and any other school operations (Henderson & Tilbury, 2004). School members should be active in school-based practices like

recycling, reusing, waste management, less consumption integrating environmental sustainability as a school culture.

There have been examples of the performance of whole-school approach in schools as whole-school sustainability. This movement is observed under the title of sustainable schools, such as green schools, eco-schools, enviro-schools. The role of these schools is being the living examples of the vision that moving environmental practice and sensibility beyond classrooms and even schools (UNESCO, 2017). Eco-school program is the largest sustainable schools program in the world for environmental management in schools (Pirrie, Elliot, McConnell & Wilkinson, 2006). Eco-schools, as being one of the best representatives of involvement of whole school into sustainability practice, provide a model for the educational settings. It is suggested that in order these schools to be successful in achieving objectives through education for sustainability, good management and leadership skills are coming to the forefront.

1.1.1. Leadership, Sustainability and Eco Schools

Leadership has been a central concept in both academic and administrative practices in educational administration. However, the role of educational leadership has not been clarified enough in relation to sustainability and eco-school practices. Leadership of a school encouraging and supporting environmental issues and sustainability provides new and wise paths for schools. We know that leadership has a vital role in any change and development in school. Seeing this, school leaders have been in efforts to make sustainability as a matter of school (Kensler, 2012; Henderson & Tilbury, 2004).

As being an expression of this whole-school approach to education and leadership efforts, eco-schools are successful implementation of the change of sustainability understanding in education (Mathar, 2013). They are the living examples of this shift in the understanding for the concept of sustainability. In the UNESCO Report (2012) “Shaping the Education of tomorrow”, it is explained that eco-school program is “a

process that becomes a way of life, a cultural paradigm for school administrators to master through delegation and a belief in their teachers and students capacity to change the school from the ground up” (UNESCO, 2012, p. 73). It is highlighted in the report that transformation of the schools to an eco-school and sustaining the title of eco-school requires sharing responsibilities and power among the school components.

As mentioned, ensuring the practice of eco-school indicates involvement of more than a few persons of the school community, which takes us back to the fact that the topic of sustainability, in nature, needs to be extended beyond the curriculum and be concern of all school members. Based on this nature of sustainability and definitions of eco-school practices, a relatively new but comprehensive approach to leadership; distributed leadership, seems to be the dominant leadership thought in eco-schools to support environmental issues and sustainability. Harris (2008) and Jackson (2007) claim that organizational change in schools towards sustainability is supposed to happen with taking part of all members especially teachers and students, which would serve as a distributed forms of leadership. Empowering school management and leadership have become very significant to make teachers, students and the entire school community willing and ambitious through environmental activism (Jackson, 2007). Although distributed leadership seems to be the best fit for schools to change into ecological schools and integrating sustainability as a school culture (Harris, 2008; Jackson, 2007, there are very few studies describing how distributed leadership is enabled in eco-schools and promoted the values of sustainability.

In this context, it is significant to unearth the nature of distributed leadership in eco-schools in order to clarify the connection of the concepts in the educational settings, and present new perspectives for educators to be motivated and productive for more sustainable future.

1.2. Purpose of the Study

The purpose of this research is to examine the patterns of distributed leadership in an eco-school context and explore the role of leadership in eco-school practice. The focus of this research will be based on the following main and sub-research questions:

- What is the nature of distributed leadership practices in eco-schools in Ankara, Turkey?
 - What is the role of leadership in eco-school environment?
 - How is the leadership distributed in eco-schools?

1.3. Significance of the Study

This study has the potential to contribute to theory, practice and research in the fields of educational management and leadership, environmental education and sustainability. This research will be the one of few to investigate the scope of leadership in eco-schools, especially in the form of distributed patterns.

For the practice, this qualitative investigation could provide educators various teaching and learning tools that they can use in their schools for environmental protection and awareness. It could raise teachers' motivation and belief in their capacity to a part of the change in their schools in the context of environment and sustainability. This study could also create awareness for school leaders on the concept of sustainability. It presents a process and model for collective and distributive manners of leadership to become an eco-school and sustain this identity, and therefore provides justifications for educators to use distributed leadership for this transformation. Distributed leadership in eco-schools provides a base for more democratic and less-hierarchical opportunities of management to encourage students, teachers and therefore improves school environment (Woods & Roberts, 2015). It can nurture the school culture into a more sustainable and warmer environment, and increase personal development of teachers and students (Harris, 2008). Seeing these

impacts of distributed leadership, present study can increase school leaders' motivation to be active in eco-school program to prepare a school environment for distributed leadership; thus, help educators to be the minor but crucial change in the big global environmental crisis of the 21st century.

This research also has the potential to make contributions to the theoretical approach of both distributed leadership and environmental sustainability in schools. Distributed leadership is a precious idea getting more attention in educational research day by day (Harris & Spillane, 2008; Harris, 2004). Defining and developing roles of distributed leadership for sustainability in education could enrich the theoretical dimensions of distributed leadership and contribute the gap in the literature.

1.4. Definition of the Terms

Sustainability: “to declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man.” (EPA, p.4)

Education for Sustainable Development: “ESD, in its broadest sense, is education for social transformation with the goal of creating more sustainable societies. ESD touches every aspect of education including planning, policy development, program implementation, finance, curricula, teaching, learning, assessment, administration. ESD aims to provide a coherent interaction between education, public awareness, and training with a view to creating a more sustainable future.” (UNESCO, 2012, p.33)

Leadership for Sustainability: “intrinsically leadership that fosters nurtures and supports sustainable development.” (Harris, 2008, p.39)

Eco-schools: “a program for environmental management and certification, designed to implement sustainable development education in schools by encouraging children

and youths to take an active role in how their school can be run for the benefit of the environment.” (Tönük & Kayıhan, 2013, p. 921)

Distributed leadership: “leadership practice in a school as the unit of analysis, rather than an individual leader, distributed theory of leadership focuses on how leadership practice is distributed among both positional and informal leaders.” (Spillane, Halverson, & Diamond, 2001, p.24)



CHAPTER 2

LITERATURE REVIEW

As the consumption patterns grow in modern world, energy demand will raise a lot more than today's. Natural resources are in scarcity and climate change is getting faster reflecting the need for the actions for sustainability (OECD, 2015). Difficulties to overcome global environmental crisis have focused on environmental awareness and behavioral intentions of environmental actions as well as concrete solutions on environmental protection.

Education has a definite role in creating and maintaining sustainability (UN, 2012). The major aim of education is to develop environmental sensibility among school members with including environmental and sustainable perspectives to educational settings, as stated by United Nations (2002).

Many scholars have criticized traditional environmental education and argued that the main purpose of environmental activism in education should comprise curriculum and all school operations in total (Henderson & Tilbury, 2004; Öhman, 2008; Gough, 1997; Higgs & McMillan, 2006; Schelly et al., 2010; Kensler, 2012). Traditional environmental education does not allow school community to see and participate in sustainable tools, and school to take the sustainability as school component and commitment. In addition, it does not create coherence between lectures and school environment in terms of sustainability which leads students easily realize the contradiction between what is taught and what happens in the school setting (UN, 2012).

Coming out from this perspective, whole-school approach promotes the understanding of “education for sustainable development, not education about sustainable development” (Hargreaves, 2008). This means sustainable development should be embedded in school in a holistic way. Teaching sustainability only in classroom would not be enough to have the best results for students’ environmental awareness and behavior (Henderson & Tilbury, 2004).

Many researches indicate that school leaders are vital in the change of school to be more sustainable (Higgs & McMillan, 2006; Schelly et al., 2010). Some scholars assert that distributed leadership is likely to be favorable in practicing sustainability in school (Harris, 2008; Leo and Wickenberg, 2013). Distributed leadership enables different school components, especially teachers and students share and lead different tasks involving in practice and vision of school. However, there is limited number of research investigating the patterns of how leadership practice is distributed in the schools performing environmental activism beyond the lectures in a holistic manner. The number of studies is even more limited in the context of Eco-schools.

2.1. Eco-Schools

Eco-school program is a significant effort which motivates schools to take action for environmental protection and gives opportunity to live in harmony with the nature for the schools. The United Nations Environment Program (UNEP) identified eco-schools as one of the global initiatives for environmental education, management and sustainability (FEE, 2017), therefore these schools encourage Education for Sustainable Development at all levels of education (“Eco-Schools History”, n.d.).

The root of the program is gone to the Agenda 21: Earth Summit which specifically emphasizes the importance of young people that: “It is imperative that youth from all parts of the world participate actively in all relevant levels of decision-making processes because it affects their lives today and has implications for their futures. In addition to their intellectual contribution and their ability to mobilize support, they

bring unique perspectives that need to be taken into account.” (UNCED, 1992, p.275).

This active participation of young people would take classical environmental education further in the school-settings. Students’ learning of environmental knowledge, attitudes and skills would not be effective enough to prepare most of them to act in their real life (Henderson & Tilbury, 2004; UNCED, 1992; Cincera & Krajhanzl, 2012). In some circumstances, it is even not been sure about whether environmental literacy of students is relatively impacted by direct instruction or other methods used in only classroom settings through standardized education (Henderson & Tilbury, 2004; UNCED, 1992). Besides, school on its own is one of the any organizations giving harm to nature in situ if certain arrangements for environmental protection are not taken. Ultimately, educational approach to sustainability evolved to verified learning opportunities for young people supporting their involvement in environmental management in school and beyond their school in the light of sustainable development. Starting point of eco-school program has been come in sight as a response to this requirement in educational setting.

Eco-school program launched by Foundation for Environmental Education (FEE) in 1992. The program hosted Western European schools at the beginning and spread to Central and Eastern Europe and various counties beyond Europe (“Eco-Schools History”, n.d.). By year of 2016, the program is active in 62 countries compromising 19 million students. The program embraced primary schools, secondary schools, universities, schools with special needs, whether they are public, private or foundation schools (FEE, 2017).

According to 2012 UNESCO Report, the most important reason for this recognition of eco-schools around the world is because of being a modest insight of going beyond the environmental education and making students and school community active in the learning process (Mathar, 2013).

The primary aim of these schools is to increase young people's awareness in environmental problems and sustainability, and prepare them for sustainable solutions in their real life ("About Eco-Schools", n.d.). It is intended to activate students to create a positive impact on school environment. Therefore, another aim appears to increase pupils' leadership, facilitation and negotiation skills.

Member institutions of the Foundation for Environmental Education came to an agreement on the following principles to lead predefined points and reveal their commitment:

- Ensure that participants are engaged in the learning/teaching process.
- Empower participants to take informed decisions and actions on real life sustainability issues.
- Encourage participants to work together actively and involve their communities in collaborative solutions.
- Support participants to examine their assumptions, knowledge, and experiences, in order to develop critical thinking, and to be open to change.
- Encourage participants to be aware of cultural practices as an integral part of sustainability issues.
- Encourage participants to share inspirational stories of their achievements, failures, and values, to learn from them, and to support each other.
- Continuously explore, test, and share innovative approaches, methodologies, and techniques.
- Ensure that continuous improvements through monitoring and evaluation are central to our programs ("Educational Principles", n.d.).

As these principles emphasizes, involvement of students as well as other school components into environmental management in terms of their own learning and taking action is backbone of the eco-school program. It mostly provides opportunities for students and teachers to involve in classroom, school and even community taking the leading roles for the awareness of sustainability.

Environmental management of schools with a participative learning environment for sustainability is what being an eco-school brings to educational settings (Hargreaves, 2008). This nature of the program requires collaborative action, as one of the principals covers. This collaborative work in school shows that successful eco-schools have a potential to involve with the local community and organizations and be a model for the community (FEE, 2017). It would be inevitable that eco-schools' achievement could develop both environmental and intrinsic values of school staff and students accordingly.

Gaining an "Eco-school" identity is a process that schools need to perform as required seven steps of the program guide ("Seven Steps Towards an Eco-School", n.d.). In the first step, schools form a committee consisting of teachers, students, parents, school staff and (if possible) stakeholders. Eco-committees are constructed for organizing and leading sustainable practices in school, pointing out the interactions between students, teachers, school managers and all individuals in school (Ozsoy, 2012). Second step includes environmental review of eco-team on school environment about the topics like waste management, recycling, health and other. After this review, action plan including realistic objectives of activities for a year is prepared with the consensus of the school community. The next step suggests that achieving the objectives of action plan requires monitoring and evaluating the process ("Seven Steps Towards an Eco-School", n.d). Putting the action plan in practice, and continuous evaluation of the process creates active management of students and coordinator teachers. Integration of environmental topics into curriculum is the fifth step which teachers along with the school administration and program developers take the lead (Ozsoy, 2012 ; "Seven Steps Towards an Eco-School", n.d). One of the most important steps is the sixth, which is informing and engagement of whole school community and stakeholders during the process. Lastly, the final step is to generate an eco-code, a statement reflecting emphasis on sustainability of the school. After all these steps, schools are assessed by considering improvement in students' environmental awareness and environmentally friendly

behavior, and given the identity, “eco-school”, if the objectives are achieved (Cincera & Krajhanzl, 2012).

Schools practicing eco-school program must work on one of predefined environmental themes. It is believed that performing in the certain themes would guide the schools more into environmental actions and make the program more structural (“Eco-Schools Themes”, n.d.). These themes consist of biodiversity & nature, climate change, energy, global citizenship, health & wellbeing, litter, marine and coast, school grounds, food, waste and transport. As being a representative initiative of Education for Sustainable Development, eco-school themes are correlated with sustainable development goals agreed in 2030 Agenda for Sustainable Development by United Nations (2015). For instance, the sustainable development goal “No Poverty” associates with the theme “global citizenship” since eco-school program concentrates on involvement of everyone regardless of their cultural or social origins (FEE, 2017). “Responsible Consumption and Production” and “Sustainable Cities and Communities” could be covered under the theme of waste in the program. Some sustainable development goals like “Quality Education”, “Gender Equality”, “Decent Work and Economic Growth” are interested in combination of all themes of eco-school.

Eco-schools have been assessed many times in terms of its predefined goals and other perspectives by the quantitative studies. The prior concentration was on whether they made difference in student learning compared to other schools. Studies revealed that eco-schools are effective on students’ environmental awareness, knowledge, and attitudes (Cincera & Krajhanzl, 2012). Some showed that environmental behavior of eco-school students is higher than other schools (Cincera & Krajhanzl, 2012; Aktepe & Girgin, 2009). Research made on Turkish Eco-schools indicated also a significant difference in environmental literacy of eco-school students than the students in schools which do not have eco-school identity (Ozsoy, 2012). However, in the example of Slovenian schools, eco-schools were found insufficient to fulfill its objectives of environmental education, pointing that eco-

schools may lead to narrower perspectives of environmental issues in schools in knowledge production (Krnjel & Naglič, 2009). Literature suggests that successful implementation of the program requires time, resources and commitment to develop intended behavior and knowledge change in students. Other challenges to build environmental knowledge of students seem to indoor and outdoor physical conditions of school and teaching equipment related to environmental performance (Kalaitzidis, 2012). It is claimed that presenting an environment for pupils to share their ideas supports learning (Davis, 2010).

However, it would be inaccurate to evaluate eco-school success only with student learning. Some other assessments indicate that program has positive results on school management since school community takes an action for environmental protection, especially like wasting, recycling (Cincera & Krajhanzl, 2012). Eco-schools also develop teachers' skills and their impacts on school management and curriculum implementations. Therefore, eco-schools have multidimensional influence in schools as the concept of sustainability in schools has.

Another research made on the eco schools in Scotland evaluated these schools in terms of students' environmental awareness and behavioral change towards sustainability (Pirrie, Elliot, McConnell & Wilkinson, 2006). The research revealed that intended outcomes of the program were seemed to be accomplished by involvement of school operations. The common point of the participants was that eco school program created a connection to a variety of topics like health, enterprise and sustainable transport (Pirrie et. al., 2006). Although obtaining the award is likely to raise the fame of the school, it appeared that the award system of the program was seemed as one of the least important elements for the schools. Rather, there was a shared opinion on that involvement in the program had a positive impact on pupils' behavior in respect of the environment. What also seems to be important is that the research indicated program created a positive impact on school ethos by means of initiating leadership (teachers or others). School's physical environment has been developed in terms of more environmental solutions. At the end of these impacts,

survey revealed that participation of school components created “a shared vision for the whole school” and therefore “contributed to the development of a value base for responsible” (Pirrie et. al., 2006, p.7). Therefore, this research finding makes a reference to change in leadership practice and culture in school with the implementation of eco-school program (Pirrie et al., 2006). This change would have been interpreted as positive by the researchers since broadening leadership forms to different individuals and creating a common value fosters school improvement, which will be discussed under the title of “leadership” below.

One of the articles on eco-school examples broadens the positive effects on the program on school environment (Buendía & Slottje, 2014). It is explained that eco-schools in UK had a potential to create eco-warrior students who had responsibility to fight for their own new opinions for sustainability. One of these schools’ coordinator teacher stated that what mattered in the program was to make students led the project by themselves. The eco-coordinator asserted that it was always a challenge for educators to make children care about global environmental problems deeply (Buendía & Slottje, 2014). Rather, giving them practices which they could see the results on their own on the topics like energy saving, gardening, recycling was likely to make the issue more meaningful for children. These behavioral changes would eventually support the planet when looking from a wider perspective. Another point made by the eco-coordinator was that students had a lot of ideas in their minds but they performed too little to take an action for their values. Therefore, she stated that it was her duty to assign them into projects and coordinate the process. This again emphasizes the teachers’ leading roles in the process. What the teachers choose was to secure students’ concentration on several projects rather than throwing them into many projects which reduce the possibility of success and motivation (Buendía & Slottje, 2014). Not only the projects encouraged students to work collaboratively in a team, they also made students have a confidence to act beyond the school. In addition, the project they made with eco-team on their local park make the school community more aware of the environmental topics in return. The eco-

coordinator believed that “hearing an important message on green issues from students themselves is hugely powerful when encouraging the rest of the school to stand up and take action.” (Buendía & Slottje, 2014).

Eco-school in Turkey

As being one of the countries which eco-school program is actively implemented, the procedure to obtain eco-school identity and existing themes are included in the schools in Turkey. The national project coordinator of the eco-school program in Turkey is Turkish Foundation for Environmental Education (TÜRÇEV), an organization established in 1993 for protecting the environment, bringing solutions to environmental problems and raising awareness of people. Turkey has hosted almost 600 eco-schools from kindergartens to secondary schools, including foundation and private schools as well as public schools (Ceylan, 2015).

It is conducted several studies to investigate the effectiveness of eco-schools in Turkey. Most of them compared the environmental perspective of students in eco-schools and schools which do not have this identity. The study of Aktepe and Girgin (2009) revealed that students in eco-schools show higher levels of environmental awareness in their actions. Rather, the study also indicated that students who have been taught in normal schools perform better in terms of theoretical knowledge on environment. This result is likely to refer to eco-schools’ concentration on practice of students more than their environmental knowledge.

The experimental research made by Ozsoy (2010) in order to determine the impacts of eco-school program on students’ environmental literacy was another study practiced on Turkish eco-schools. The research with 316 elementary student participants included a control group which learning occurred in a traditional way with lecturing and experimental group which conducted eco-school program. The results of Ozsoy’s study revealed that elementary school students in eco-schools show higher levels of environmental knowledge, attitudes, uses and concerns. The researcher attributed this finding to the reason science teachers did not stress environmental topics in their lessons. They mostly see these topics easier to learn.

Another point she made was that other courses did not performed activities for environmental topics in the control group, referring to collaborative nature of eco-school.

In addition to those quantitative researches investigating the issues in accordance with students, there have been conducted studies concentrating on the teachers' situation and the role of principals in eco-schools in Turkey. Ceylan's (2015) qualitative research investigated the roles, skills and responsibilities of teacher leaders, their challenges and success. Results showed that eco-school teachers face barriers such as time, workload in the curriculum, financial issues and physical environment (Ceylan, 2015). Public schools in Turkey were faced more of these problems than the private and foundation schools, especially in terms of restricted budget and inefficient physical conditions. Researcher suggested that ministry of education should have taken responsibility and work on these disadvantaged situations in order to reduce challenges for the schools. The role school principals evaluated by Turhan (2011) with a content analysis. It is indicated in the study that plenty of schools in Turkey should transform a process to be an eco-school in order to promote education for sustainable development and therefore, it should be put more effort to support this change culturally and economically. Principals have unique role to manage this change in school and develop Turkey's future into more sustainable way (Turhan, 2011).

2.2. Culture of Eco Schools

The context of sustainability would be unsuccessful without the engagement of the school unites, especially the school administration. One of the reasons for is that school culture would not be penetrated into school culture without managerial impact (Henderson & Tilbury, 2004). The schools' practicing environmental activities like savings, reducing waste, recycling in order to manage resources is likely to create a culture compromising in daily routines (Tilbury, Ryan & Ferreira, 2009). Eco-school program has a great potential to generate a school culture for inclusion of different

school parts and favorable behavior of people towards intended environmental performance (“About Eco-Schools”, n.d.; UNESCO, 2012, Pirrie et al., 2006). It is asserted that eco-school culture cultivates shared values and responsibilities in order to involve the school as well as learners into practice and increase their commitment (“Eco-Schools and How Good is our School?”, n.d.).

“Embracing sustainable behaviors in the daily activities of a school requires the support of organizational culture” stated by Schelly et al. (2012, p.3). What organizational culture means here is the common goals, values and resources in an organization. It appears that school leaders have an importance on constructing these values. What she emphasized is that for the changes towards sustainability to work better in schools, education should be applied with possible modeling and best communication skills of the leaders. School leaders’ reasonability could transform school culture into more environmental-friendly way with new policies and procedures (Sims, 2012). Success of school leaders are evaluated as the result placing sustainability at the center of school as a vision in sustainable schools. Here, the role of principal as school leader has appeared in several studies (Henderson & Tilbury, 2004; Turhan, 2012; Leo & Wickenberg, 2013; Morgen & Gericke, 2017). It is an inevitable fact that school principals have a role in building culture and act as a change builder (Leo & Wickenberg, 2013). The efforts of school principals perform as a change for a more sustainable school is described as forming a common vision for sustainability and common understanding of this vision in terms of school operations. They should encourage teachers for collaboration, especially for the interdisciplinary activities. Here, principal’s leadership approach correlates with what is emphasized in whole-school approach to sustainability, which means all components of school especially teachers and students are actively involved in all processes around the theme of sustainability. As the NZ EnviroSchools evaluation report stated, “Schools required commitment and structural support from their principals as well as communication and involvement from all school levels.” (Henderson & Tilbury, 2004, p.35). Including many individuals into leading

sustainability process is a common expression of many researchers (Harris, 2008; Jackson, 2007; Kensler, 2013; Higgs & McMilann, 2006; Schelly, et al., 2010). Several studies claim that leadership for sustainability in schools correspond distributed leadership (Jackson, 2007; Harris, 2008). Distributed leadership seems to create a school environment where sharing roles and responsibilities occur for an effective learning of pupils and school governance. However, understanding the meaning of distributed leadership is significant in this context since this recently developed style of leadership has a unique perspective.

2.3. Distributed Leadership

Leadership has been a focus of many researchers, practitioners and policy makers for many years. Definition of leadership could be presented as the one which many experts agreed: “leadership is an influence process involving goal attainments and requires followers” (Lunenburg & Onstein, 2012).

Educational field portrayed effective leadership in schools as possessing a powerful impact on school performance and student learning. Studies revealed the powerful impacts of leadership on development of curriculum and instructional methods (Leithwood & Jantzi, 2000; Leithwood & Riehl, 2003). Traditional perspective of school leadership have drawn attention to principal, which tried to clarify principal’s characteristics, behaviors and their effect on school improvement (McEwan, 2003; Rossow, 1990). This approach in education has been maintained concurrently in the field of leadership, known as heroic-leadership which describes leader as one superhero.

Nevertheless, the understanding of leadership has been shifted towards more shared and participative aspects in schools in the recent research. This shift has been explained with diverse reasons by scholars. Spillane (2006) defined two reasons why heroic leadership had problems. First problem was that neither school principal nor another person could carry school to excellence performance on his/her own. It is inevitable fact that complexity of schools with new world understanding creates

challenging demands on schools. One leader could not correspond with the complex needs of schools and sustain the development of school environment single-handedly (Elmore, 2000; Grenda, 2011; Spillane, 2006). Another reason Spillane (2006) presented is this traditional leadership understanding had barely been noticed on leadership practice. However, leadership is more than “what” people do; it rather should include how people perform and why they practice in that way. These points of Spillane along with the other scholars shaped the conceptual framework of distributed leadership which will be explained later. Ultimately, even though there is no wonder effective school principals lead certain amount of works, current climate of educational settings necessitates principals and teachers perform collectively for students’ learning (Grenda, 2011).

The new understanding on school leadership in both theoretical and practical field investigated under different titles, such as participative, transformational or shared leadership (Leithwood, Louis, Anderson, & Wahlstrom, 2004). In recent years, distributed leadership has been the dominant core gaining great attention in the area of educational leadership. Using it alternatively with “shared, collaborative or democratic leadership” (Spillane, 2006; Bennett, Harvey, Wise & Woods, 2003; Woods, 2004) leads to inadequate understanding of distributed leadership’s exact meaning and conceptualizing the term (Harris, 2004). The reason for this complexity is likely to be because distributed leadership, a current popular term for leadership, is used briefly to define any shared forms of leadership practice. However, distributed leadership theory explains that not everyone in the organization must practice leadership, but individuals have the potential to lead in a supported teams or environment (Harris, 2008).

What Spillane and other scholars describe distributed leadership as a model of thinking about the practice of school leadership (Gronn, 2002; Spillane, Halverson, & Diamond, 2001, p.24). It is suggested that distributed leadership is an emergent property of a school system (Bennett et al., 2003). Spillane (2006) argues that distributed leadership is not an outside influence on school practices; rather it is a

school practice, a system of interactions of people in situations. Therefore, we cannot provide a specific method for distributed leadership, but we can investigate and give meanings for leadership in emerging features from the point of view of distributed tasks, positions and roles. Ultimately, Spillane et al. (2004) conceptualized distributed leadership that leadership in school is an activity which is formed in the interaction of leaders, followers and situation. This indicates a distribution of leadership to multiple leaders in a specific situation for a specific task (Spillane, 2006).

What this framework on leadership emphasizes is that leadership does not mean individual leaders' responsibilities and roles, but rather a system of activity that organization has. The leadership patterns are shared among teams or individuals and decision making is made by interaction of people (Harris, 2008). Some of these teams could be formal while others have a potential to arise as informal ones. It is likely that in schools, these teams show themselves as departments, school development groups or interdisciplinary groups (Harris, 2008).

Fullan (2001) states that there must be more than few leaders in the different positions of any organization in order to ensure efficient practice of leadership over time. In that sense, distributed leadership enables change or development in school to be more sustainable by abandoning the top leader understanding. However, DeFlaminis (2013) preconditioned distributed leadership into three important demonstrations. The first one is it needs to enhance formal or informal leadership practices of teachers, students and others in the school by giving opportunities. Secondly, leaders should pay attention to ways to impress the environment and understand the meanings behind it. Lastly, ultimate aim of distributed leadership must be school improvement and student learning. Agreeing some claims of DeFlaminis, Copland (2003) indicated that a school environment compromising trust and collaboration, personal development of the school members, common agreement on an issue or problem, and answering the need for wide-ranging expertise is a prerequisite of successful distributed leadership.

It is stated that distributed leadership could not be appointed beforehand, but it mostly appears to act on some problems or improve the organization (Harris, 2008). Concern on school improvement has a potential to show itself on the need for expertise. As mentioned, the new world presents more complicated, multifaceted nature of education evolving schools to be changeful and more knowledgeable for current requirements of the age. Therefore, distributed leadership is a concept which believes people's potential in their expertise on different contents without looking for individuals' formal roles (Harris, 2004). While Harris (2004) defines this expertise that it was occurred or improved by teacher working groups as a form of collective leadership, Elmore (2000) claimed that the field of education, in its knowledge-based nature, requires distributing leadership for complicated tasks. Elmore also explains distributed leadership as "it becomes the glue of a common task or goal, improvement of instruction, and a common frame of values for how to approach that task." (2010, p.15). This common goal is mentioned by Spillane et al. (2001) is that there could be two or more leaders work separately but to achieve a common purpose. However, it is stressed that this situation did not indicate formal leaders in schools as necessary or signify a blank in the responsibility for school activities. Rather, the formal leaders have a responsibility to create common culture, mobilize and support people and therefore create collaboration and control (Harris, 2004).

Research made in England indicated that distributed leadership had a positive relationship with school performance and student achievement. Study revealed that in all of the cases school principals shared leadership role and responsibilities consciously to support transformation in school like a management strategy (Harris, 2012). Since it is inevitable fact that distributed leadership identifies participation of different school components into decision making or planning, there needs to be change in the position of school principal from the point of view of distributed leadership. Harris (2012, p.15) defines the principal role in the following quote: "The changed or redefined principal's role will be chiefly concerned with creating the conditions for others to lead rather than leading from the front. This is not to suggest

that the principal no longer sets the strategic direction for the school but rather to argue that the role is now to orchestrate the talent and leadership capability of others to move the school forward.”

Harris (2012) suggests that this change would not be easy for some principals because their authority seems to be weakened. The change would make interactions in school more important, therefore performance of principals would be more important than their positions. Also, trust becomes a significant milestone of school components in order to arrange formal and informal leadership successfully. It is expected that effective school principals should operate both of the forms for the school development (Harris, 2012).

The structure of distributed leadership is associated with teacher leadership (Harris & Muijs, 2004). Teacher leadership increases teachers’ knowledge, skills and motivation, which would create significant impact on school performance and student learning in return. Many scholars have empirical studies on explaining distributing roles and responsibilities enables a supportive environment and creates opportunities for teacher leadership. An empirical research made by 136 schools and 2029 teachers indicated that teacher capacity was enhanced by distributed leadership through their involvement in leading roles (Sheppard, Hurley & Dibbon, 2010). In addition, teacher morale and enthusiasm have a positive relationship with distributed forms of leadership. Besides, recent study showed that diversified forms of distributed patterns encouraged teacher leaders’ organizational learning and capacity building (Wieczorek & Lear, 2018).

There has been sufficient amount of evidence on the impact of distributed leadership on school improvement. Facilitating teacher leadership is clearly one of the ways to enhance school improvement. Leithwood and Riehl (2003, p.3) expresses that point as “research suggests that teacher leaders can help other teachers to embrace goals, to understand the changes that are needed to strengthen teaching and learning and to work towards improvement”. In a school environment where teachers are encouraged

to share leadership roles on their tasks, student success is increased (Louis & Marks, 1996). This is likely to be because standards of instruction get higher and qualified by the practices which teachers work collaboratively. This brings us to collaborative and collegial nature of distributed leadership (Harris, 2004).

Evidence on the practice of distributed leadership is still developing and some other researches shed lights on the impacts of distributed leadership on school outcomes. Diversified forms of leadership associate with the features of “improving schools”. (Glickman, 2001). On the one hand, distributed leadership seems like a change agent revealing the positive relationship between change and distributed leadership (Harris et al., 2007). The capacity-building in schools is significant in order to sustain school development. In that sense, the nature of distributed leadership is likely to clear the ways towards change and improvement for schools.

A case study conducted in 2001 by the Department for Education and Skills (DfES) gives a sight in leadership practice in successful schools (Harris, 2004). This critical research reveals that for a school to not face with failure and tries to develop in spite of some barriers, leadership approach points towards a less directive understanding. Evidence shows that successful principals act authoritarian at crucial situations like policy application or teaching criterions (Harris, 2004). However, after all, these principals adopt a leadership to take school further purposefully. Even though this adopted leadership approach turns towards transformational leadership, sharing the roles and responsibilities to the individuals who take informal positions clarifies that both transformational and distributed leadership is at the center (Harris, 2004). Research indicated that distributing leadership impacted problem-solving and decision-making in school. Principals’ act in situations or problems stayed in giving priority to school components like students, staff and parents. Evidence shows that school improvement sustains where principals deliberately decide on distribution of leadership depending not only on skills and roles of individuals but also on leadership being an emergency collective responsibility of all school system. In

addition, individuals' leadership supported and promoted, especially for teacher-led activities (Harris, 2004).

Even though the theoretical and empirical evidence show the positive outcomes of distributed leadership, not all the findings take a position to encourage distributing leadership, mostly because of its difficulties for application in schools (Harris, 2004; Harris et al., 2007). The main reason would be breaking traditional hierarchy in schools and formal leaders' allocating their power to the others. Top-down hierarchical model in schools and different divisions like content or class levels make it difficult for teachers to work together. Timperley's (2005) research showed that informal teacher leaders were open to be disregarded due to lack of formal position. Therefore, it is suggested that practicing distributed leadership would create boundary problems due to different formal and informal leaders (Storey, 2004). Another barrier seems to be time in school activities allocated teachers and staff to work collaborative for the school improvement (King et al., 1996, Griffin, 1995).

It is clear that despite some barriers to implement, distributed leadership acts in a way to improve school performance with participation of teachers, students, parents and operate instructional, pedagogical and organizational development. Literature suggests that tiding over the difficulties requires a school culture supporting change and different leaders (Harris, 2004).

For the present study, distribution of leadership tasks to teams and individuals, common goals and motivations of teams and individuals, communication ways of these teams, individuals and the whole school community are significant to address the model of distributed leadership in eco-schools.

2.4. Distributed Leadership in Eco-Schools

As mentioned above, the concept of sustainability naturally needs more than few responsible people in school, and a broader understanding of sustainability as a whole-school approach. This whole-school approach is essential for deeper

understanding of sustainability and preparing students for more sustainable living in their real life (Henderson & Tilbury, 2004). In addition, according to Harris (2008), schools are responsible for networking with the stakeholders and community for their engagement in more sustainable living along with the school. From this point of view, Harris (2008) and Jackson (2007) suggest that distributed leadership is the most desirable leadership model for sustainability practices in schools. They believe that various elements of sustainability practices can be handled by people in different roles of a school community in formal or informal leader positions.

In eco-schools, leadership with distributed patterns is likely to be the best encouragement for successful practices. In its nature, efforts in eco-schools promote collaboration, distribution of practices, and common consensus, which are significant needs for distributed leadership as stated by Copland (2003). Constructing of committee and teams, and taking action for environmental issues necessitate the union of teacher leaders, student teams, school managers and even parents. The activities and responsibilities of teams is likely to generate cooperation and trust among the members. Therefore, distribution of tasks to students as well as teachers, administrators and parents, and successful cooperation of working teams have become crucial.

Another important association of distributed leadership with eco-schools is that they enable leading of teachers perceptibly (Ceylan, 2015). Teachers are supposed to be in coordinator roles presenting leadership skills to manage and motivate the students, school administration, school staff and stakeholders (Ceylan, 2015). They have significant roles in applying environmental practices depending on the needs and nature of school. It is the fact that in some schools, teachers even initiate the action in being an eco-school. Possible leadership styles observable in eco-school practice has been defined as instructional, transformational, ethical and participative leadership by Ceylan (2015) based on the leadership description of Leithwood (1999). The perspective of people in eco-school making decisions about school operations and school culture though environmental values seems to be a necessity for success of

objectives. On the other hand, participative decision making and collaboration appears as one of the cores of the program suggested for more inclusion therefore more contribution to environmental sustainability.

At this point, school administration also has an important duty to provide enhancing communication channels for individuals, and create time, resources and responsibilities for teachers and students (Pirrie et al., 2006). The role of school principal should be encouraging practices and commitment for sustainability in an eco-school (Turhan, 2012).

Therefore, based on these assumptions, we can claim that preconditions of distributed leadership occur in eco-schools. However, as Spillane (2006) says, it is not right to look distributed leadership as an adopted leadership style. It is a way to look leadership as an emergent value of a school. From this perspective, it would be more accurate to say that distributed leadership can be a frame to understand leadership practice in eco-schools.

What it has been investigated in present study is to not only examine the nature of distribute leadership in eco-schools, but also research the possible effects of this type of leadership on school environment. The effects of distributed leadership on school environment have been identified by Harris (2008) as increase in teacher performance, participation and self-efficacy, student achievement and development in school outcomes. Some studies have revealed “the change” role of distributed leadership in organizations (Harris, 2012). It is also likely to encourage democratic environment in school (Woods & Roberts, 2015). Possible direct or indirect impacts of distributed leadership on eco-schools are likely to be parallel with the literature. We may expect that teacher leadership in eco-schools increase teacher performance, motivation and self- efficacy. Promoting change in eco-schools seems to be an important assumption for leadership. Literature suggests that for schools to have the identity as “eco-school”, to fulfill the tasks and responsibilities to develop sustainability understanding, distributed forms of leading occur. Therefore, it is

likely to suppose that distributed leadership has a key role to create transformation of schools into eco-schools, and foster sustainability values. Therefore, research findings of the study will be significant for a country like Turkey, where eco-schools are one of the few schools that environmental protection and sustainability have been focused more than instructional purposes.

To summarize, distributed leadership seems be a proper frame to look leadership in eco-schools. This distribution through school operations is likely to give multidimensional positive outcomes for school improvement.



CHAPTER 3

METHODOLOGY

3.1. Design of the Study

This study aims to draw a portrait of a distributed leadership patterns in an eco-school. Qualitative research complements with this aim because it gives special importance on the content and the process. Ethnographic research, as a form of qualitative research, was used in the study in order to handle complicated and cultural phenomenon on the issue how the leadership practices distributed in eco-schools.

One of the important distinctions which positioned the researcher to choose this design within the several of forms of qualitative research is that ethnography is a complex but a unique research type to investigate visible and learned behaviors of a group and the form of life people exhibiting (Fraenkel, Wallen & Hyun, 2012). This nature of ethnography suited the case of present research, in which the research question was structured to investigate daily routines of eco-school, interactions between individuals and people's behaviors in the eco-school activities. In addition, Willis (2007, p.235) defined ethnography as "an umbrella term for fieldwork, interviewing, and other means of gathering data in authentic (e.g., real-world) environments ... [that] puts the researcher in the settings that he or she wants to study. This design is conducted in the natural environment rather than in an artificially contrived setting". This feature of ethnographic research in a way separates it from the case study (White, Drew & Hay, 2009). This appears as one another reason to design the current research on this type since it concerns the natural

environment of eco-school practice in a holistic school culture. The culture of school in total, with the roles and responsibilities of individuals and teams was wanted to be explored for a long period of time, which justifies the using ethnography rather than case study. The nature of data collection required studying practice and interactions of people in an eco-school culture. This need associates with ethnographic research in order to provide researcher a wide range of data sources (Hammersley and Atkinson, 2007).

Furthermore, ethnography's purpose is not formulating theories; rather it looks for understating the culture created by beliefs, values and behaviors of people. This design concerns conceptual literature and research objectives. These reasons gave preference to choose ethnography over grounded study in the current study because the literature suggestions were significant, results were affected by the objectives of the research and theory formulation was not aimed at the beginning (Aldiabat & Le Navenec, 2011).

Also, there was a strong focus of the research on exploring leadership in the context of environmental activism in school. Qualitative research helps looking through leadership from a larger perspective, which it needs to be since leadership has a multidisciplinary, complicated feature in any organization (Klenke, 2008).

Overall, it would be the best way to choose this research design in order to obtain a holistic portrait of the practices of school components in eco-school and to remark research question which is not quantifiable.

For the present study, the researcher spent "good deal of time in the field" (Rierner, 2012, p. 170) in order to reduce biases likely to be occurred in between interviews, documents and observations. Being able to spend eight months and participating eco-school and other environmental activities as soon as possible made it suitable to generate trust with teachers as well as administrators. This long process of eco-school activities provided to see the interactions between individuals and situations,

which is defined as the base in the conceptual framework of distributed leadership (Spillane et al., 2004). What's more important for the study is that this time spent made it possible to see daily performance of school components according to environmental activism in different places around the school environment like in daily routines, indoor and outdoor settings, and instructional methods of different courses, occurring problems and how people act on them.

It should be stated that “no single study can capture completely an entire culture.”, however, qualitative studies, especially ethnographic research, tries to determine the actual behavioral intentions in the best manner under the cover of intuitive acts (Fraenkel, Wallen & Hyun, 2012).

3.2. Context of the Study

Research would have investigated how the leadership distributed in the context of environmental sustainability around eco-school, therefore research site was needed to be a school in which eco-school program is actually practiced and school present some acts of distributed leadership. From this perspective, external referral was taken into consideration. In addition, literature suggests that “it is certainly the case that all leadership is to some extent distributed, as leadership is essentially organizational influence and direction, it does not mean that everyone in the organization simultaneously leads.” (Harris, 2008, p.173). It should be noted that revealing the forms of distribution in an emergent property of a school was important in the research of distributed leadership. Presenting a variety of eco-school practices to practitioners was also another aim to choose this eco-school.

The primary data collection method of the study was semi-structured interviewing. On the one hand, data collection methods verified as participant and non-participant observation in the fieldwork, field notes and document analysis of meetings, reports, school boards or any other written material. Therefore, it was used triangulation method for the interpretation of various data sources in order to ensure credibility.

To understand organizational patterns of the eco-school related to distributed leadership, periodical fieldwork and observations was crucial. Distributed leadership is not a style outside of school practices; rather it is the heart of school environment. Therefore, it was intended to join the weekly meetings and activities of teams and committees, conferences and panels of eco-school, ongoing evaluation of activities with entire school community, and any other school activities. It was enabled to observe daily routines and culture of school towards sustainability.

3.3. Participants of the Study

School

The researcher aimed to choose an eco-school which was known for its efforts and attitude in environmental sustainability. However, data collection included a prolonged time and considerable effort. In order for researcher to enable examining daily life of the school intimately, the determination criteria included the eco-schools which were easier to access. Based on these criteria, the research site was selected as one of the eco-schools in Ankara. The Eco School chosen for this study is a private school which is sited under two roofs with the same vision and education model.

Responses of participants along with the documents revealed the main characteristics of the school. The school portrays an image focusing on holistic development of students. This holistic development was explained that the school exhibited pioneer practices which were trying to provide students' cognitive, affective, physical, moral and aesthetic development. Main value of our school was to develop holistic development of individuals and grow well-supported students in many ways. It was expected from our students to develop themselves in art, sports, and academic content and environmental issues.

Individuals

Semi-structured interviews conducted with 11 participants including teachers, assistant principals and principals in the eco-school. Teacher participants in the semi-

structured interviews were needed to be in the coordinator role in the eco-school at present or practiced this role before. Therefore they were selected purposively. Since participant observation was made in a natural setting of the school, teachers and students in eco-school activities, principals, assistant principals and teachers within the daily routines of school was also included as participants in the study.

In order to conceal the identity of the participants in interviews and ensure confidentiality names have been altered.

While ages of the participants were differentiated in between 31 to 48, their years of experience in the field of education were changing between the ranges of 3 to 36 years. Personal background of the participants on education was also provided as data.

Experience of participants on environmental sustainability in education varied in some ways. The majority of the participants' background experience on environmental activism is almost completely based on eco-school activities. Eco-school seminars, meetings and activities are included in their experience on environmental topics. While most of them stated that they met eco-school program in the research school, others performed in this role also in previous schools they worked. Two of the teacher participants referred to their background experience as some of the environmental education courses that they took in their bachelors.

Table 1 shows the demographics of the participants in semi-structured interviewing.

Table 1: Demographic data of participants in semi-structured interviewing.

Name	Age	Gender	Position	Years of Experience
Damla	31	Female	Teacher	3 years (teacher)
Gizem	33	Female	Teacher	10 years (teacher)
Şeniz	35	Female	Teacher	14 years (teacher)
Nergiz	35	Female	Teacher	14 years (teacher)
Gül	48	Female	Principal	6 years (teacher) 14 years (assistant principal) 6 years (principal)
Gülçin	35	Female	Assistant Principal	10 years (teacher) 3 years (assistant principal)
Kübra	31	Female	Teacher	4 years (teacher)
Eren	33	Male	Teacher	5 years (teacher)
Esra	32	Female	Teacher	5 years (teacher)
Feyza	36	Female	Principal	8 years (teacher) 3 years (principal)
Şafak	37	Male	Assistant Principal	5 years (teacher) 1 year (assistant principal)

3.4. Data Collection Process

For an ethnographic research, it can be said that researchers do not sample virtually as the aim is to make observations on everything within the environment and context (Fraenkel, Wallen & Hyun, 2012). The present study was aimed to carry out an investigation of an eco-school. After the research site was decided as one of the eco-schools in Ankara, Turkey, complied with the criteria, instruments were presented and received permission for research conduction from the ethics committee. After that, the researcher got into research site and started to make informal interviews and observations. The information obtained from these was written in field notes descriptively. Before eco-school activities started, the researcher ensured parents whose children involved in those activities signed a parent consent form. In the form, it was written brief information about the research, the reasons for data collection and confidentiality concerns. Then, the activities of eco-school performed were video recorded or took photos in worthwhile conditions, and participant observation was made accordingly. In this case, writing field notes was conducted after the activities. Collaterally, it was gathered documents from eco-school groups, which were action plan of eco-team, reports of different courses on their curricular and extra-curricular plans for eco-school, student list of eco-team. The researcher joined the weekly meetings and activities of teams and committees, conferences and any other school activities related to environmental projects. Meetings of eco-school team did not happen weekly as planned and there was not occurred a lot of conference or panels. However, the data gathered from eco-school activities arranged by student and teacher teams, environmental activities conducted by different course subjects through participant and non-participant observation and filled in field notes during the research. It was enabled to observe daily routines and culture of school towards sustainability. After spending considerable amount of time, semi-structured interviews started to be conducted with principal, assistant principal and eco-coordinator teachers. All interview participants signed a volunteer participation form before every interview. Physical environment was comfortable for the participants to provide efficient communication of those concerned and make participants relaxed

during the interviews. Audio-recorded interviews were transcribed and got ready for analysis.

3.5. Interviews

Interviewing is the most commonly used data collection technique in qualitative research (Fraenkel, Wallen & Hyun, 2012). In-depth interviews make possible for researchers to obtain great amount of data for the content that s/he practiced.

There happened informal interviewing in the first place where the study began. It is suggested that informal interviewing is frequently used in ethnographic work since they are “useful in discovering what people think and how one person's perceptions compare with another's. Such comparisons help identify shared values in the community—values that inform behavior.” (Fetterman, 1998, p.38). In the case of present research, informal interviewing made the researcher able to comprehend the situation and people in the school. It started with natural conversations on the interests of the researcher in terms of eco-school practice and progressed with communication in eco-school activities in groups of people. Therefore, they created a way for the researcher to understand the behaviors, shared values in daily life routines and helped to keep the field notes. Even though these informal interviews seem not too hard to handle since it looks casual, it is claimed that they are more challenging than they seemed (Fraenkel, Wallen & Hyun, 2012). In the study, these interviews were treated with caution in order to have systematic information, but in a more friendly approach than the structured interviewing.

Interviews were sustained with semi-structured interviews with eco-coordinator teachers, principal, assistant principal. Even though informal interviews in the field work provide unique information for a natural school environment, in order to direct the flow of study into research goals and get more explicit body of information, semi-structured interviewing should have been maintained. Semi-structured interviews were important to obtain a compare the points of participants and organize them into common themes (Fetterman, 1998).

The interview questions are structured as open-ended since they do not direct participants to any possible answer. These semi-structured interviews were constructed in the content of distributed forms of leadership in school, and more specifically were related to environmental performance of school in the consulting of a professor from educational administration and planning department. Theoretical definitions of leadership for sustainability in schools (Harris, 2008) and distributed leadership (Spillane & Harris, 2008) formed the base of interview questions. Questions are revised after applying in the pilot study according to answers of the participants.

Interview questions have some differences depending on the position of the individuals' roles in school. However, the questions were divided into specific sections in general. First section composed of seven demographic questions in order to define experience of all participants in the field of education and environmental sustainability in education. Under the one section, there were questions related to eco-school and other environmental activities in school. Another section covered the questions about leadership in school, specifically taking participants responses to the distributed leadership. The section including questions on the relationship between eco-school and distributed leadership was one of the core sections of the interview. Last two sections contained questions about cooperation and decision-making.

The difference in the questions in the role of principal and assistant principals was the additional section asking administrators' opinions on roles and responsibilities they have, school vision and value changes that they provided to the school. The semi-structured interview questions can be found in the Appendix A.

3.6. Observation

Participant observation is an effective technique used in qualitative research, more importantly it portrays the ethnographic work and is a requirement for an efficient fieldwork (Fetterman, 1998). Fetterman (1998) suggests that researcher should spend at least 6 months in the research site in order to get the common language and forms of behavior. In the current study, the researcher positioned for 10 months in the eco-

school periodically. Participation observation started after the spending some time in the school when eco-school activities have started. The researcher actively involved in some environmental projects. In that sense, it was made observations on behaviors in terms of motivations of students and teachers, decision making, interactions of individuals. The activity observation sheet used in eco-school activities can be found in the Appendix B.

On the other hand, non-participant observation was also conducted when the conditions did not favor participant observation. These activities were mostly the ones which were constructed on the performance of students, related to different fields of teaching. After every event on environmental activism, the researcher filled activity observation form in order to keep the data in an organized manner.

The researcher involved in the school environment and made observations on the environmental practices in daily routines of the school, such as waste management, recycling, savings and managing natural environments. In order to have a holistic understanding of the school culture for facilitation of leadership practices, performing sustainability and the relationships between eco-school practice and leadership, the researcher observed natural operations of the school and interactions of people, while spending time and practicing informal interviews. Observational works was documented in the form of field works for the analysis.

3.7. Field Notes

Notes from observations and interviews were consisted of field notes. Field notes recorded as soon as possible after leaving the research site. It is suggested that writing and organizing field notes is personal exercise depending on the situation and nature of the study. In the current study, the researcher kept a written diary on days she spent in the research site. Note taking during and after interviews, and observation sheet of the activities contributed to field notes. Field notes included physical environment of the eco-school, duration of the activities, sayings of participants, information about the eco-school program in the school. In order to

manage the field notes, the researcher kept them in a notebook and documented in terms of time and place. It should be noted that writing and managing field notes is an “exhausting work” (Fetterman, 1998) for the researchers since it requires “a rigorous and demanding work” (Patton, 2002). In the current study, the researcher tried to overcome this problem by using video recording and photo-taking of the events and by organizing the raw data into folders in computer based on the time and content. Field notes were memories taking back researcher to observations and interviews.

3.8. Documents

Documents of the presented research were in various forms. Visual records included physical environment of the school, specifically concentrated on eco-school practice and other environmental performance. In that sense, school boards which groups in eco-school presented came to the front. Written documents were comprised of materials in school boards related to eco-school, action plans of eco-school, reports of different field of teaching (departments) about their plans including eco-school, meeting reports of groups in eco-school working plans of departments, end-semester reports of departments.

Documents were utilized in order to evaluate and support the data received from interviews and observations.

3.9. Pilot Study

Interview questions were piloted by the teachers and administrators in the eco-school which hold the same school vision and educational model of the main study’s case eco-school. It could be treated those eco-schools in the pilot and main study as identical since there were not fundamental differences in practice.

In addition, the researcher had a chance to some extent participate in eco-school activities with a participant and non-participant observation. Documents included eco-school action plans, reports, school boards were analyzed accordingly.

Pilot study was conducted in order to test the appropriateness and effectiveness of the data gathered for providing accuracy. Piloting the interview questions enable researchers to see how the questions work in practice, how individuals perceive and answer (Maxwell, 2005; Teijlingen & Hundley, 2002). In addition, pilot studies give researcher a chance to practice interview process and therefore develop skills to maximize the product of the main study's data. For instance, researcher is likely to have experience on probing questions in necessary areas during the interview.

Interview questions in the pilot study provided a base for the main study. For each participant, interviews took approximately one hour. After transcription of audio-recordings, effectiveness of questions was evaluated with the expert opinion. There is small difference in the interview questions after the pilot results. For example, some of the teacher participants could not interpret the question "How do you define the leadership approach of your school principal?". Researcher developed some definitions of leadership approaches such as authoritarian, participative or democratic for the later interviews after seeing such problem. Some questions were made more open-ended in order to get more individualized responses. Finally, interview questions were revised with small touches and have gotten ready for the main study.

Field notes were taken in the pilot study during the practices of eco-school and other observations. Some of them included descriptions of activities and interactions between teachers and students. Others covered notes to be considered later on which would help understanding some aspects of the ongoing research.

3.10. Data Analysis

It is an evitable fact that qualitative work presents a large amount of data in various types. Fetterman (1998, p.93) states that "analysis is a test of the ethnographer's ability to think—to process information meaningfully and usefully." The perception of the researcher becomes important to select, isolate and organize the collected data.

In the ethnographic research, the themes for the data mostly occur during or at the end of the research rather than predetermination of the assumptions (Fraenkel, Wallen & Hyun, 2012). Data analysis process of the present study actually began with constructing interview questions.

Interview questions were planned to cover specific categories (Fraenkel, Wallen & Hyun, 2012). After the researcher got into the research site, the descriptive data, which was occurred by comparing and contrasting data in the field notes and documents, evolved the categories were evolved moving forward. In these phases, writings in the field notes were labeled and new observations was evaluated according to the already seen and happenings.

Interviews were the main concentration of the analysis in the collected data. The main reason for that was important to use participants' own words for an accurate data (Biklen, 2010). Stating that interviews were the important data collection method, Fetterman (1998, p.37) explained "Interviews explain and put into a larger context what the ethnographer sees and experience". Another reason using interviews as a base was the huge amount of data gathered by the observations and documents. Most of the activities and documents were related to interview questions' point of contents. Therefore, these two other methods were used in order to ensure credibility.

While transcription continued, categories were shaped which certain data fell in certain type of category. However, these categories consist of broader content: "eco-school, principal leadership, distributed leadership experiences in school, distributed leadership in eco-school, cooperation and decision making". After transcription process has ended and data was evaluated again, more specific codes occurred. For instance, under the category of eco-school, these codes were placed as following: "defining eco-school", "defining sustainability", "defining difference of eco-school", "expectations from eco-school", "practice of eco-school", "motivation towards eco-school", "challenges" and "school components' attitudes towards eco-school." Ultimately, code list occurred by listing categories, and coding units framed with the

similar pieces of data in a systematical organized group. The codes constructed through comparing the interview responses continuously. Even though the collected data formed the coding units at the first place, the codes were produced and described with in-depth consideration of the literature related eco-school and distributed leadership.

3.11. Validity and Reliability

The essential way of practicing ethnographic work is the triangulation of the collected data, which provides validity of the research (Fetterman, 1998; Onwuegbuzie & Leech, 2007; Hammersley & Atkinson, 2007). The researcher triangulated data from various methods with various individuals. For instance, the data about the environmental practices in school such as recycling was triangulated with observation of school settings, responses of teachers and responses of school administrators. The researcher compared responses of participants with her observations. In some cases, written reports helped to triangulation. Credibility of performance of different field of teachings' eco-school practice was ensured by comparing the verbal information of teachers and school administration with activity plan of eco-school and the reports.

Additionally, engagement of the researcher in the school for long period of time in order to be familiar with the school culture and environment and to generate trust with the interactions of the participants increases the validity of the current study (Onwuegbuzie & Leech, 2007). This engagement created an opportunity to understand common behavior and characteristics in the school environment, contributing credibility of data. It is suggested that the patterns in ethnographic study serves to its reliability. The researcher tried to make clear inferences and descriptions based on the interviews and ongoing observations by analyzing through comparing and contrasting the data.

3.12. Limitations

Since the sample size is limited to one school example, findings of the current research cannot be generalized to a larger extent. Generalization is very limited in qualitative researches because of the methodological restrictions (Fraenkel, Wallen & Hyun, 2012). Hammersley and Atkinson (2007, p.234) stands for “Ethnography cannot provide a definitive solution to the problem of generalization, but then neither can any other form of social research.”. Nonetheless, generalization of the current study could be made for the school principals and teachers who have similar conditions and interactions. Therefore, feasibility of the results is left to the practitioners (Fraenkel, Wallen & Hyun, 2012).

Another limitation of the study seems to be selection of the case eco-school based on its favorable performance on environmental activities and school’s potential for distributed leadership. Even though the eco-school facilitates teamwork, interdisciplinary approach and leadership on the paper, it appears that implementation of the program could differ depending on school’s commitment and effectiveness.

The subjective nature of the ethnographic research also appears as a limitation of the study. The research had a potential to awake some bias since the findings mostly rely on interpretations and observations of the researcher (Fraenkel, Wallen & Hyun, 2012). The triangulation method was used in order to reduce this bias. This subjective appearance was also likely to be exhibited due to researcher’s presence in the field may affect the behaviors of the school components. However, existing in the school community for an extended amount of time could minimize this bias.

Role of Researcher

Many researchers make arguments about the position of the researcher in qualitative research. It is known that researcher must form a warm environment while sustaining

fair evaluations of the conditions (Fraenkel, Wallen & Hyun, 2012). The role of the researcher in the current study provided a friendly position for collecting data since the researcher was already one of the middle school science teachers in the eco-school. This advantage also ensured the long time researcher spent in the research site. In that sense, the researcher lived in the field experiencing many aspects. In other respects, this opportunity increased researcher's motivation for the design of the study.

However, it is important to note that like many other ethnographic researches, this position of the researcher was likely to raise observer bias which ended up as one of the limitations. It is stated that eliminating observer bias is unfeasible in ethnography therefore it could be effected by researcher's interpretations (Fraenkel, Wallen & Hyun, 2012).

CHAPTER 4

FINDINGS

This chapter presents the results of the qualitative data analysis of the definition and the practices of the chosen eco-school. The results section shows environmental performance of the schools, common practice of distributed leadership and how the leadership is distributed in the eco-school within the context of environment and sustainability. As stated in the method section, two schools which are under the same name practicing same educational approach were observed and interviews were performed with 11 participants. The participants include 9 teachers with the role of eco-coordinator, 2 principals and 2 assistant principals. In this chapter, firstly, demographics of participants along with the information of school's identity were presented. Here, the goal is to get a glimpse of participants' identity and their previous involvement in environmental themes and teaching. Following sections display explorations within the environmental practice, leadership practice and the relationship between environmental practice and leadership practice in the school under the categories and themes.

4.1. School's Perspective on Education

Assistant principal Gülçin emphasized the ultimate goal of the school as to develop happy students who are competent in social skills as well as academic performance. Both manager and teacher participants stated that there is a difference between their school and other private or public schools because their school focused more on social development of students than academic concerns. Concentrating on real life skills of students and seeing school as reflection of real life, the school performs

scientific projects, holds campaigns about different topics, practices traditional days and has school clubs acting on various topics. Eco-school and other environmental actions are considered as an example of school's good practices by presenting students and other school components an extraordinary perspective out-of-standard curriculum.

Curriculum in the school is altered in some way called "thematic learning" in order to improve holistic learning. Thematic learning is "an integrated learning model that integrates multiple subjects in a single entity that is bound by the theme." (Ain, 2017, p. 919). In thematic learning, common themes are utilized for learning contexts through multidisciplinary courses. This school uses this integrated learning method several times in a semester which frequently identify environmental themes as well. All participants stated that when environmental topic was used as a theme in thematic learning, eco-school practices were integrated into this theme. Thanks to that, different courses came up with their own point of view on environmental themes with original activities. In point of fact, eco-school program, itself, creates multidisciplinary learning. These will be mentioned more in the following sections.

Principal Feyza stated that the school's mentioned pioneer acts in educational field depended on sustaining vocational development of teachers. In this sense, the Eco School can be considered as an academy for professional development of teachers.

4.2. Perspectives of Teachers and Administrators on Sustainability

Participants' response to the question "what education for environment and sustainability means to them" yield some common points such as the importance of caring about the environment and sustainability in education as real life experience, having a perspective on nature-centered view, emphasis on being a role-model for the students and seeing education for environment and sustainability as humanity's common future. Some points of the participants such as being a role-model and thinking environment and sustainability in education as real-life experience will also be discussed in the following under different contents.

Two of the teacher participants defined education for environment and sustainability as common future of humanity. One of them stated that in order to have a qualified and healthy future, sustaining environment is a must. Teacher participant Gizem explained that to achieve this purpose, students as well as all other people had to internalize environmental values and concerns. A way of doing that should be presenting a school environment where students can explore environmental knowledge by practicing. Environmental topics should be offered with enthusiastic teaching methods which are embedded into curriculum. She emphasized that education for environment and sustainability could not be restricted to explain students not to drop litter anywhere or make recycling, but rather it was a real-life experience.

Three other teacher participants also stated the importance of real-life experiences in the education for environment and sustainability. Teacher participant Esra responded that environmental topics must have been expanded the school experience beyond the school. She believed that this would have provided in-depth understanding of the issue for the students. Going beyond the classical environmental protection content in the curriculum like recycling, Kübra stated that education for environment and sustainability must have provided a change for students to make recycling and other environmental protection methods in their own life. She reflected that the teachers or other components of the school who work on this topic must be specialized in this topic and be a role model to the students. Even though she graduated from one of the well-known universities in Turkey, the participant explained that undergraduate education on environmental education of pre-service science teachers were not qualified enough. She also added that environment and sustainability was a “responsibility of every citizen of the world”. Both Kübra and Eren made emphasis on thinking environment and sustainability as a “responsibility” of humans, participating the view of education for environment and sustainability was a real-life situation and paying attention to being a role model for the students while Damla

also highlighted that students should have been aware of that humans could not be the controller of nature. The following quote from Damla clarifies those issues:

I believe that a child should realize that humans are just part of the nature before even come to school, like in their family. Children need to know that their every act-positive or negative- have consequences and responsibilities, like any other living organisms on Earth. They need to know that humans are not that powerful, they are just piece of a mechanism (ecosystem).

I do not believe that any person can change the world and transform it into completely different situation. Even cats at home harm the environment. We just want people not to do it on purpose. People already harm environment unconsciously. It is the part of being existent. But it is meaningless to do something that will damage your species later.

In school, we need to be a role model for students rather than telling what to do. Do not tell, just perform it. Be a model and leave the rest. A child would take it if s/he wants. (Teacher Damla)

What Damla revealed in her response reflects the point of view of eco-centrism. The effect of eco-centrism on education called “eco-centric education” which focuses on the unity between human and nature (Kopnina & Cocis, 2017). This view sees sustaining the ecosystems as a whole is more important than human needs. Also, the needs of other living things are as important as humans’ (Gray, White & Curry, 2018). Here, in her quote above, Damla clarified that human was a part of the nature. However, nature is already vulnerable beyond humans and humans could not decide or control the fate of nature. Rather, they can take responsibility of the results of actions they made so far. Damla’s way of thinking is likely to have a relationship with her experience in ecological activism before becoming a teacher. Her life period with efforts in practicing diversified outdoor ecological activities out-of-school and focusing only on ecological concerns could impact her perspective to sustainability at present. Similar eco-centric point was made by participant Eren. What he stated is that humanity could not be thought as separated from the nature because nature comprised humans as well as other living and non-living organisms. Therefore, for students’ environmental awareness, presenting a school environment where they can protect and struggle for the nature is extremely important. Here, the opportunity of

the school to present this environment with gardens and greenhouses is significant. Participant emphasized his views with this quote:

I wish the school had a garden or greenhouse. My point is that children should see how a vegetable grows by observing it. They live in apartments. We need to make them feel environmental practices and protecting nature. I think these topics must be in curriculum under the title of “life sciences”. The teachers before us were the ones graduated from village institutes. Their efforts on production rather than consumption were very important. We need to light up little fires in education in order to sustain this practice. (Teacher Eren)

Eren linked education for environment and sustainability in suggesting that curriculum was a requirement for students to develop environmental awareness, which will be discussed in the following sections in detail.

Except from a few different aspects, the response of principal participant Gül includes some points in common with teacher participants’ responses. Like Damla and Kübra, participant stated environmental awareness was a responsibility of human beings and school was a real living place where students should face sustainable practices everywhere. Gül emphasized the importance of schools’ having concrete environmental values:

Any individual should care for environment to complete herself. It is a responsibility. First, a person should know herself, but then comes next the environment. This environment means two things. First one is her living environment with people; friends and family. Other one is the environment where s/he lives. One of the basic components to be included in a society is be aware of, to respect and develop the nature. Our school values definitely include environmental awareness. (Principal Gül)

Also, principal defined education for sustainable development and stated that in order to create a successful and innovative future in the society; people must care environment as well as economy. This could be achieved with education for sustainability. From a different perspective, principal participant added that for sustainable development, schools must have grown young people who are producing, but not consuming.

Also, participant expressed the point of view on importance of real-life experience in school as following:

Actually, sustainability is a core of humans. As a school, if we are an organization for students that provide a way of life, constructs society and presents ways to support economy, we need to live in a way of performing sustainability. I mention sustainable development. We want future generations to consider environment as well as economic concerns and create a balance. School is a real place for that. (Principal Gül)

Overall, participants' perspectives on sustainability reflect the need for common commitment of the people in order to answer the environmental challenges of the planet. Education should enable to grow people internalizing environmental values. In order to achieve this purpose, educational setting must provide real life environment for the students and other school elements.

4.3. Eco-School

4.3.1. Definition of Eco-School

4.3.1.1. Teacher Participants

For the definition of eco-school, participants responded the questions “what their opinions are about eco-school”, “what the difference between teaching environmental knowledge in a course subject and implementing eco-school program is”, and “what participants expect from eco-school program”.

The question regarding their expectations from eco-school program has some common points with their responses on “what education for environment and sustainability means to them”. Real-life experience, eco-centric perspective, curriculum and principal Gül's focus on production are one of those common points. This question is related more about to participants' perceptions rather than practices happening in school at present. However, other two questions also make references to implementation of the eco-school in practice.

Three of the teacher participants emphasized that eco-school was a well-constructed program because the purpose of the program was precious. Damla stated that structure of the program was satisfied since it guided eco-team to next steps clearly. Presenting green flag and other rewards for the school's program kept the motivation of eco-team high. Damla points out eco-school could hardly initiate sensitivity

towards environmental problems for the students. Rather, it could enhance students' existing sensitivity and awareness, and make students gain more skills and knowledge beyond sensitivity. This response relates to her perspective on education for environment and sustainability, which she emphasized that students should obtain sensitivity toward nature outside the school, such as getting that in their family before coming to school. Her point of view on eco-school's favorable aspect on increasing environmental awareness was that teachers are the ones who should take an initiative and create opportunities for students. Following quote explains this point:

If there is already a sensitivity of children, we can add more to it. For example, kids want to do something on conservation of animals but do not know how to do it. They love, protect and aware of nature. I think eco-school must initiate and open new ways in order students to act on this issue. Children could be informed, made field trips and explore new things. Eco-school should provide beginnings for kids in terms of that way. (Teacher Damla)

Real-life experience. Expectations of four teacher participants from eco-school program have connections to the appearing point “real-life experience” in the responses on education for environment and sustainability description. Damla emphasized her attitude on “eco-centrism” in her expectations, which can be thought as connection to the real-life experience:

I would like to demolish the idea of divineness on children's' minds. This is my expectation. I would do anything in order to achieve this success. (Teacher Damla)

About her expectation in terms of eco-centrism, Damla added some unfavorable aspects of eco-school program which will be mentioned in the following under this topic.

What Gizem revealed about her expectations from eco-school was creating difference in students' behavior in their real life. Making energy saving, keeping environment clean and recycling are one of those, which she reflected to these as basic expectations.

Kübra stated that eco-school activities must be distributed to school in all lessons and also beyond lessons and school, connecting to real-life experience.

Actually, it must be distributed. How? For instance, when I teach conversion of energy, I need to use materials as plastic bottles rather than metals or woods. Like designing car model with reusable materials. Teachers should practice these in their teaching methods. It also stimulates role modeling for students since you practice environmental activism in front of them. (Teacher Kübra)

What she mentioned as “distributing to the different school practices” is an important point of the research which will be discussed in later.

In addition, Kübra defined what she exactly expected from students’ environmental awareness. Making a reference to practices of eco-school, Kübra’s expectation for the program is educating students who care about environment in their own life. She gave an example to this in the flowing quote:

I want to raise children not only caring about ordinary products on eco-school board, but also caring a lot on recycling, questioning on his/her mind that if these batteries are recyclable, researching, thinking about where s/he can use these environmental knowledge and getting a new perspective on reusing and carry this knowledge to home to their next life. (Teacher Kübra)

The participant added that external motivation sources like providing stickers for eco-team members or making eco-team member’s name in school kept students’ motivation high. However, she emphasized that students must have exhibited environmental behaviors even when external motivation was disappeared. She explained that there were students in their eco-team who behave in this manner. As a team, they were collecting recyclable materials like plastic bottles, papers, metals in the science laboratory and using them as a material in the lessons. For instance, when the course subject was density, they were using plastic bottles for the experiment with the liquids or when it was needed to construct models in the science lessons, they chose using these reusable materials. Eco-school seems to provide a space for students in eco-team where they can express their environmental consciousness with behavior.

Except from one participant, all teacher participants made clear explanations about eco-school program’s favorable difference than teaching environmental knowledge only in class-based curriculum. Kübra’s response on the question “what's the difference between teaching environmental topics as a course subject and

implementing eco-school program in school” was that eco-school made a positive difference because it happened outside the classroom. She emphasized her point:

Okay, it may not be the case for science lessons. However, for other courses, lecture is mostly defined as boring for students. (Teacher Kübra)

Gizem explained why teaching environmental topics as a course subject in lecture was less effective for the students:

For children, curriculum is boring and heavy. For most of the students, this means that they will learn environmental topics in the class just for passing the exams. (Teacher Gizem)

Esra explained the difference of eco-school program was because it included more practical real life work than the classical environmental education. Likewise, other four teacher participants stated that when the topic was restricted to curriculum units, it has not as much influence as practices students participate actively. It is observed in the school that almost all of the eco-school activities was performed outside the classrooms in extra-curricular methods.

Expressing the eco-schools present a learning environment mostly based on exploring and researching, Şeniz and Nergiz reflected that eco-school program was more constructivist. Emphasizing out-of-class experience, Şeniz pointed out that eco-school increased environmental awareness:

I think that when it is stayed in class, it is not effective enough. Especially, inside classical curriculum. But when they learn by doing and living, since they are involved in their own learning process, children learn more relaxed and active. I believe their sensitivity increases more in that way. (Teacher Nergiz)

Therefore, responses of participants unite revealing eco-school’s positive effects on student involvement in environmental performance. Concrete efforts are likely to reflect on students’ real life since learning mostly occurs by doing. Also, positioning environmental practices out-of-lesson practices and distributing it to a school environment would create a real-life experience making connections to life beyond school.

Long-termed activity. Another point participants made on the difference of eco-school program was being long-termed. Nergiz and Gizem revealed that eco-school

program was more effective since it was distributed to a long process. When thought in a lesson in the classroom setting, environmental topics take only two lesson hours. However, the researcher made observations for eight months in the eco-school and made interpretations based on findings. It was quite more time comparing with restricted time in the traditional lesson hours on environmental issues.

Gizem stated that because of so little amount of time in the classical lessons, students were likely to see the topics as unimportant. Looking from the perspective of constructivism, Nergiz made a reference that teaching a course subject could also be concrete. However, in the following quote, she implied that there was not enough time and opportunities in lecture:

In a classroom setting, it is very hard to make the content concrete for the students because of the limited time. It takes a lot of time while managing classroom, teaching, and making students take notes. (Teacher Nergiz)

Teacher Şeniz's example of an eco-school activity showed this space created for environmental practice. She mentioned that they made field trips to forest with eco-team and observe leaf pruning, seeds setting off and taste eatable fruits from tree branches. This brought a great experience for students who grew up in the big cities and had a life far from nature. Long-running set-up of eco-school provided students an opportunity to observe growing process of the seeds they planted.

For example, we planted acorns. They saw the process of growth. I think we sowed as November, as March to April they began to give seedlings. This was something different for them (kids). In this growth process, they watered themselves and learned how to plant.

As I said, there is a difference between words and real actions. Making students active in learning process is something meaningful. That's why I think that learning by doing is always more effective than what is in theory. (Teacher Şeniz)

Therefore, that eco-school creates an opportunity to allocate more time on sustainability issues. This opportunity evolves an environment where teachers concentrate more on creating hands-on experiences for pupils.

When stating that eco-school program was well-structured, teacher Damla mentioned about the steps of the program. Construction of the program consists of seven steps and an evaluation part. Program expects schools to engage in environmental

performance for a long duration and turns it into a sustainable environmental management (“About Eco-Schools”, n.d.). There cannot be an end of this sustainable process which schools say “now, we achieved this success and therefore, we can end it.”. Sustainable development, in its nature, covers entire lifetime of the systems and people, requiring life-long learning.

Being a team. Interaction in the eco-team is what two of the participants mention as positive difference of eco-school. Şeniz revealed that students saw each other, faced different reactions of other students and teachers, surprised and learned from each other when practicing in team. The inference of Gizem from being a team is that some students get influenced by other students in the team. She explained her point that there were very enthusiastic students about environmental issues and nature in the eco-team. These students come to the forefront and have been a role-model for others in the team.

While Gizem reflected the fact that being enthusiastic students in eco-team was beneficial, Kübra mentioned that these selected students sometimes act as if environmental activities in school were their duty. She made inference that this was likely to result in an idea that environmental issues were only the responsibility of eco-team. She explained her opinion in the following quote:

Sometimes the eco-school is becoming an issue of eco-team. There are some problems in the involvement of everybody. There is an opinion that “eco-team students are model students but the others are not responsible. (Teacher Kübra)

Here, this point of view of Kübra makes references to holistic perspective of environment and sustainability in school which will be discussed in the following sections. Participation of not only students and teachers but also all school constituencies is evaluated in other questions, which several teacher and manager participants agreed that this was a significant point in school’s environmental activism. Kübra continued expressing her doubts about eco-team in several times and stated that it could result in labeling the students as some of them were environmentalists while some were not, emphasizing environmental activism must be a responsibility of all people in school.

Overall, it can be inferred that teamwork had both advantages and disadvantages. Working in groups ensure peer learning and contribute to student learning. It also has a potential to develop children's communication and leadership skills. However, if environmental practice is restricted to eco-team in school and not disseminated, then it can lead other school participants' take less responsibility.

Suspicion about advertising. Results revealed that eco-school satisfied participants' expectations from "real life experience" and increasing of environmental awareness because of it's the difference from the classical environmental education. On the other hand, there have been some negative aspects of eco-school stated by some teacher participants.

Two teacher participants emphasized that eco-school program was sometimes used for advertising of school. Not only schools use this title as a label, but also teachers in school use eco-school practices for their own advertising. Gizem stated these aspects in the following quote:

But schools use this for advertising, I guess. In order to display the 'green flag', they call themselves environmentalist schools. However, content of eco-school may have been empty. It could possible end up with last minute works of students and teachers. (Teacher Gizem)

Along these lines, Eren connected reward system of eco-school (green flag) to populism among private schools. He stated that for some people the program could become a platform where school show off itself as an environmentally friendly and health-friendly school, and therefore preclude the essential aim of the program. Conversely, Damla mentioned that eco-school program was no longer very popular among the schools. Therefore, what she concluded was that school managers and teachers did not use the program for advertising.

Out-of-traditional curriculum. As mentioned above, only one teacher participant pointed a negative aspect of eco-school program compared to the classical environmental education in the curriculum. Eren emphasized the importance of teaching a course subject defined in the curriculum in the classroom setting. Explaining out-of-classroom setting activities and projects in any school could

sometimes be underestimated, he mentioned that school management took curriculum-based activities-related with the objective of lesson plans- more seriously than the out-of-classroom setting projects. Therefore, as he stated, when something unexpected happened, school managers usually payed attention to curriculum-based activities. Eren made a point that for any teacher, teaching the objectives of a curriculum remained in the forefront as a concern that must be presented to a student.

“Relationship with the curriculum” was appeared as a negative aspect of eco-school in the responses of two teacher participants. Correlating with what he explained in the question “what’s the difference between classical environmental education and eco-school”, Eren emphasizes in his opinion about eco-school program that content of the program must be embedded into curriculum. Esra made clear explanations about what kind of problems happen when eco-school program and curriculum have differences while same topics are evaluated in these two different manners.

I think eco-school program is very nice. However, I guess there can be differences about the distribution of the program. For instance, our environmental theme was ‘water’ in this semester. This theme should be separated to all curriculum of ministry of education. It must be distributed to units of courses. There happens confusion among teachers when the process is apart from curriculum, and this creates problems and delays in the program. (Teacher Esra)

Eventually, from two participants’ responses several reasons may require eco-school content embedded into standard curriculum. Application of the program may be interrupted because of the differences of the contents. Also, school administrators are likely to expect more from standard curriculum-based activities than other projects in school, which may lead them care less for out-of-classroom setting activities.

4.3.1.2. School Administrators

Responses of school administrators about definition of eco-school have few similarities, but mostly have differences with the teacher participants. Principal Gül explained that environmental issues were significant, but mostly volunteer associations and entrepreneur NGOs were in charge of the environmental activism in school, like observed in eco-school program. What she emphasized is that this content must has been in ministry of national education’ responsibility. She extends

what she expected that environment and sustainability should have been owned as country policy. However, Gül excessively expressed that schools must have conditioned a vision of environmental values:

You make an agreement with the parents whose children start the school and explain your school. You explain what it is expected to give to students about academic success or socio-cultural values. If you an environmentalist school, you should present your condition that we have zero tolerance to environmental issues. Maybe ministry of education should put this as educational policy. (Principal Gül)

Here, the emphasis of principal participant makes a reference to schools having a *holistic perspective on sustainability in school*, rather than keeping environmental topics only in the course content.

Gül's response to the question "what's the difference between teaching environmental knowledge in a course subject and eco-school" relates to her definition of education for environment and sustainability and expectations from a school looking environmental topics in a holistic manner. The participant emphasized that environmental sustainability is a matter of awareness. Like teacher participants Gizem and Kübra, principal participant mentioned that environmental awareness did not insert to a course subject. She highlighted that making students gain something valuable (like sensitivity toward nature) was more related to a school culture, which was situated out of classroom. The value is likely to be lost when narrowing it down.

Her response favors eco-school program to classical environmental education. In her response, she added that if students actively worked in eco-school their belonging to topic increased. Giving an example, when it was provided recycle bins in a classroom, students were unaware of the situation. However, when they wanted classes to design their own recycle bins, the results were so satisfied for them since students use the bins they made continually. They even made a design exhibition to increase the motivation.

Responding the question regarding the expectations about eco-school, Gül made connection to her points in her definition of education for environment and

sustainability and referred to eco-school practices in school. She explained what she expected from eco-school program in the following quote:

I think we need to stage environment and sustainability. Given that, first stage is environmental awareness. Second one is sensitivity. I imagine third stage is taking action, which means production. Forth stage could be activating individuals and community and making impact. Fifth stage should be distribution of this impact. I want to fulfill second and third stage in my school. (Principal Gül)

Even though her general opinions about the program, she stated that she was satisfied with her expectations about eco-school. The point principal Gül was making on expanding the range of the impact of eco-school appeared also in the response of principal Feyza. Feyza defined eco-school program as giving students basic environmental awareness. Other purpose of the program is extending the influence area and effect more components like families and even community. She stated that their expectations as a school were mostly satisfied. However, eco-school activities generally included in-school works among different school components. She explained that there should have been more effort to plan activities involving students' out-of-school life.

While one of the assistant principal participants mentioned positive aspects about the program, another one mentioned control mechanism of the application of the program in school as well as its advantages. Assistant principal Gülçin stated in her response that eco-school program focused not only providing ecological balance but also healthy nutrition of students. She explained that program provided control of canteen and planning healthy eating habits. What participant stated was that program not only promoted environmentally aware students, but also created great social environment for the students.

Being an eco-school is important for growing environmentally aware students as well as creating different social environments for students. We were used to play on the streets, but today children socialize only in schools. I believe that eco-school contributes to their social skills in terms of interaction. Eco-school activities should have begun in early ages. (Assistant Principal Gülçin)

Principal assistant Şafak referred to the practices of eco-school and emphasized that students were enthusiastic about eco-school activities. He added that control

mechanism of the program in school should have been healthier. Control mechanism must be added as one of the core features of eco-school. However, program should facilitate internalization of environment and sustainability eventually. When schools define themselves as a school whose common purpose is environmental sustainability, there must be school components carry a torch for environmental values. Nevertheless, he did emphasis that there must be worthwhile activities which could be controlled and increase environmental awareness in school. What he expects from eco-school is basically create an environmental awareness like most of the projects. He connected his opinions to “real life experience” stating that students must have internalized and practiced environmental issues in their own life.

4.3.2. The Practice of Eco-School

4.3.2.1. Roles of People

When the role distribution in the eco-school practice examined, it was evident that leading the eco-school is an involvement of teachers. For the question “who takes charge in what duties and responsibilities in eco-school activities?”, all participants have a common point that teachers are in leading role of overall environmental performance in the school. Four of the teacher participants specified the duties of teachers as coordinating with eco-team, other teachers, school managers and stakeholders if necessary, organizing environmental activities with students and motivating school components toward environmental values.

Results reveal that assigning the role “eco-coordinator” differentiates according to different situations in school. Teacher participants Damla, Nergiz and Eren mentioned that they were volunteers for this title while Gizem, Şeniz and Kübra revealed they were suggested as a coordinator for the team based on their skills and field of teaching. Motivation of teachers, students and managers will be placed under different section in the following, with the motivational strategy of school management towards environmental activities in school.

In addition to this, all teacher participants explained that variety of courses from science to math, visual arts to Turkish participated in different kind of environmental activities.

In her response to the roles of people, principal Gül distributed the roles at different grades of both primary and secondary levels at the school. She mentioned that in primary school level, primary school teachers were in charge, while in middle-school science teachers made great effort for environmental activism. Documents on eco-school action plan also gave a place for primary school and science teachers as being in eco-coordinator roles.

Feyza stated that science department and assistant principal of middle-school made a good job with self-sacrificing efforts. What she specifically highlighted in her responses is that head of science department was in leading role as an eco-coordinator in elementary level. Being an eco-coordinator, head of science department informs all departments about eco-school practices twice a week in the formal meeting called “head of the departments”, presents them documents which they can enrich their environmental activities and organize the results of different departments’ environmental actions in documents. After that, she presents these results with whole school either on the eco-school board or on different platforms like website or school network.

Looking from more holistic perspective, assistant principal Gülçin emphasized that school climate was actually overall responsible from environmental management. She stated that school principal was significant because of the leader identity. In order to make school components aware of the fact that her/his leadership vision includes an environmental perspective, leaders must see environmental sustainability as a valuable concept.

It must be embedded in school climate. Leaders should see environmental sustainability as a value in themselves before reflecting leadership vision to school. If we look at the school climate, it spreads from the top. I think leader’s skills,

responsibilities and guidance is very effective. It goes down from the founder of school to even students. (Assistant Principal Gülçin)

From the findings, it can be inferred that teachers took the leading role in eco-school. This leading role is mostly appeared in the form of eco-coordinator. However, the nature of eco-school activates more than one teacher since many teachers from different courses take part in activities. Therefore, eco school reflects a holistic perspective where in its construction. Participants indicated that leaders had a potential to spread environmental values from the top to the other school components as a vision when they internalized this value.

4.3.2.2. *Eco-School Process*

Results on practices related environment and sustainability appeared in responses to different interview questions. Even though practices in school include mostly eco-school activities, there are many other examples referring to environmental performance distributed to different courses and different school components. As mentioned above, “thematic learning” in school is an example of this. Sometimes, eco-school theme is seemed to be an initiator of other in-school activities. Therefore, results on environmental practices of school will be presented without differentiation whether it happens as part of eco-school or not but stating the difference if necessary.

In the eco-school, it was observed a process for sustaining environmental management. Four of the participants stated the procedure of forming the eco-team from students. Damla clarified that in middle-school level; they chose eco-team members depending on students’ motivation towards nature and performance of students on general school projects. Kübra indicated a different procedure to construct the eco-team where she gave a chance to be a member of eco-team to every student in every class at the beginning of the semester. The situation of the eco-team students was that when it was asked to whole class if anyone wanted to be a member of the eco-team, everybody raised hand. Kübra explained the reason for it was because at the beginning most of the students may not be aware of the context and

did not pay attention the importance of the responsibility but they rather wanted to be known in the popular projects in school.

Everybody raises their hands because in that moment everybody feels like happy and environmentalist. It is not easy to say no you are not in eco-team. (Teacher Kübra)

Kübra explained she processed a candidacy as she called “eco-team candidate”. She observes the behaviors of candidates and tries to see how much they care about this responsibility. The teacher is sure that after a month, it can be understood that either they want to stay in team because of caring or they chase for a reputation.

These parts are being blurry. I can say that a real eco-team member asserts herself within the process. (Teacher Kübra)

What the teacher added here is that she tried to choose a few eco warrior and real environmentalist students in the team who could guide the others as being a leader.

Since most of the students at those ages are so enthusiastic for this topic and it is very hard to decide, Şeniz explained that in the primary school level, they tried to select eco-team members according to class teachers’ opinions. However, she added that even though eco-team compromised a bunch of selected students, eco-school activities the team planned involved most of the students in primary school. Still, eco-coordinators evaluate the ambition of students while deciding on the team members.

Three of the teachers touched on the stage of eco-school developing an action plan. Stating that there are themes in the program which eco-team must choose at the beginning of the school year and continue working on whole school term, teacher participants mentioned different themes they selected which eco-team developed their action plan accordingly. In the time researcher spent, the different eco-teams practiced “recycle” theme in the primary level and “water” theme in the secondary level in the eco-school.

Esra explained that developing an action plan included a process after the theme of the eco-school was determined. Different teachers from different courses prepare reports about what they will be doing related to their content and which dates they will perform these activities. Eco- coordinators construct the action plan when the reports from different disciplines are transmitted to them.

As a coordinator, we do not distribute the roles; actually they make their role in the process. (Teacher Esra)

Different courses' teachers submitted their plans into sharing folders of the school and then eco-coordinator organized the plan.

Nergiz stated that after the action plan, meetings of eco-team started. School board is prepared for eco-team announcements and remarkable data from performance of school through environment and sustainability. Members of eco-team are supposed to practice the purpose of eco-team in and out of their classrooms. Still, responsibility of eco-team differentiates according to social interactions, opportunities and purpose of the team.

Şeniz explained how she coordinated with other teachers about their practice. They use common network of the school to communicate on the activities written in the action plan, deciding on the meetings, how to write the reports and research on what can be done in the future. Interdisciplinary activities of eco-school are evaluated thanks to this communicative platform.

4.3.2.3. *Eco-School Activities*

It was made continuous observations on the environmental activities in the school while collecting data. The observations was verified with the sayings of the different participants.

Principal participants' response to their opinions about performance of eco-school program general in school is favorable. Gül revealed several times that she was

satisfied with her expectations. Her major point for expectation was achieving the steps for “awareness” and “sensitivity” towards environment. Participant stated that in school, eco-team and whole other school components met the next level of her expectation which was taking an action for environmental issues. Emphasizing again that, for sustainable development, it is needed students who produce but not consume both in eco-school projects and other activities in school, students are encouraged to innovate.

Expressing her opinions on environmental performance in school, principal Feyza stated that the practice of eco-school satisfies her. She reflected the **enthusiasm of science department and assistant principal** as they were devoted themselves to this program, as stated above. Both eco-coordinator’s coordination skills and the basic structuring of the program seem to significant for interdisciplinary action of environment in school. Here, Feyza referred different departments practicing eco-school in different activities:

There is an eco-school board in the corridor of each department, and these are updated periodically. In all the courses, activities linked to eco-school are being carried out in order to make children feel ecological values. (Principal Feyza)

As mentioned above, school’s practice on environmental topics are not restricted to eco-school. In their responses, participants revealed that there have been plenty of activities which sometimes eco-school was the initiator whereas sometimes there were activities out-of-eco-school. Highlighting this situation, Nergiz explained that everywhere in school, environmental acts could be observed. In her responses, she described both physical environment of school and emphasis in school-based curriculum as being environment friendly:

We can observe in everywhere. Inside classroom, in school garden, on school hallways... And also, in the curriculum. We have an initiative in school to apply different contents in our lectures. (Teacher Nergiz)

Teacher participants: Gülçin, Damla, Kübra and Gizem stated that most of environmental activities in school were observed within the scope of eco-school.

Gizem made a point that eco-school program was the foundation of the notion of sustainability in school:

You see...The concept of ‘sustainability’ came to us with eco-school. (Teacher Gizem)

Gizem explained eco-school practice had enrichment in school after she and her team had a leading role. She pointed out the increase in quality and quantity of the projects after a while. Emphasizing the importance of students’ taking charge in coordinating, she made a reference that eco-coordinators gave the authority to students as much as possible. Gizem mentioned here that, school started a system of certification for the students actively work in eco-school. This certification system is seemed to be significant for motivational strategy and vision of school management, which will be discussed in the following section.

From the responses of the participants, it can be inferred that there are eco-school activities managed in common practice which most of the school components participate. In addition, there have been other projects executing by eco-team specified on current environmental topics.

Recycling and Waste Management. Since the first-year theme is “recycling” in eco-school, some of the participants referred that eco-school program gained a perspective to waste collection and recycling in school. As Gül stated, at the beginning of each semester, classes designed their own recycling bins and they exhibited these bins, which was exciting for students of primary level. In school, it is observed recycle bins in the hallways where school components leave their metal, aluminum, paper and plastic wastes. Besides, Gül mentioned that they collected organic food waste at lunch for the street animals. Even students drop their leftovers in a bin. She pointed out that some student groups had a great attention to that topic. Last year, a group of students made a remarkable work. They collected and measured their wastes for a month and then made calculations on their waste explaining how many children or animals could feed with how much they wasted.

It was remarkable. For instance they made posters like ‘This month we created 13 kilograms of waste. This waste is equal to amount of waste 35 African children can feed in two days.’ Like these. (Principal Gül)

About recycling, Kübra and Eren explained that students made their families to bring their recyclable materials to school since school provided opportunity for the materials hard to find decomposable bins. For instance, waste oil is one of these materials. Within a scope of a project in school, students brought waste oil from their houses. Eco-coordinators performed the management of collection, protection of waste in school and delivery of the waste to the municipality.

Principal Gül mentioned that it was used recyclable materials in cafeteria, seminars and other activities which service was required. School staff is trained for recycling. At the end of the day when they clean the school and they collect wastes in the recyclable bins. Plastic collection is another basic activity which students in school have performed several times.

Damla stated another waste management method which was acted by eco-school members. Eco-team was joined a training in one of the well-known universities in Turkey about composting and learned how to reuse organic waste. Participant stated that students were so amused when they got back to school that they started to do the activity instantly. They asked for organic waste from the cafeteria and other needed materials from the assistant principal. Students in eco-team also performed this activity in Science Fair of school with the rest of the school community.

On the one hand, some participants indicated some negative examples to waste management in school. Damla stated that some common saving practices in school did not satisfy her expectations. She defined using paper glass instead of plastic glass did not correspond an environmentalist perspective since it still directed people to consume. In addition, Esra mentioned that she was not sure about the recycling practice in school. The participant estimated that only half of the recyclable materials could be recycled in school. Mentioning that there has been huge amount of paper waste in school, she stated that there appeared problems separating these wastes for

recycling. In a similar way, Eren stated that school's paper waste management was not satisfactory. He explained that participating students to paper waste collection was not an easy job like participating them to plastic collection. Another reasoning of him was that when there was a lot of paper waste, their storage in school and transferring to the relevant departments were tough work.

It's even tough for school staff to collect, you see there are papers every activity in school. And therefore, there are paper waste everywhere. At this point, we cannot do much on paper, however we do on plastics and others. (Teacher Eren)

Overall, the school seemed to serve needs for recycling in the school settings and make students active in recycling projects. The school has a potential to make parents involve in waste management by presenting them opportunities for recycling. However, some participants are not sure of efficient recycling, especially about paper waste.

Saving. Considering the participants' statements on paper waste, it could be stated that in some respects savings of school is not satisfactory. On the other hand, participants mentioned several activities and common practice in school about increasing savings. Damla revealed small but several activities' eco-team performed. The first one was about energy consumption. From the approach of "thematic learning", when the theme was chosen as "energy", fifth grade students designed stickers where they used a slogan in their design as "Save Your Energy!". Damla stated that each student designed their own sticker in the visual arts lesson. Then, they stacked their stickers to every place where energy consumption was occurred like sockets, computer buttons. Students were so enthusiastic about the activity. The stickers stayed for a semester.

Another activity was about water consumption in school. Damla explained that for a whole year, eco-team worked on the theme "water". In scope of this, they wanted to take an attention to conservation of water resources. At first, eco-team students measured approximately how much water was consumed in school by measuring

water meters with the help of school staff. Then, making a research on how much water was needed to produce products which consumed too much in school, students determined to make these information apparent where water was consumed. Damla stated that they made stickers “save your water!” and placed these consumption information to the stickers. These stickers stayed for a long time as Damla mentioned and students continued to measure water meters even though there happened some problems due to daily workload of students and eco-coordinator. Damla mentioned that result of these activities might not be satisfied apparently. However, students gained other skills:

Meeting with eco-team monthly, we checked the changes in the water meters and tried to see the water consumption. Of course, there are many other things going on in school, this activity was not concluded in big effects. However, even children’s reading water meter is a good example of real-life experience. Kids communicate directly with school staff and cooperate for measurements without me. (Teacher Damla)

To conclude, eco-school projects performed actions on savings in the School in terms of energy and water. These are the examples of activities compromising students as well as other school participants including in environmental performance.

Nature and Conservation. Emphasis on nature and conservation activities is also what some participants mention in schools’ environmental practice. Feyza revealed that physical environment of school garden was made with the students. Students bought plants for their teachers as a gift in teachers’ day by means of parent-school association. She explained that students wanted to leave a mark in school with doing that:

Variety of classes’ students said that they wanted to leave a permanent mark in school, but not with a painting or picture but with contribution to the nature. And we supported them. Almost all kind of trees you in school belongs to our kids. (Teacher Feyza)

In addition, Şeniz stated that although the school garden was not big enough, in some lectures classes were taking out for hiking in the forest nearby the school. Making a

reference on outdoor learning environments, she described how outside learning helped:

We are going for hiking with the kids. We have a forest nearby and school administration is fine with that. In the forest, we take care for the animals and trees, get to know the different kind of trees, flowers and fruits. It is a touching environment where children meet the nature. There are diversified nature-centered games. I try to make these activities with the kids. (Teacher Şeniz)

It is likely that Şeniz's participation in nature conservation activities in the garden of Grand National Assembly of Turkey, as stated in demographics, increase her motivation towards natural activities outside of school.

Health. Another point some of the participants made on environmental practice in school was activities for healthy diet. Kübra and Eren mentioned that school had an ongoing project for health. Gülçin stated her observations on eco-school project were that program not only included activities protecting ecosystems but also practices for healthy diet of students. Control of canteen for healthy diet is one of the contributions of environmental management in school.

Teacher participant Kübra explained the project that it concentrated on raising awareness and leading students' behaviors to healthy eating habits and physically active lifestyle. School managers had an important participation to this project, in which principal started the project and assistant principal had a significant effort managing the works. Kübra described the activities for this project as selling fruits in canteen, no sugary product in canteen, making lunch break longer for physical activity of students, increasing field trips. There happened announces on the breaks like "Do not forget to drink water for healthy diet!", "Do not wait to get thirsty to drink water!".

Other Projects. Under the theme of "water", Damla stated that they participated in a project "Ecodemia Water School". She started the project at another school before started her job in the eco-school and practiced in different platforms. Ecodemia was a

project participating 25 country, aiming to introduce limnology (lake science) to the children. In the Eco-school, the project members included eco-team. The team met two or three times a month, mostly after school. Damla mentioned that at the beginning of the project she managed planning the meetings and materials and tried to encourage the pupils. However, as the time went by, pupils took charge in responsibilities for the content and management. Therefore, after a while teacher started to act like a coach of them leading them into next challenging steps.

With the scope of this project, firstly, students were applied a questionnaire on how much they knew about water quality. This questionnaire measured students' and their families' prior knowledge and awareness. Then they prepared small ecosystems called "terrarium" in order to observe scarcity of natural resources, importance of water for ecosystems and what could happen if water resources got dirty on Earth. Making a measurement called "secchi disk" was another step of the project. This tool was used for measuring how far sunlight could reach in any lake. Damla explained that after making their measurement tools, students were ready for exploring a lake nearby. So, they went to one of the big lakes in town and observe water quality there. They measured how dirty the water was by using their mechanic and electronic tools, got some lake water examples. Back in school, they observed the living creatures under the microscope and filled a report gathering together based on their measurements. After all, they uploaded the results to the international platform (<http://www.secchidipin.org>).

Damla explained that eco-team presented ecodemia project results to rest of the school components in science fair of school.

I did not do anything. I just prepared some materials with the children for our table. But they made all other works, explained our purpose, and presented our results. They even directed people to make their own tools (secchi disk). I just stopped by the table during the fair to see what's going on. (Teacher Damla)

Damla mentioned that this project was constructed on base of the combination of outdoor education and STEM (Science, Technology, Engineering and Mathematics) Approach and the theme of environmental issues eventually.

Another combination of environmental topics and STEM approach in school is observed in robotic activities. The school personnel who is normally responsible for electronics and renovations in school is practiced and guided a student team for robotics. The school is joining an international robotic competition called First Lego League (FLL) every year. Like in eco-team, the team works on a project, which they design a robot to accomplish given tasks. At the end of the semester, they join a tournament with their designed robots. Principal Gül mentioned this team several times in her responses and emphasized the success and skills of the school personnel who was leading the team.

For example, since I've been to this school for 6 years, our school's technician has been running the First Lego League (FLL) teams. He is a high school graduate. A very talented man, has very good communication with children. I does not necessarily be a teacher or a deputy principal. I don't have to do it either. (Principal Gül)

Teacher participants Damla and Gizem stated that in their school, FLL team and eco-team were chosen the same topic “water” in some year. FLL team worked on productivity of hydroelectric dam. Even though Damla mentioned that eco-team and FLL team made visits and share knowledge sometimes, Gizem believed that the communication between them was not enough to share a common value on “water” and environment.

4.3.3. Challenges in Eco-School

Participants’ described barriers to sustain an effective eco-school program in various ways. Expressing a problem about the practice, teacher Esra stated that when there were not any recycling bins in school, she had a hard time to provide them. She executed the correspondences with associations related to environmental activism. However, there was not enough attention to this topic that she went from door to

door to get whatever she wanted. Her emphasis was that municipalities should have taken this job seriously. Esra continued on responsibilities of municipalities that after the wastes collected separately considering recycling, it did not sustainable to put all waste in one garbage dumpster. Therefore, **cooperation with higher authorities**, especially municipalities, is what should be done in order to sustain the issue and have real results. The problem Esra saw was that environmental awareness sometimes did not go beyond the school.

Except from our awareness, basic units must be aware of environmental issues in order to solve basic environmental problems. Awareness must be separated more. (Teacher Esra)

When stating the challenges, Eren mentioned the worries on **mobilizing the community**. He stated the lack of involvement of out-of-school components to activities. Touching on the stand of parent, he revealed that parents did not care about environmental activism enough. It seems like they do not think if the schools' vision includes environmental perspective, the school values natural environment or there is wastage of resources in school.

In consistent with his responses to other questions, another barrier Eren suggested was the correlation of eco-school content to curriculum. Esra described the reasons why **curriculum** seemed to be a barrier was when the content of eco-school was apart from ministry of education's curriculum, teachers from other departments might have a problem to coordinate their plans to action plan of eco-school. There happens to be delays, faults or omissions. Even though most of the time teachers carry out their activities collectively, deadlines of performances (written in action plan) pose problems. She exemplified that when working on the theme "water", some teachers chose to carry out the performance on a different time then stated in the action plan. The reason for was the mismatch between standard curriculum and eco-school curriculum. Therefore, there appears problems of eco-coordinator in coordination with different teachers for activities they perform on their.

Kübra clarified some other reasons for problems occurring in **coordination**. She explained that at the beginning of the semester, teachers were excited and enthusiastic about the program like the students in eco-team. As stated in the previous section, eco-coordinators ask for activities from teachers related to their courses, curriculum and work pace. Kübra stated that teachers from other departments did not take serious on this issue sometimes. Therefore, attitude of some teachers appeared to be a barrier. However, she expressed the most important problem about coordination happened because of the workload. The school carries on many other projects, seminars, activities related to other contents too, making teachers very busy. This makes it impossible for eco coordinator to follow, observe, lead or maybe control activities of teachers from other departments sometimes. Also, this limited time could make other teachers prepare last minute works for eco-school. Eco-coordinator teacher explained that this situation made the environmental activism deflected from its real purpose:

It doesn't force me or put me in a bad situation. They (other teachers) send me pictures and reports. I believe that they perform as much as they can. But, passing the awareness and fulfilling children are important. (Teacher Kübra)

There was an emphasis she made on school management here, even though eco-coordinators made a great effort. She stated that there must evaluations and even measurements of the activities in eco-school:

I guess here the administration may also take charge. The reason is that even though there is division of labor and we coordinate the process, sometimes this process should be measures. It should be evaluated which activities are successful and how much. Therefore, we can decide which ones we should continue, and others be removed. We need more feedback. (Teacher Kübra)

Emphasis on **workload** appeared several times as an important challenge to environmental practices in school. Teacher Gizem pointed out that school in many ways was so busy. Students, teachers and any other school components are occupied with daily routines, different social clubs of students, activities and projects. This limited time may keep teachers and students' concentration away from

environmental practices. Limited time was a barrier since it could not be asked everything to do every time from both students and the teachers, as she explained. Limited time was also one of the insufficiencies seen by teacher Damla. She explained that she and her colleagues were chasing for different intellectual topics and activities, which environment and sustainability were two of them. They joined a diversity of seminars and trainings, follow world-wide networks. She referred themselves as teachers who were in ages when did not lose the excitement yet. However, she harped on about “time” and “workload”. She made a point that because of the workload and limited time, it became hard even for them to practice intellectual and innovative methods in school. Although these barriers still concern school management, Damla referred to managerial barriers to eco-school program directly. She mentioned that from time to time there happened ***inconsistency between school management and eco-school***. She defended that school management sometimes demanded different activities from teachers.

The points she made show impact of involvement of teachers into environmental management. However, teacher autonomy seems not satisfactory in terms of application of the program. Teachers’ holistic vision on sustainability issue in school is likely to go unparalleled with administration’s perspective in terms of some topics.

Another reference to inconsistency between school management and eco-school was made by teacher Gizem. Pointing to procedural and sometimes hierarchical difficulties, she mentioned that sometimes planning an environmental activity was becoming hard due to academic program of teachers and students, getting permission from school managers, signing papers etc. This made teachers a little tired that they sometimes thought if it was really worth to do it. She put a sharp emphasis on school management here:

Here comes the school management at this point. In order environmental management to be sustainable, school management should start doing something and say we really want to perform this. (Teacher Gizem)

When some teacher participants refer to duty and responsibilities of school managers in their responses to barriers, it is likely to expect different perspectives to managers' responses to eco-school challenges. Along with her expectancy that environmental activism should be responsibility of Ministry of National Education, principal Gül expressed the first challenge of the program was ***lack of widespread policy***. She defined this deficiency as understanding the notion of sustainability and constructing this notion into a policy. In both terms, there seems to be problems in the system of education.

If there is no government policy about environment and sustainability, it is unlikely that the schools branching from this policy act on these issues properly. (Principal Gül)

Looking from the perspective of needs in hierarchy, she specified the insufficiency about understanding of the concept from the point origin. Principal emphasized several times the importance of participation and support of the government in her responses. Second challenge she pointed out was ***budget***. What she tried to point out was that schools did not allocate enough money on this issue. Rather, they choose spend money on advertising what society tends to care.

If we look at the private schools now, how much do they budget on environment and sustainability? Usually they care about showing off in a short time. They budget on advertising for parents. And parents... Turkish parents do not look for a school which its first vision is environmental sustainability. (Principal Gül)

She explained the reasons why parents are not willing to send their children to schools with an environmental vision. Because of the governmental politics, parents are concentrated to schools with a big focus on academic success. In the following quote she described her reasoning:

Parents see the success is if my child could enter an academically successful high school or well-known universities on top. If people's minds are full of it and it cannot be refilled with importance of success on life or meaningful life, it's because of the country policy on education. Parents say that okay then I would give my child to an academically successful school. Then, private schools turn into a place which only include academic content and testing. (Principal Gül)

This principal participant complained that schools ***fail to internalize the vision on environment***. It is the fact that there is limited number of schools have a vision to claim that they were green or sustainable schools which spent their budget on environment and sustainability. Schools do not have a sharp attitude on practicing environmental activism and indicating that they spend most of the budget on environmental performance. Principal Gül came back to her point on the government policy's deficiencies and stated that mentality which did not care and put environment and sustainability as a starting point for the children and schools, could not care about the future of country at all.

Looking from the practice in school about environmental issues, Principal Feyza indicated that the problem about practicing eco-school was wastage in schools. What is observed in younger generation that they are part of the ***consumption society***. They start to use a new pencil before the old ones get broken. They are not aware of if they lose their personal item and they do not chase for it. She described this as negligence of students for the things around them. Recycling is important but reusing what you have and reducing your waste are also other main bases of savings.

Even if you collect papers in a recycling bin, the fact that this amount of paper usage is already disruption of natural balance. I believe that challenge is inhibiting society's habits on wastage with a movement in schools. (Principal Feyza)

Feyza asserts that schools work on this awareness with students in early ages:

I think schools which give importance to academic success, art or sports more than growing children caring about their own staff and wastage does not contribute to environmental problems. I believe unconscious consumption is a bigger problem than polluting the environment. (Principal Feyza)

Assistant principals' responses had some common points with some teachers. Gülçin stated that internalization of whole school components was very important. It is true that students see teachers and other school components in school. However, she also made a point that the stand of parent and student's out-of-school environment were also significant.

When a child sees an environmentally friendly behavior here, but not in his/her family or other social environment, that unfavorable behavior is becoming acceptable and natural for him/her. A child may think that okay I learned this knowledge, but I don't need it, I will use it when somebody told me to do. Therefore, parents' attitude is very important. (Assistant Principal Gülçin)

Therefore, Gülçin revealed the involvement of out-of-school components is one of the common challenges in eco-school. The involvement of parents seems to be one of the barriers from this point, since most of the participants are not satisfied participation of families into environmental activism. This will be mentioned in detail in the following sections.

Participating the view of teachers, assistant principal Şafak's stated that being a private school, the school schedule is very busy and limited. He explained that since there were many projects in school about environmental concerns, eco-school program was losing its charm. Schools which have few actions on environment and sustainability are likely to internalize and get impressed from the eco-school practice differently. However, this school is already work more on environmental issues, makes it hard for other teachers from other departments to participate.

4.3.4. Motivation for Eco-School

Questions related to motivation are asked in a different manner to teachers and school managers. While teachers described their motivation for involvement in eco-school, school managers discussed the motivational strategies they used for active participation of school components to environmental activities.

Responses revealed that even though some participants were volunteer for the role of "eco-coordinator", some teachers were assigned to this task by school committees. Certainly, being a volunteer requires *intrinsic motivation*. Teacher Damla stated that teachers who seemed more enthusiastic about the content, young and excited were suggested as coordinating role of eco-school. However, she expressed her initial and the most important motivation was performing a collective project with her colleague and students out-of- standard curriculum and lectures. This teacher mentioned she

wanted a space in school where she could act on the project freely. Connecting her response on challenges of eco-school, there was no motivation inside her to practice existing standards of eco-school like preparing eco-school board, getting green flag or filling reports. She put sharp emphasis that if a person wanted to perform an environmental activism, she would have performed it anyway. It does not have to be under any title. Motivation is an inner drive people are dragging which the titles like “eco-coordinator” seem not important.

It does not have to be under title of ‘eco-school’ at all. If you want to do it, you really do it. We did match what we want to do, what we have in our minds and hands with eco-school program. (Teacher Damla)

Being from one of the volunteer teachers, Nergiz mentioned that she was motivated by her love of nature. The hope for educating children on environmental issues in order to conserve nature for future generations was another motivating force stated by her.

Even though Şeniz was suggested to this role, she made an emphasis that this duty depended usually to the **personal interests of teachers**. Speaking about personal interest, Eren responded that since he lived in a village for a very long time, he wanted this role very much. But he added that because of the intensive work in school, sometimes it became hard to perform coordinator role further from a given task.

There is this issue that assignment (of eco-coordinator) happens at the beginning of the teachers’ council. That kind of works should include volunteering. When people are assigned to this title, it does not go further than a job. It is more beneficial to give the title to people saying than s/he could perform this job because s/he is into nature. I wanted to support eco-school and became eco-coordinator. Somebody whose nature was village and values mother earth like me would want this title of course. That’s why I am here as eco-coordinator. (Teacher Eren)

Another reasoning of participants for suggesting teachers to the role of eco-coordinator is based on their **field of teaching**. As mentioned above, science teachers come to the front when it comes to environmental issues. Kübra stated that she was

not a volunteer specifically. Main reason why she is an eco-coordinator was because she is a science teacher, she explains. The previous works and trainings of science teachers about environmental education as much as the fact that their department is related to the topic are important determinant for the role.

Gizem emphasized that she did not choose to be a coordinator. What she stated is that after being assigned, she made research and liked the program very much. Here, she detailed her initial interest in environmental activities was because she thought there was a need for this act in school. She highlighted first motivation was the need of environmental activism.

When the role was given to me, I made research with the students. I just loved this role. Because there was a need. There was a need for all these actions. The biggest motivating factor for me was need. Ans I believed in that (importance of environmental problems). (Teacher Gizem)

In their responses to the question if it was used any motivational strategy in order to increase eco-school and other environmental activities in school, school managers **defined different methods** they used to make school components to involve or take an action.

Principal Feyza described the main motivation strategy they used for students was need-based. Need-based motivation theories explain that humans' desire to achieve a goal is because they want to satisfy their needs. Feyza asserted that every behavior, invention or technological entrepreneurship was based on human need. In school, it is encouraged students' connection to the environment and humans need on natural environment. This principal explained that this motivation strategy was supported in lectures or projects.

Most of the discourses we made on environmental protection in class, on hallways, projects come up with a need motivation. When we run across to a behavior against environmental values or try to gain environmentally responsible behavior, the beginning of the act is need on natural conversation. We want to clarify children's' minds that you would damage the process of fulfilling your needs, if you give harm to nature. (Principal Feyza)

Feyza's point matches with the personal motivation of teacher Gizem. However, it is seen that no other participant mentioned need-based motivational method. Still, the reason of it is likely to be not to ask to teacher participants about general motivational strategy to encourage students directly.

Social reward is another motivational method, stated by principal Gül and assistant principal Gülçin. Motivation creates belongings, as Gül mentioned in her response. Honoring eco-team, making eco-team's name on important meetings in school, showing real esteem on their effort are really touching on motivation. Projects and campaigns eco-school sustain is always introduced to the school and if possible, to out-of-school.

Gülçin asserted that eco-team was socially rewarded both in verbal and written ways. Verbal appreciation happens in daily life activities in school. Written appreciation is something unique to this school, as she and other participants asserted. Four participants mentioned that school was publishing certificates for the students who perform remarkable effort on environmental activities. Based on observations of teachers and managers, students are rewarded with this certificate. Gül explained how this certification program worked in this quote:

We have certification system on middle-school level. We call it as "commendation system". We do have an academic success certificate for the students who are doing well on their tests. However, we also have certificates for students who make personal development on their academic performance and present model behaviors out-of-academic life in school. What's important here is we also have "eco-school certificate" for students perform on environmental issues. Here, the message is that: 'Yes, you can have a certificate if you are successful on your tests. However, your environmentally friendly behavior or environmental activism is important too.'. We try to observe behaviors of students in order to present them "eco-school certificate". Most of the eco-team members is already owned the certificate. (Principal Gül)

Choosing moral rewarding to material rewards dignifies the value of the context as Şafak stated. Since environmental consciousness is a fragile value, it is important to present spiritual prize to students who take responsibility for this work and model behavior for others.

4.4. Leadership and Eco-School

This study was built around the purpose of revealing the nature and role of leadership in eco-school programs. It is apparent that leadership of school principals has direct or indirect role on environmental performance in school. In addition, principals shape the environment in school how leadership is distributed, which the research investigates in terms for eco-school program (Harris, 2012). Therefore, understanding the leadership styles of the principals is vital. Participants stated different leadership styles which principals exhibited under different situations in school.

4.4.1. Manifestation of Leadership Styles

As principal, Gül described her leadership style as democratic and participative. She highlighted the importance of taking everyone's, especially teachers' opinions and explained that when they did not participate in decision-making, there happened problems in work process because they did not fully adopt the vision. Gül went even further asserting that if it was possible, she would have made teachers decide on every process in school.

Education is something like that. In education, most of the work cannot be made alone. Without teachers, for example? I cannot even imagine. You cannot perform many important tasks even without school personnel. And in order they to embrace, they should decide. So, I want them to decide what and how things should be even rather than being democratic. I'd like to in the role of supportive or guide. (Principal Gül)

The principal signified the role of participative decision-making and stated several times that it was always thought in the school operations that if any circumstance made teacher tired or reduce his/her motivation.

However, she stated that instant situations in school pushed her to decide on some issues by only herself. She explained some of the decisions depended only on the principal due to policy of ministry. For instance, making a school break (if there is something serious going on in school) is the decision of principal. Gül asserted some

other situations in school required taking great and risky responsibility, where she must come to the forefront. She emphasized her point in the quote above:

...But there are some issues in school you must decide on your own. In fact, sometimes you must decide despite many things. You need to say ‘Yes, I made a chose and I am on it.’. When it comes to the education and child, making a decision is very fragile. In those times, I decide on my own. I have the responsibility because I have to. (Principal Gül)

Assistant principal Gülçin mentioned that Gül’s leadership style was relationship oriented. She listened to every voice in school and communicated effectively in order to make participative decision-making on common practice in school. What she added to leadership style of principal was being visionary and guide.

Gizem and Damla agreed with the view of assistant principal that the principal was a relationship-oriented leader. In addition, all teacher participants attended that principal Gül acted participative in making decisions. Şeniz described the principal as a person who was democratic and open to new ideas. She also made reference that her opinion was valid for not only principal but also people in charge of school administration and management. Managers and education coordinator payed attention to opinions of teachers and did their best to fulfill teachers’ needs towards educational concerns.

It is valid for all of them (managers). Educational coordinator and managers included. They all listen. Yes, if there is a problem here, they try to fix it doing all their best. And I did not see anything obligations like ‘we must do it.’ until now. (Teacher Şeniz)

Nergiz and Gizem agreed that school principal listened to teachers’ opinions and demands. Damla also added that principal was innovative. What seems to be negative in here is that because of the workload, sometimes Gül could not catch up on every act in school. Damla asserted that this is because the school is so busy with the projects and other activities that there was limited time even for a principal.

Similar to Gül, principal Feyza described her leadership as being participative. She explained that participation of teachers and other components into different decisions increased their commitment and made them trust to principal more. The responses of

teacher Kübra is likely to prove principals' view. Kübra stated she found principal's personality trustable. This teacher also explained a characteristic of the principal as having impressive communication skills. She added that principal gave remarkable importance to social interactions in school between all school components. Transferring from being a teacher to position of principal, Feyza stated that the role of teachers was very important for her. Agreeing her view, teacher Esra stated that different visions of teachers were important for the principal.

Of course, coordinating a program requires leadership and our school principal has it. But her approach is democratic when it comes to division of labor. Our opinions are very important because the ones who spend the most of the time with students are us. We live in more natural environment with the kids. She (principal) makes clear decisions in the direction of the information from us. (Teacher Esra)

Overall, participants put much emphasis on describing leadership styles of principals as participative. Being relationship-oriented and having effective communication skills is another common point they asserted for the leaders. These two characteristics reflect on a sharing environment in the school.

4.4.2. Leadership Distribution in the Eco-School Practice

The statement of the both principal and teachers clearly suggest formal and informal leadership distribution for realizing eco-school practice. It is important to note that leadership distribution reflect the general climate of the school rather than being specific to eco-school practice. The statements of the both principals and teachers as well the documents collected from different sites of the school suggest several themes justifying leadership distribution around the eco-school practice.

First of all, the participants suggested that there is **a collective culture** at the school, which forms the base of leadership distribution at the school. It can be claimed that eco-school practice requires certain atmosphere in which leadership is distributed across different constituencies. Feyza attached great importance to shared leadership. She stated that in order to have a collective organizational culture which was separated to every piece of school, sharing duties and responsibilities were

significant. Spreading leadership to people who have an impact on certain groups is necessary:

For me, shared leadership is so important. You cannot work enough on what you want to achieve alone and things do not be permanent turning to a common culture. In order some matters to become a culture and penetrate to every space in school, there needs to be people who believe in that. And also, there needs to be people who have an impact on certain kind of groups executing some processes. That's why I choose to shared leadership style. We can call my style as effective guiding, not managing. (Principal Feyza)

Her statement explaining her administration as actually **effective guiding** was stated several times. She stated that she cared about inclusion and sharing her experience on the activities teachers performed. Referring several times to advising to teachers for their efficient practice and improvement on teaching and organizational skills, the principal put high expectations for the teachers.

For me, effective leadership is effective guiding. (Principal Feyza)

It can be claimed that the distributed leadership culture at the school created consciousness for leadership distribution on the part of position leaders. Gül, one of the principals, stated the importance of sharing responsibilities. She explained that there were a plenty of work in school as projects and processes. If principal gives her duty or responsibility to a school component which she believed in, this participative method is likely to create motivation in people and increase success.

Both principals have an expertise on their field of teaching. They mentioned in her responses that they reflected their instructional perspective to policy of instruction. Gül stated that as being an English teacher before and worked as an innovative educator, she developed academic language policies in school from the moment she started in school as a principal.

Feyza emphasized that school components' **belief in principals' expertise on instructional methods** was vital. This was a way that teachers could consult to principals about their instructional practice and contents and felt themselves relieved, as she stated clearly in her quote:

Their (teachers') belief in the amount of knowledge and skills we have on our field of education is very very important. It is as important as trust and belongingness. 'I can handle my problem if I talk to principal. She can show me impressive ways'. Making teachers believe in this idea is significant. (Teacher Feyza)

Therefore, principals are not only having comprehensive knowledge of their field, but also almost all field of study's content. Feyza stated that as a principal she knew all objectives and practices of all fields. This requires continuous learning of leaders in school.

That's why I know every works of my teachers if they have my field of course or not. I know all the objectives of every department. Seriously, I'm always in the mood of learning. (Teacher Feyza)

The responses of the participants, particularly principals and vice-principals, clearly suggest that the ***nature of school management lend itself to leadership distribution***. All participants agreed that there was excessive amount of work in school including daily activities, instructional processes, projects and activities, it is almost impossible that one-person coordinate, manage, plan and lead everything. The researcher's observations on daily routines, instructional applications and other extra-curricular works of the school also supported considerable workload on teachers and administrators. One of the principals made a reference that if a manager adopted all processes by herself to show off her/his power, school would eventually collapse around his/her head. Distributing the power returned back as success to school administration as she stated:

There are many processes, works, projects, fields in school. If you (principal) assign a process to a teacher who you think can work effectively on, with a democratic participation and encouragement, the success will turn back to you, to school anyway. This way, the cycle of achievement will be completed. Therefore, we need to share power. (Principal Gül)

Referring to trait theories in leadership, Gül stated that there could not be a heroic person in any organizations fully perfect who knew everything and acted on every situation. There is no way that all skills are gathered in anyone. Because there is a skill lying behind every person, it is important to distribute these skills around the organization.

And I do care. I do believe that management of skill is something important. It is an act that every leader should perform. There is a unique skill lying under each person. You cannot gather all the skills as one person. The total amount of skills should be distributed. So, distributed leadership is actually a model that can make an organization to the top. (Principal Gül)

It can be inferred from the results of principal Gül that distributing the responsibility of different school components in terms of their skills is likely to happen in school operation, which will be presented in detail later.

Principal Feyza's definition of distributed leadership concentrated on ***autonomy of different units*** like departments and project teams. She stated that she performed in a manner of that way. It is important to give autonomy to school units and control that autonomy. Sharing leadership practices was another point she made when describing distributing leadership.

What I understand from distributed leadership is people's autonomy on some certain spaces. In a manner, they embrace the work they do. For instance, I can easily be a head of ceremony committee in school and organize the all kinds of ceremony with this committee. But, if I delegate another person for leading the committee, I am trying to raise leader teachers for future. They are becoming responsible of the process and improve their skills. My other reason for doing that is I want to increase the embracement of the task and belongingness of the people. This way, following the process would be healthier and it would be raised new leaders who execute this responsibility more effectively. (Principal Feyza)

She mentioned several times that distributed leadership provided commitment of teachers and other school components. In the quote above, Feyza made a significant inference that distributing leadership roles resulted in growing future leaders.

The readiness of formal leaders to distribute leadership practice is another factor facilitation leadership distribution in eco-school practice. It could be inferred from the data under the results of principal leadership that principals were willing to give opportunities to others in leading roles. This is likely to create sharing atmosphere in school. It was defined by several participants as this perspective was observed in school as sharing leadership roles.

Pattern of Distribution. From the observations made at the beginning to the ones at the end, it could be said that the eco-school presented diversified leaders. Participants also revealed in their responses that there has been more than one person responsible in different leading roles. These leadership roles were defined as both **formal and informal leaders**.

Assistant principal Gülçin mentioned involving of several leaders in formal roles with the following quote clearly:

It (leadership) is distributed in different components. Yes, we do progress on institutionally. However, we have general management, principal, educational coordinator, guidance and counseling coordinator, under them assistant principals and under them head of the departments. But actually, every space in school has a quality of leadership. (Assistant Principal Gülçin)

She made references to formal roles that school administration and departments perform. While managers are responsible for determining vision and mission of the school, principal and other managers are in charge of contributing this vision with a variety of applications. Teachers, on the other way, are the leaders of their own classrooms. She pointed out that there was no one person on the top of the hierarchy in school deciding everything.

Teacher participants described having more than one leader in school in their responses several times. Şeniz and Damla mentioned that they did not observe one leader who decided on every process in school. Concentrating on formal leadership roles, different formal leaders except from principals and assistant principals were defined by Şeniz as coordinators like psychological counseling or education and head of the departments. She made a point that although there were these titles, members under the units worked in a way that supporting each other. Here, her point was that the administration was constructed hierarchically, but in a way that democratically managed.

Teacher Damla agreed with the participants on the fact that being more than one formal leaders in school in the following quote.

I think our school has a little exceptional situation. In school, when there are educational coordinator, founder, founder representative, assistant principal, I do realize that we don't ask a lot to the principal. I do not see that there is one person in school who decides on everything. (Teacher Damla)

Damla classified leaders in school in terms of different tasks. She differentiated responsibilities of people in managerial and instructive tasks depending on their title in school. Teacher specifically stated that **innovative approach to curriculum conduct** was provided by the teachers. Teachers are in charge of creative in-class and out-of-class instructional methods and pedagogical applications. It was observed several innovative projects, seminars and other activities led only by the teachers.

It's like there is one person who knows much on financial situations, one person who have full knowledge of managing parents. For instance, my opinion is our principal is the person controlling parental stuff. Financial issues are likely to be in the responsibility of founder representative. The person who decides on whether the new actions in school fit in vision or not is founder. Educational coordinator is in charge of content management and classroom management. Creativity and development of content are managed by teachers entirely. (Teacher Damla)

What this teacher pointed out about the fact that creativity and developing learning environments were completely the role of teachers was a significant emphasis for the present research. For a recently introduced and expertise-required content like sustainability, it becomes vital to give stage to teachers' creativity and knowledge in the eco-school. In a way, leadership of teachers emerges since they practice on a particular issue for the improvement of school (Harris, 2008). This quotation of teacher also made reference to informal teacher leaders in school, which were stated by participants in several times. It seems like the need for creativity and improvement opened spaces for new informal leading roles.

Principal Gül specified that informal roles of people were actually stronger than formal ones in their school. She explained her view that even though head of the departments sustained formal processes, there were such people under the head of the

departments that have more impacts. Agreeing this point of Gül, assistant principal Gülçin stated the plenty of informal leaders out of managerial staff and head of the departments.

Principal Feyza gave value to informal leaders since it usually rose from volunteer activism.

For instance, there appear informal leaders coming out of volunteering. I believe it's very valuable to contribute to something willingly and heartedly. There is this belief in volunteering that the person knows s/he can contribute to the task. Of course, there are some names in people's mind that you believe could be a leader and there are people who are performing leadership tasks. But, at this point, what's important for us not to having one person but more than one person acting on different tasks. This is way too healthy. Volunteering is the most important thing. (Principal Feyza)

However, teacher Kübra looks from different perspective to multiple leaders in school. Even though she agreed that there were more than one people in formal and informal leading roles, it was impossible that any school component performed an application without the permission of school principal. Kübra added that teachers still had a right to take initiatives which created a free school environment.

There is not an approach like 'you can't do anything without asking administration'. However, there are already rules that every act in school needs to be settled. If there is a teacher finds necessary to going out of these rules, being head of a project or another performance or opening a new student club, school environment is open to them. There is a free space. (Teacher Kübra)

In general, results revealed leadership practice occur in informal positions in the school as well as formal ones. It can be inferred that informal teacher leaders emerge from the needs for school improvement. These informal leaders are appreciated and found more valuable since they fill the required spaces of leadership for innovation.

Delegation of Tasks. How and under what conditions the involvement of other school components actualize in leadership practice were explained by participants. Principal Gül stated that she distributed her power to autonomous units by delegating other school units purposefully. An example to the area she delegates

people is follow and improve vocational development of teachers. Development of teachers was one of the vital entities of school which permanently acted on innovative and creative practices, as Gül mentioned in her response. She explained that sometimes teachers felt under pressure when strict managers observed and reported their developmental process on their field. Evaluating the involvement of teacher in school and delegating assistant principals, head of departments or the teacher's colleagues to follow this teacher's development process is one of the examples of her delegating her duties. Students' development processes also under the control of delegated several teachers. Another example Gül gave to delegating her duties was about distributing innovative acts. There are plenty of activities and projects sustaining in school along with the natural processes about instruction and daily activities. Pioneer acts like organizing traditional days and ceremonies in school, constructing the vision and activities in school clubs, enriching thematic learning are in charge of different school units, especially teachers. Principal made a reference in order to highlight her point:

There are situations which I do not interfere and empower others. For instance, there is math's league. I never interfere. Head of the math department and assistant principal are in charge, even though we do the admission and perceive permissions. My name is on the signature. But I'm not involved. I just sit and applaud, take to the stage for giving a reward. There are hundreds of these examples. In eco-school, I do not interfere. If they need support, I support. But, the content and evaluation belong to team. (Principal Gül)

Her point on eco-school as an example of distributing power is the main focus of the presented study. It can be inferred nature of school climate has a potential to give eco-school activities leading by teachers prominence as well as plenty of other actions.

Along with her examples, Gül explained the reasons for an environment to occur distributing roles. She stated it's because there was a settled school culture which people got used to idea that there was no need to be a head of the department or assistant principal to act on decisions in school. She highlighted that the role of school administration was important to separate the idea which **everybody could**

perform anything fitting her/his ambition and skills. Emphasizing that school ceremonies are under the control of ceremony committee, which there is not even assistant principal on the top of control:

The culture is settled. People got used to the idea that there is not necessarily need to do assistant principal or head of the department. This year, we didn't even tie the assistant principal to the ceremony committee, although ceremonies are very significant events in school. They are the showcases of school on the stage. (Principal Gül)

Organizing ceremonies is also the reference of principal Feyza as an example of distributing leading roles.

Ceremony committee could be an example as a leading team. (Principal Feyza)

Agreeing that such examples like ceremony committee was a form of delegation, teacher Damla also made another point of view into this reality. However, she stated that there was not exhibited leadership practice as it is expected in organizing ceremonies. She explained that there was division of labor and jobs, but not new vision or brainstorming in ceremonies. Rather, she highlighted leadership practices as **intellectual new events in school** like Math's League, robotic practices, science fair, eco-school or organizing seminars on verified topics.

As stated above, teacher Damla classified delegation of power based on her observations in school.

Teacher Damla referred to task delegation that most of the administrative formal process teachers dealing like getting permission, dealing with financial issues and others were solved by assistant principals. She stated that teachers meet or inform school principal when there was an activity that compromising whole school.

Participants explained autonomous processes of tasks in school. However, they also mentioned some conditions in order distribution of tasks to happen. Damla stated that school principal set teachers free on tasks which she reflected that this was a

remarkable experience for teachers. What she made a point here was that principal decided on the **boundaries of the task** teachers performed. Then, teachers decided the content and process of the task between these pieces principal constructed.

First of all, there is nothing like a dictatorial approach. There is setting boundaries. School administration, specifically principal, determines the limit of things you can and cannot do. At some point, you feel the manager's experience in terms of financial situations, the image of school or security. You feel that she (principal) is in control of the boundaries of the school. But in that sense, I guess it didn't create any obstacles for me. She set you free, set your limits and you decide what to do inside. (Teacher Damla)

She gave a credit to that this setting boundaries, in a way, created trust to principal. This control of autonomy is likely to have a positive impact because principal has already an experience on different practices happened in school.

Damla stated that principal observed the relationships and interactions of people if these tasks were performed in a proper manner. Even though she mentioned principal is relationship-oriented and cares of interactions among school components, Damla described a problem about appreciation of work she performed. Being one of teachers coming to forefront with creative activities like environmental projects, she emphasized her need on more motivation by the school administration.

I think we're having a problem in a way. In the end, we also need an appreciation on our performance. Okay, we've got an amount of boundaries. Okay, we've done a good job. But, for instance we can show ourselves to principal when we act a certain big job. (Teacher Damla)

Therefore, even it is used social rewards for environmental performance of school participants; it is likely that motivation of teachers is not impacted in an expected way. It may be the case that leaving some environmental activities completely to people in charge of eco-school program results in less attention of school administration. Eco-school program has a potential to create an environment where school principals set little boundaries, but given the authority to the teachers and students.

Teacher Şeniz asserted that setting boundaries is not an option but a necessity. In school, if a teacher presented a school-wide or even a small project, it should be structured properly. She emphasized there was no way of exhibiting activities without the support to determine to whom this activity was formed and why it was needed.

Similar to the responses of teachers, principal Feyza referred to the standards of the school for the activities. She asserted that teachers and students knew the criterions of school before suggesting new projects and other acts.

Because they (people in leadership roles) have already known the criteria that will not harm students or teachers or school practices. They can also make changes to this extent. (Principal Feyza)

Therefore, participants' common argue was that the school culture was settled on a participative environment where people took action according to their skills and purpose. Task delegation could happen by administration's assignment on roles. However, different tasks are performed by different individuals as long as activities fit the boundaries settled by administration.

Teacher Leadership. Several studies suggest relationship between distributed leadership and teacher leadership. It is expected to look for evidence of teacher leadership in the research investigating distributed leadership. In this study, participants presented a variety of teacher leadership practices, some of them expressed in their responses stated above so far.

Principal Gül defined expectations of her from teachers as taking a stand forward and offering new ideas on curriculum, projects or the processes. She is not in favor of presenting teachers prepared projects; rather she waits for opinions arising from teachers. Gül was satisfied with her expectations that in their school teachers launched diversified activities.

They (teachers) do start. I'm so lucky in that school. It's coming on me from them. I'm just waiting the projects to come. (Principal Gül)

Her view correlated with the point of teacher Damla. They both emphasized the innovation and creativity in school were in the domain of teachers.

Principal Feyza stated that teachers took initiative in school to start new activities or change the existing activity as occasion requires. She added she supported their ideas:

They apply to me with new acts and project proposals frequently and shape them (new acts) together.(Principal Feyza)

Assistant principal Gülçin agreed that there were teachers in school who came up with new ideas, projects and structured opinion on management. She explained that teachers did not have to perform in the level of project management in every case. They even contributed to development of existing projects or practices of school remarkably.

Teacher participants described the teacher leadership practice in their responses **either in scope of teachers or departments**. Teacher Esra emphasized that it was obvious in their school that leader of classroom was teacher. Teachers have a great autonomy. Structure of education system was based on teachers' opinions, as she added. Three other participants specify the teacher leadership practice out-of-classroom.

As stated above under the last title, Damla stated that teachers are in charge of **production of fully new application and creativity** in school. She gave credits to departments as a whole as well as teachers.

I think teachers or departments have all the responsibility and authority in producing something completely new or creative in our school. Departments can be thought as united teacher teams. Sometimes teachers create things individually. If they do not agree with the department, they do not do it together, but the individuals come out. (Teacher Damla)

As stated above, Damla mentioned that school administration sets standards whereas teachers and departments act on visionary practices. She emphasized that she could not see innovation coming top down from managers.

Our department (science department) usually works collectively. But, really, we (teachers) do trail the school. I don't see much about creativity and innovation from the top (administration). (Teacher Damla)

Gizem specified that science and Turkish departments were the prominent examples to leadership responsible. While science department leads reformist projects collectively as a team, Turkish department reveals more individual teacher leaders.

Teachers made changes in decisions about processes and instructional methods as teacher Şeniz stated. She explained that educational coordinator, guidance counselors, assistant principals and principal were very sensitive to opinions of teachers.

Looking from the perspective from the daily processes in school, Kübra expressed that she took initiatives when there were deficiencies in school. These problems include both insufficiencies in materials and operational faults. She stated that when she solved a problem or offered a solution to the upper unites in school, she felt like practicing leadership. She explained it was supposed to be in this manner since she was head of the department. However, actions like coordinating eco-school and other environmental acts and organizing science fairs were also described as leadership roles by her.

I think I practice leadership sometimes. Since I'm already the head of the department, I need to be a leader and take over issues. This is my formal title. But I think I'm carrying this out of formality. I played the role as a pioneer in the process of STEM activities I carry out with some students. Sometimes you are volunteering and trying to run the processes. Apart from that, of course there is eco-school, I have a leadership role as a coordinator. (Teacher Kübra)

Putting much emphasis on curricular work on his responses before, Eren stated that teachers were likely to have a power to make changes in the curriculum. However,

the level of this decision making did not satisfy him. He demanded more autonomy for teachers. Eren explained that it was not enough to give responsibility or formal roles, but what was necessary is to give more rights to delegate:

Yes, there is a system as head of departments. There is no point in giving responsibility if you don't authorize people. Delegation is distributed to whole school in departments or individuals, but there is not much opportunity to make changes. At least It is like that in my areas. (Teacher Eren)

Here, it is appeared that Eren is not satisfied with his autonomy. He does not think teachers' performance result in leadership.

It can be concluded that teacher leadership show itself in the form of reformist acts on instruction and pedagogy in the school. Except from one teacher participants, all teachers define their involvement in school processes. Participants pointed out that their eco-coordinator role in eco-school enabled them to practice leadership in that content.

Expertise. Observations in the school revealed expertise of different units created diversified innovative approach and applications. Actually, four of the participants expressed in a way that distribution of leading roles to different tasks happened since there was expertise of people in different contents. Principal Gül stated that if you were not master of a subject enough than the other person, then the responsibility should be distributed. This is inevitable in a school which is a learning organization.

Three other teacher participants defined leadership in school was more related to expertise. Describing leadership as **unites of expertise**, Esra stated that in a school there are diversified unites of expertise.

When we say leadership, we need to have a specialization. There is no such thing as a single leader who is expert in everything. I think that each person is good at some content and each subject is specialized with unites. I am one step ahead of science or nature, for example. Other groups may show leadership characteristics on social projects or mathematics. (Teacher Esra)

Her point was validated with science teachers' involvement in leading eco-school program.

Damla and Gizem set standards for leadership of other people in school happen. Gizem expressed that the decisions about their field of education were held to related units. Besides, Damla associated leadership to expertise. However, she asserted that school administration distributed the responsibility when a person was proved her/his expertise. Damla gave an example to this situation as the subject of environment and sustainability, which will be covered in the following title.

I think our school is one of the best I've ever seen. Expertise is also important here. You can't trust someone in everything at school. If our school trusts your expertise, it can give you responsibility. So, it doesn't do it to everybody. For example, I think that the environment and sustainability are all left to the teacher. They (managers) know they're not an expert on that subject. (Teacher Damla)

Her point on environment and sustainability is significant for the research. Damla's responses revealed that **trust** was also related to how leading roles was distributed. She asserted that expertise and trust are associated since a leader should trust expertise and process that a person can handle.

This may be applied to each subject. if there is a trust relationship between a person who gives the task and a person is taken the task, then the process proceeds healthy. So if you're (as a new leader) sure you're what going to do, if the other person is sure about you and if you know the limits... I guess, for this, people need to work together for a while until they know each other. (Teacher Damla)

Damla emphasized the importance of trust in her following quote. Even though she repeated on trust issue, she also pointed out that trust resulted in not to having feedback on the task. That means a new person is responsible of evaluation of the task as well as its management.

People need to get used to each other, to know what a person can perform or . Then, they should give (authority). What I find new here is to give the authority actually. People do something by being assigned, but then no feedback is received. That gives this message 'You can handle it. I trust you. Somehow you're doing the best.'. For this to happen, it is necessary to work very harmoniously. (Teacher Damla)

In general, expertise of different individuals into different topics has a potential to create an atmosphere of distributed leadership. In this manner, the school culture presents an environment for these empty leadership spaces to fulfill. Formal leaders' trust on the expertise and skills of newly developed leader appears as a condition to serve these leadership spaces.

4.5. The role of Distributed Leadership in Eco-school Practice

The relationship between eco-school and distributed leadership is the main point of this research. Because it is likely that participants do not have a clear understanding in their mind of "distributed leadership", the results are constructed from the inferences of responses regarding eco-school practice and distributed leadership. How the leadership practices distributed in the context of eco-school was explored according to responses of the participants.

One of the participants attributed a clear description to the involvement of distributed leadership in eco-school practice:

I think eco-school is a reason for distributed leadership. (Teacher Nergiz)

Teacher explained that the nature of eco-school program produced an **emergent situation for distributed leadership**. She stated that all steps of the program including evaluation part were orchestrated by her.

For example, I was on my own and I would do all the things to do, there was no one to control me. I did the co-ordination of the action plan and people (teachers and students) completely. Nobody questioned me. (Teacher Nergiz)

Based on findings gathered by observations and interviews, it could be inferred that roles and responsibilities of eco-coordinator presented **leadership distribution to teachers**. What Nergiz pointed out above was a direct relationship of eco-school with distributed leadership because of the teacher leadership. She asserted that performance of eco-school like coordination of work and people, encouragement of people, management of activities was depended on her. She added that there was no supervision on what she was doing. This autonomy of teachers in terms of

environmental management of school has a potential to originate teacher leaders. Results showed teacher leadership was observed in eco-schools as a form of distribution of leadership.

Other teacher participants stated leadership practice of specifically eco-coordinator teachers. While all participants mentioned the role of coordination of eco-coordinator, Şeniz, Gizem, Esra and Eren expressed in their responses that eco-coordinator has a responsibility to involve students and other teachers into environmental performance. Principal Feyza stated that teacher Kübra, as an eco-coordinator, presented motivating activities to other teachers which they could perform with children. Eco-coordinators in leadership role are likely to bring change in school with their practice. Saving practices and recycling campaigns are examples of these applications. On the other hand, being members of the people in environmental management in school, students may also have impacts in these applications, which will be discussed later.

At this point about teacher leadership, Kübra stated that this leading role was mostly given to science teachers because of the content.

In fact, not only science teachers, but all the departments have to act on this (ecological act). But, perhaps because we have the environmental topics in our curriculum more than other courses, we could lead. Therefore, we performed it. (Teacher Kübra)

What she claimed in her response as the opinion that all different departments should have an experience in this role was also stated by two other science teacher participants. In the following quote, Esra expressed her opinion:

Actually, it is thought of as like science teachers or ecology teachers take the eco-school. Most people do not want to take the responsibility. I don't think so. There are many qualified teachers. There is no rule to make it this way. (Teacher Esra)

Here, it can be inferred that even though science teachers are seemed to assigned to the role of eco-coordinator due to their expertise, some other reason of this assignment is because other departments' lack of enthusiasm for the role. Esra explained why she thought different courses' involvement and leading is also significant:

I think different branches bring different perspectives to environmental activism. Which I think the title of eco-coordinator should be even more distributed in the following years. For example, the physical education department has something to say about health. Of course, there is a lot of contributions of them now. But it's something different to coordinate and they can get it too. (Teacher Esra)

In that sense, the procedure of eco-school program drags other course teachers into environmental activism even though they do not take the leading role most of the time.

The point of her on collaboration of different departments will be explained later as being one of the key issues how the leadership distributed in eco-schools.

Participants were divided into two opinions about what would happen if there was a top-down process in the management of eco-school and other environmental acts, from school administration to teachers and students. Two teacher participants stated that eco-school and other environmental practices would be taken more seriously if school administration executed the process. Kübra repeated in her response that environmental activities were thought as the responsibility of science department. She explained that if the principal was in charge, it might be thought as **property of whole school**, as it should be. The reason behind this was because administration position would create more serious atmosphere for their demands. However, principal was so limited time to track on environmental performance, as she stated in the following quote.

If the school administration continued this, the eco-school could only be taken a little more seriously. Because as I said, it is seen as belonging to the science department. If school administration was led, the principal would have given the directions. Now, when I say to her (principal) 'I am the eco-coordinator, this is our plan, these are our', she cannot follow with an apparent checklist for the evaluation of teachers because there is not enough time. Of course, she has a positive attitude on our activities, and she may be following without noticing us. (Teacher Kübra)

Kübra also added the advantages of the fact that program was led by the teachers. She mentioned how much she got inspired and learned from the out-of-school meetings of eco-school program and pass this body of knowledge to different individuals in the school.

The advantage of this work is, yes I have learned many things for myself, I am learning s from seminars, I get an influence from the platforms I visit and share my inspiration with the other departments. I'm distributing things I've learned. To be able to transfer information, to be able to lead, to get ideas about many courses are very important. (Teacher Kübra)

Her expertise has been enlarged as well as her environmental perspective got more qualified with involvement in leading role of eco-school. Also, what's last but not least teacher added that her daily life practices changed in a more environmentally-friendly way.

You got a database. You've been developed yourself on that field. Because we learn many things in business life except what we have learned in undergraduate education. You have the chance to transfer it to different groups. Your point of view is changing. You think you can change things in your own life. (Teacher Kübra)

It seems from the responses of teacher that coordination of activities and people were difficult, especially for the busy schools with various activities and projects. Therefore, they might have chosen that administration taking the control of environmental practices.

Teacher Gizem pointed out the same point and emphasized that there would be more people involved in ecological acts if the principal was in the leading role in that practice. The reason for that is because of the requests would come up from someone more powerful and there might be a compulsory situation. This was likely to result in more students involved since more teachers were involved. However, she added that it should have not been like this. Environmental practice is something coming out from peoples' real life. There should not be forcing teachers from the top in order to participate in environmental acts. In the following quote, she explained more about her reasoning.

Teachers spend more time with students and communicate with them. Managers do not communicate with students but with teachers. And this is a job that should proceed with students. We want to raise students' awareness. So, it's more accurate to have teachers' involvement. (Teacher Gizem)

All other teacher participants stated the advantages of teachers in leading role in management of environmental performance of school with their own reasoning. Two of them explained their reasoning as the fact that teachers were the ones who are closest to the students; they observed the behaviors more closely and are a role-model for them. Teacher Damla made a reference that school managers would have performed this job for advertising more. She claimed that since school administration was seeking the ways to impress parents, the main aim of eco-school as raising environmental awareness of students would have not be out of its alignment. It is not likely that people who do not direct contact with the kids to put kids' learning to the forefront. School administration would have found too risky to make children involve in outdoor environmental activities like trekking and field trips. Teachers have more courageous than school managers about taking responsibility of different activities. Another point is formal leaders' manipulation of valuable concepts in terms of holding power. One of the teachers stated that in eco-school principals could have use this power in the form of changing existing structure.

The eco-school has an interdisciplinary shared system. Let's just say it's distributed to the departments as in now. But, it would be all in control of principal. Then, the principal could have redistributed the activities or changed the scale of the performance. However, if you work with the qualified and successful people together, the impact area can spread all over. (Teacher Damla)

What teacher Damla emphasized is that existence of environmental sustainability continue with every course and every situation in school.

This is not just an activity in science lesson. Environment and sustainability are such a subject that it enters into Turkish, social sciences, mathematics, everywhere. (Teacher Damla)

The point of Damla highlighted the importance of collaboration. Having multidisciplinary structure, expecting and encouraging engagement of different courses present **collaborative environment** in eco-school, as one of the cores of distributed leadership. Responses indicated plenty of data on collaboration and collegiality in eco-school.

I think it's very valuable for every teacher to put all of her/his efforts in a job. Turkish teacher can make a writing activity on that subject, and the social studies teacher can make maps. (Teacher Esra)

In eco-school, there are me and different primary school teachers. Other teachers already have different tasks. For example, our topic was waste. Each department have indicated in the action plan what needs to be done about waste. Each course has done what they should to do with their own way in their own month. Apart from this, we have shared what different groups performed with the rest of the school. (Teacher Şeniz)

We worked at our school for recycling and water. Everyone worked. The student also worked, the teacher worked, the manager worked as well. Then they care. And everyone comes to see what have been done, parents come to see. Then the school is being more effective. (Teacher Gizem)

There is more than one teacher who does work on environmental topics. They should at least refer to each other on the same contents. This must be a completely interdisciplinary component. (Teacher Damla)

Participants' common argument made an inference to whole-school approach in education, which is holistic perspective to ESD including all components of school. Principal Feyza explained that they believed in common language in environmental topics which provided involvement of teacher to principal, cafeteria to secretariat, janitor to pool attendant. She claimed the reason for that is to be a model for children. When a teacher sees garbage on the hallway, s/he does not tell a student to put that in a bin. But, rather she performs this activity by herself in order to be a role model. Gizem explained that this application made students normalize the issue and concentrate on their behavior.

I think there are things that need to be done together. Students, teachers, administrators, stakeholders and even countries... For example, robotic workshop is working on environment (the theme of 'water') right now. In fact, many things are being performed by several different branches. But sometimes we do not hear about each other. Science curriculum also exists in the environment and sustainability, social studies curriculum as well. (Teacher Gizem)

One of the most important requirements in eco-school is the cooperation if we really want to implement. School administration, teachers, students and parents... Why is that? Because we want this to be sustainable. If we want it to be permanent, students should see the same thing at home and at school, and they should see the same thing when they go to the principal's office. They need to see the director dump that pet bottle to a recycle bin. That's how it lives. (Teacher Gizem)

This collaboration and holistic perspective are likely to require **common purpose**, which is another component of distribution of leadership. Nergiz stated that it was hard to perform a work in school alone but the hardest one is to perform it with many

individuals. She stated the most important component of this collaboration was shared purpose. Principal Gül stated that environment and sustainability practices in school were not job to finish, but it was a process. There is supposed to be common vision that every application in school is performed in that way.

It's a consciousness. It does not only involve in classroom. I mean, it's about culture.
(Principal Gül)

Being a principal, she stated the role of principal was significant in composing this common vision.

I believe the role of the school leader is to create a shared vision. Here, okay it is important that the leader is to be a model or lead the way. Yes, these are important, but I think they are a little cliché. (Principal Gül)

For most of the participants, constructing a common vision is hard on the part of parents. Participants stated that the part they had a difficulty to comprise into environmental performance was the parents. They accused parents of not to be interested in eco-school or other environmental acts in school. Feyza stated her point in this quote:

But we can't get to the parents. We try it with various announcements and campaigns. We may reach to them with the campaigns that concern their children. That's why I'm saying either the NGOs that are interested in the natural conservation or those who are interested in the eco-school or the projects that are being carried out, might be a little more include parents. Actually, we can impact teachers, employees, and children easily. We can influence parents through students. But, there can be more effort on parents' sensitivity about this issue. (Principal Feyza)

On the other hand, assistant principal Gülçin and teacher Kübra were satisfied with the involvement of parents. Kübra mentioned the support and involvement of parents into waste management projects. She explained that parents brought various items for recycling to school and participated into the process.

When we started collecting waste, there were those(parents) who brought bags of batteries, liters of carboy plastics. But they're not much. We would not know whether they are really environmentalist or not as long as we do enter their real life. However, we open a platform for them to bring their recyclable items. We say that

‘You can bring your waste here. We can collect your oil or batteries.’ There are many batteries in a lot of homes. But school has become a point where batteries are collected. So when the door is opened, when we announce that eco-schools start working, and it’s becoming useful for people. (Teacher Kübra)

Since accessibility to setting for recyclable wastes could be hard in the country, it seems important to create opportunities for people to collect their waste.

Besides, being a role model to children and creating diversity is also revealed as benefits of cooperation in school. This participant stated that when more than one department are embedded in activities, it pushed people to be vary in their activities.

But if there are a lot of people, activities vary, because it appears different ideas from everyone else. Contrast between people do actually creates more intensive works. So, it makes more sense to be so many people. We’re spreading to the departments, for example. You see what different courses perform; you produce something different in order not to do the same. You’re increasing diversity. (Teacher Esra)

Returning back to leader role of eco-coordinators, principal Gül expressed the control of environmental practice is in charge of teachers. Even though there was a common purpose of school agreeing on environmental sustainability was a value, she stated that only interference she made to eco-school was to give suggestions or support. It could be claimed that the structure of eco-school program was likely to create this delegation for a teacher. However, what the principal specifically emphasized here the reasons for this leadership differently. She asserted that there were people in school who have skills, background and even inborn talent on environment and sustainability. These teachers are in charge of eco-coordinator role in school. Her opinion was that principal should have cleared the way of these people and let them shine on their talent.

You should not come out as an authority on such a special and important issue. Here, you (as a principal) need to be behind in a secret way. For example, you may meet teacher or students to face with the program by directing educational processes. The education program that should be directed to the front of the program, the teacher or the student.

I think that there are people who have an inborn talent about environment and sustainability, which has also taken the role of eco-coordinator in our school. Born so, there are teachers and children who are at the level of awareness and sensitivity.

You need to emphasize them before they become aware. These are not the obvious things to do. You can get long-term results if you provide the idea that “this is what happens in this school” and it is not an obligation. (Principal Gül)

This point of view associated with the **expertise** of some people on specific issues in an organization, which was a component of distributed leadership. Two other participants also highlighted the possibility of leadership role occurred due to expertise of different school components on environmental topics. While assistant principal Gülçin stated that field of area was significant, teacher Damla asserted that depended on potential leader’s level of expertise. As stated in the results of distributed leadership, Damla stated that principal left the context of environmental sustainability to the teachers as a whole.

Another point of leadership distribution was the view of **student leadership**. Participants stated the importance of students’ exploration both environmental issues and their personal skills when practicing eco-school. Gizem and Esra expressed that students’ learning depended on their active participation to environmental performance. Here, students’ participation on decision –making was significant. Even though some teachers defined decision making as inclusive in eco-school, some others believed it was more like teacher centered. Damla stated that eco-team students involved in decision-making.

We take common decisions in meetings or events with children. In fact, for example, what we did this year was a picture contest that was not in our mind, just students decided. It was a ‘World Water Day’ contest. I don't remember that my mouth said something. They (students) spoke. We decided as they wanted. We authorized them. And we've done better. If we could communicate better with children, if we could meet more regularly, they would have done something more beautiful. But they were active in performance anyway. (Teacher Damla)

Nergiz mentioned that at the beginning of the process like developing action plan or gathering students, decisions were made by eco-coordinators. She added that the rest of process was more participative for students.

Decisions are taken together, as a team. Administration is not involved. Of course, teachers construct the basis of the purpose. In the remaining part, you are asking to eco-team: what can we do? A plan is emerging with a brainstorm. You can sort the events with common decisions. (Teacher Nergiz)

On the other hand, Gizem mentioned in her responses that most of the decisions were made by eco-coordinators. She expressed that as a big fault of the process. Highlighting the more autonomy and inclusion of students several times, she even believed that whole eco-school should have been executed by students. Students must be in charge of coordination and communication among teachers, managers and stakeholders.

It is also explored the principal role in eco-school and other environmental activities in the responses. While delegation of power is given to teachers, principal Gül stated the role of a principal as uncover the potentials of teacher leader based on their skills and expertise. In the form of distributed leadership, it is expected that principal deliberately share his/her power to expand leadership. Here, in the example of eco-school, it could be inferred that there was not direct purpose of school principal, but rather the role and responsibilities of eco-coordinator were indispensable. However, principal's point on opening the ways of teachers who has a potential is likely to make towards the nature of leadership distribution in terms of environmental topics in school.

Participants stated another role of principal in eco-school as being very supportive. All teacher participants stated that their principal gave any support as they needed. Concrete examples of support can be given as help on budget about activities, field trips, trainings, festivals.

In fact, we support the establishment of such a team, green flag projects. We do not say no about the necessary budget for all kind of organizations and their participation in the festival or seminars. Meetings, material need, service need, food need; we never said no, with pleasure.

Again, there are demands from the eco-school team and teachers every year. I'm very sensitive to meet them. They have priorities for me. We have a goal to support any environmental project. (Principal Gül)

Some participants also added the support and guide of principal on the content and organization. This view revealed that principals are included in collaborative work in eco-school.

She gets excited about environmental activities. Eco-school, for example. In fact, when we say that we want to start such a project, her attitude is very positive.

Usually she leaves environmental issues to us. When we say that we want to perform an activity and arrange the financial, timing and all organization of the activity, she organizes them very well and she does care. In addition, I think that she monitors the issues about content or control related to tasks via mail. Every update we make on reports inform to principal. I think she's following eco-school it this way. (Teacher Kübra)

What Kübra pointed out here is the principal's evaluation of the eco-school process although she is not involved in management.

Overall, the interviews along with the data from observations and documents presented in-depth understanding of eco-school practice, perceptions of individuals towards environment and sustainability, nature of leadership in school and positioning of distributed leadership in eco-schools.

CHAPTER 5

DISCUSSION, CONCLUSION AND IMPLICATIONS

5.1. Discussion

This chapter will associate the findings of the study with the existing literature. The research problem of the thesis was positioned around the role of leadership while capturing how leadership was distributed in an eco-school practice. While the results in chapter four divided into covering the data under specific categories, this chapter will provide more insight and make the discussion go further.

5.1.1. The Role of Leadership in Eco-School Environment

The understanding of the concept of sustainability in educational settings was stated as being “responsibility of every citizen in the world” by some participants of the current study. In that way, they situated sustainability as a real-life issue. Literature suggests that severe questions that humanity confronted should be presented by multidisciplinary hands-on activities, based on the social reconstructivist approach (McNeil, 1996). The findings showed that eco-school practice was concentrated on a common societal problems. Also, the program could provide real-life experience for school community as well as students with environmental learning opportunities.

Participants of the present study defined eco-school program and its purpose along with attributing the meaning of the program to teacher initiatives and collaboration. It was stated by the teacher participants that the ultimate aim of the program, creating sensitivity towards environmental issues, directed to teachers taking a stand forward

for sharp instructional methods and other opportunities for the school environment. The school environment displayed actions of teachers as being policymakers into environmental management of the school. In that sense, the study revealed that the responsibilities of teachers in coordinator roles corresponded to leadership actions, which was suggested by the existing literature (Ceylan, 2015).

When defining the eco-school program, participants indicated that all courses' performance of environmental activities was likely to stimulate role-modeling behavior for the pupils. Related studies reveal that possible role modeling of teacher leaders as well as principals appears in the sustainability practices of schools (Higgs & McMilann, 2006; Gamblin, 2013; Shallcross, 2003). Even though teachers do not perform in environment-friendly behavior for the aim of modeling, it seems like the effect of teachers on pupils is still worthwhile. Besides, this modeling behavior does not unidirectional, which means teachers could be modeling to teachers, students could be modeling to students and students could even be modeling to teachers could also be possible (Higgs & McMilann, 2006).

The main aim of the eco-school program claims that students are the driving force of the eco-school process. The program has the potential to inspire and support pupils towards making a move for environmental challenges (FEE, 2017). Findings of the current study indicated that students' communication and leadership skills, as well as environmental knowledge, were improved. Literature goes the expectation even further that student leadership is a necessity for environment-friendly behavior change among children (Pirrie et al., 2006). It is asserted that the program presented an atmosphere for students to enlarge their activism beyond school and support the sustainable future (FEE, 2017). Besides that, data from the presented research covered the potential for possible disadvantages of working in teams in eco-school. Even though agreeing that student teams in the eco-school displayed some student leaders who acted like a role model for the others, one of the participants mentioned that sometimes the responsibility of environmental issues was restricted with team members. Participant's doubt referred to an inclusive approach on sustainability

practice in school. It is one of the common arguments that sustainability should be a property of whole-school to achieve sustainable development goals (Henderson & Tilbury, 2004; Öhman, 2008; Gough, 1997; Higgs & McMillan, 2006; Schelly et al., 2010; Kensler, 2012). Although there was this suspicion of one participant about embracing environmental responsibility of different school components, the majority of the participants emphasized several times that the eco-school presented an environment in which collective culture on sustainability has occurred.

The structure of the eco-school program correlates with the whole-school approach to sustainability (Pirrie et al., 2006; Henderson & Tilbury, 2004; Mathar, 2013). Eco-schools give precious value to different school setting participation in environmental management as well as curriculum content. The great majority of the research participants touched on the nature of different school elements' penetration in eco-school practice, appearing of various leadership practices in terms of different school components in the form of sharing leadership. Eco-school steps require teachers from different courses to be active in environmental performance on the eco-school theme. In the case of the present study's eco-school performance, various activities different fields of studies performed could be observed in the overall setting in the school. However, what seems to be more important is the ecological perspective going beyond the curriculum content. It is stated that whole –school involvement would have success if entire school elements are in the impact of the program (Mogensen & Mayer, 2005). Therefore, it can be inferred that the scope of the actions is very significant. For instance, savings of energy and water in the case of eco-school could be an example of which the entire school involved in environmental performance. Another practice that influences whole school elements was recycling. The vast majority of the participants emphasized the waste management of the school. From parents to the school staff, there has been portrayed active participation of people into environmental performance, which reflects the idea that all individuals in school should behave in environment-friendly in daily practices. Also, a school from the

building to the basic instructional approach should correspond the understanding of sustainable development (Shallcross, 2003; Henderson & Tilbury, 2004).

It was clear that the participative nature of eco-school in terms of interdisciplinary learning supports students' and other school components' environmental attitudes and flourish diversified leadership opportunities in the school. However, some participants explained barriers to the collaboration between different fields of study. Participants asserted that teachers from different departments did not take sustainability issues as serious as the science department. Although they were enthusiastic at the beginning, there appear to be some problems due to the workload of people. The case eco-school has been known for scientific projects, campaigns about different topics, practices about traditional days and school clubs acting on various topics in which eco-school is one of them. Therefore, it appears that this active environment somehow results in less attention and time on sustainability. It is the issue that sustainability practices in schools could be interrupted by limited time and workload (Campbell, 2011). However, effective leadership becomes significant in this manner. Leaders in school who are committed to ecological values, plan in the context of environmentalist ways in terms of curriculum and school culture bring success (Campbell, 2011). Literature also suggests that cooperation with out-of-school communities help schools to achieve their outcomes on sustainability (Campbell, 2011). Especially, parent involvement is raised to prominence that sharing ideas and practicing together often would enable the development of sustainable values. For parent involvement in the eco-school practices, there are various findings pointing to both negative and positive communication and participation. The case eco-school provided some opportunities such as recycling and joining to student activities. Some participants were satisfied with parent participation in waste management and found them effective. However, parent involvement has appeared as a challenge stated by others. Common vision on sustainable issues was hard to build around parents since they were not willing to join campaigns their children involving and respond to the announcements school

made for sustainability. One of the principal participants accused parents of not to give enough attention to environmentalist visions of schools before deciding on registration to schools. What seems more important is that she explained lack of education policy on sustainability was the main reason for this parental action. While education policy was more concentrated on the academic success of students, it would be imaginary to the community that did not care about the academic vision of the school. Schools tend to budget on the academic success of students and advertising. On the other hand, sustainable development is concerned for economic and social elements as well as the environment. There needs to be political involvement into issue unequivocally which was accepted by different authorities (UN, 1992; United Nations General Assembly, 1987). Therefore, governmental policies, as well as education policy, should be committed to sustainable development together in order to achieve a common goal for the planet. As stated in Brutland Report “The time has come for higher expectations, for common goals pursued together, for an increased political will to address our common future. Together, we should span the globe, and pull together to formulate an interdisciplinary, integrated approach to global concerns and our common future.” (1987, p.6). It is the fact that governments should enable the methods to budget and encourage initiatives economically to finance education for sustainable development (UNECE, 2014).

5.1.2. Distribution of Leadership in Eco-schools

Literature refers to the process of eco-school program application in school associates with distributed patterns of leadership in various ways. One of the concerns of eco-school was meeting the need for whole-school participation in sustainability issues in schools (“About Eco-Schools”, n.d.; ; Mogensen & Mayer, 2005; Mathar, 2013; Henderson & Tilbury, 2004). Involvement of diversified school participants along with the construction of the system suggests a collaborative environment in the context of sustainability (FEE, 2017; Mogensen & Mayer, 2005; Pirrie et al., 2006). How and in what forms the leadership was distributed in the case

of eco-school was what the current research focused on. First of all, the school culture was defined as collective by the participants. A school environment in which diversified leadership is facilitated becomes crucial in the implementation of the eco-school program. Participants defined the leadership style of the principals in the case of eco-school as democratic and participative. On the other hand, the principals were qualified as leaders who had effective communication skills. Even though understanding of recent leadership ideas changed certainly to various forms of leadership, the literature describes the role of principals as necessarily significant (Harris, 2012). It appears that distributed leadership could not be developed and sustained in the absence of effective principals. Principals are suggested as elements holding school pieces together by providing structural positions and cultural development (Harris, 2012). In the case of eco-school, the principals played a key role in how and in what conditions the leadership distributed. The supportive approach they presented facilitated the leadership of different individuals. Spillane (2006) indicates that interactions are more considerable than the leadership roles and responsibilities itself. Principals' other promoting effect was their decisions on how to distribute the tasks. It appears from the findings that different units were assigned for responsibility. The reasons behind this distributing power were listed by the current research's principals as a huge amount of work in the school and commitment of different school components into school operations. One of the principals stated that without certain involvement of different units common culture could not be permanent. On the other hand, this delegation of tasks mostly showed itself as teachers' leadership on innovative curricular works and extra-curricular activities concerning children. Findings become meaningful since it is the fact that distributed leadership focuses on expertise at all levels in schools to transform schools for improvement (Harris, 2004; Elmore 2000; Harris et al., 2007). Elmore states that "Distributed leadership derives from the fact that large scale improvement requires concerted action among people with different areas of expertise and a mutual respect that stems from an appreciation of the knowledge and skill requirements of different roles." (2000, p.35). The case eco-school opened the

boundaries for teachers and other school components to take active role in creative and specialization-required operations, activities and projects. However, boundaries of the task teachers performed were evaluated by the principals, which seemed to weakened teacher leadership. There are different arguments in the literature about the wide of the boundaries from the perspective of distributed leadership. Woods et al. declare that openness of boundaries is one of the characteristics of distributed leadership and states that “the notion of distributed leadership does not suggest how wide that boundary should be set. Equally, however, there are no limits built into the concept.” (2003, p.7). Besides, it is also claimed that distributing leadership would necessitate attention to boundary management on new conditions (Harris, 2007). As stated by Harris (2007), organizational theorists emphasized that the management of boundaries of different groups is required in order for these groups not to lose connections to the organization. This management should be made “neither too sharply delineated nor too permeable.” (Harris, 2007, p.322). Also, Spillane (2006) claims that not all teachers could be leaders in any school. Therefore, the school principals’ boundary management could be purposeful for the common goals of the case eco-school. In a way, one of the participants claimed that this created trust to principal and support teachers’ safety.

In the atmosphere of the case eco-school, distributed leadership positioned itself as an emergent situation of the school. This generated property supports Spillane’s (2006) argument that distributed leadership is an emergent value of a school setting. Spillane argued that distributed leadership is constructed as thinking about leadership in the interactions of people in a situational task on performing leadership. The eco-school staged teacher leaders under the concept of environmental management. One of the principals mentioned that some individuals in schools had excellent skills and expertise on specific contents in which environmental sustainability was one of them. She concluded that her job was to leave every content-related operation about environmental issues to those teachers and students. Principals indicated that they used social rewarding to motivate teachers and students performing environmental

works. Literature also suggests that the role of school principals should be supporting practices and commitment to sustainability in an eco-school (Turhan, 2012). However intrinsic motivation seems to be a certain factor for getting mobilized, especially for the teacher leaders. One of the advantages of the program is suggested as increasing student motivation and confidence (FEE, 2017). Results supported this claim and showed that the motivation of the teachers reflected student motivation and enthusiasm.

One of the teacher participants' environmental water-project with students could be given as an example of the emerging leadership of this teacher. The group of students and this eco-coordinator teacher launched a project on water quality and sustained it with periodical meetings. The coordinator teacher's initiative began by stating what she wanted to perform to the assistant principal and principal. This is one of the situations in school that creative and intellectual actions usually are originated from teachers, as stated by most of the participants. The teacher's initial motivation is seemed to be stemmed from her desire to be involved in environmental projects with her colleague and children who are enthusiastic. On the other hand, the project was aimed to make students aware of sustaining natural resources, especially water and some steps of the project were staged in the park and the lakeside nearby the school. Literature suggests that teachers' intrinsic motivation is a significant determinant to make teachers decide on outdoor teaching (Fagerstam ,2014). The motivation factor has such an influence on teachers' decisions that it enables them to handle the barriers and occurring problems. In the case of the current research, the coordinator teacher created extra time for preparing activities and making meetings with pupils, which means a great deal of commitment when considered the workload of the school. School administration's support also plays a key role in the opportunities of outdoor education, especially for the providing and approval of safety (Ray & Jakubec, 2018). In the current school, all participants stated that the school administration financed for environmental performance in any case based on the needs. For the water-project, administration's providing transportation to learning

sites and material needs could be assumed as a way of encouragement. Besides, outdoor education is claimed as supporting the leadership skills of students (Cohen & Elliot, 2011). Providing students cooperative learning and making them engage in teamwork, presented projects in the case of eco-school promoted leadership skills of the students.

Another important point in the example of this mentioned water-project was that the coordinator teacher's taking the role of this original perspective in sustaining project presented itself in a form of leadership. Participants mentioned about the expertise of different people on different notions in school created an environment for distributing leadership. Literature supports this claim and indicates that the expertise of individuals is the core of distributed leadership, as stated above (Harris, 2004; Elmore, 2000). Therefore, findings reveal the content of sustainability has the potential to build leadership distribution in terms of demands on knowledge and skills for sustainable development. As stated by the teacher who led this water-project, expertise requires the trust of related responsible people in school. She claimed that leadership distributed when expertise was proven. In their situation, the school administration would have known that they were not an expert on environmental sustainability and so they were willing to delegate the people they trusted and believed in. It seems like the intrinsic motivation of the teacher leader matched with this need in the school.

It is stated by UNESCO (1997) that the purpose of Education for Sustainable Development (ESD) is to create change with collaborative works of all grades and encourage individuals of all ages to sustain responsibility to the planet. The results of the current research indicated several examples of different people taking action in environmental performance as in the example of the water-project stated above. It is the fact that the eco-school program itself pushes collaboration by cross-curricular activities through the same theme of eco-school. When some of the school elements pay little attention, the other components have the potential to fulfill the needs of the program and even go further ("Eco-Schools and How Good is our School?", n.d.).

This support has been explained in many ways as a form of interdisciplinary course involvement and also the participation of the rest of the school components in the current study. In this manner, it is important that eco-coordinator leaders have managerial skills in collaborative planning as well as being committed to work and having expertise. Most of the participants claimed different school components' participation in performance for the common theme of eco-school. It seems like collective school culture had already provided an atmosphere for this collaboration. Moreover, the school's existing application on "thematic learning" enables multidisciplinary activism on different contents and contributes to the eco-school themes. This collaborative environment is one of the cores for distributed leadership in the case of eco-school.

Participants pointed out the nonteaching school personnel's participation in leading roles for the projects on environmental sustainability as well as other staff's effort for general daily routines for recycling and savings. Literature suggests collaboration with the school components that are in the nonteaching role shows how wide teamwork and collaborative work is performed (Pirrie et. al., 2006). In the current research, it was stated by the participants that one of the STEM teams of the school practiced robotic and they designed a project on protecting water resources of the planet. The leading role was taken by the school personal who was not in the teaching role. The team cooperated with the eco-school team in a while and more importantly, the school personal who was in charge of this robotic team presented skills of leadership.

It is remarked in the existing literature that the contexts of sustainability has the unique potential to promote collaboration and sharing ideas. Most commonly, this culture fosters democratic education (Schallcross, 2003.). The clear emphasis on collaboration is stated as "the way in which schools promote collective environmental action is more critical than the nature of the actions themselves." (Schallcross, 2003, p.119). Therefore, it can be inferred that the collective school

culture of the current research site was more meaningful than the school components' put their waste into the recycle bin.

Many scholars agree that the collaborative and collective school culture is based on mutual understanding and trust. On the one hand, what school culture is displayed here as certain, values, attitudes, and routines (Smyth & Hattam, 2002). Common vision and purpose arise in that sense to foster collaboration for the common good of the school (Schallcross, 2003.). In the existing research, environmental values constructed as a common purpose, which was one of the elements of distributed leadership. The schools' collective culture had made individuals prepared for the engagement of those values. However, it can be claimed that environmental practice in schools is somehow cohesive for most of the people in its nature at first glance since it seems they do not require sharp or risky decisions. Still, behavior change in the routines is not a simple pace. It is also the fact that many other reasons could frustrate individuals' environmental-friendly behavior.

To sum up, literature portrays practices of environmental management in eco-school is associated with non-hierarchical perspectives to leadership. Leadership for a more sustainable future in school and society has various forms of aspects touching on several important considerations that would cover the literature and practice for a long time.

5.2. Conclusion and Implications

Even though there could be derived diversified interpretations and distinctive conclusions from the findings, the research provided several precise conclusions that could be served to literature and practice.

First of all, findings indicated that environmental performance in eco-schools could be best achieved by the involvement of different school elements into activism in terms of various forms. The common purpose of the individuals is come up with a basement for the involvement of components to collaborative works and sharing

ideas. Secondly, collective school culture has already had an impact which promotes eco-school practices. Supporting culture enables individuals to concentrate on environmental themes in a positive manner and has the potential to encourage transformation for more sustainable practice. Thirdly, eco-school practice allows the distributed forms of leadership in several ways. It gives prominence to the effective leadership of teachers in coordinator roles utilizing interactions with the rest of the school unite. Encouragement of principals and collaborative school culture enables the distribution of leadership performance through groups of students and teachers. It could be stated that the emergent situation happening in eco-school practice is one of the ways to put distributed leadership into reality. Lastly, individuals' background and experience in environment and sustainability closely related to their motivation and therefore participation in eco-school practice. The intrinsic motivation of people towards sustainability is appeared as an element to demonstrate leadership skills.

Implications for the Practice

The research has significant implications in terms of practice and research. It provides various practices for teachers and administrators in the context of environmental issues. Examples of environmental practices about saving, energy, health, and many others could present educators concrete ways for their journey on starting and maintaining sustainability in schools.

There is a great potential of the research to increase teachers' self-efficacy and belief in their capacity building. Findings reveal that teachers and also school staff could serve as an agent for the development of the school since their precise expertise enhances different roads to direct the rest of the school. In that sense, implications for the principals and school administrators would be considering this potency. Principals need to provide ways to encourage the teachers, students and school staff who have competence and knowledge on environmental issues. In terms of the results, enabling participative decision-making, building trusting relationships,

ensuring social rewarding and giving autonomy could be served as opportunities for them to take into consideration.

Presented barriers to the success of eco-schools such as workload, budget, and inconsistency between eco-school and school administration are other significant comments which people in decision making role in schools should pay regard while performing eco-school program.

Implications for the Research

In terms of the research field, the current study contributed both sustainability in education and educational leadership literature. It ensured a clear relationship between those two concepts. Therefore, the study was likely to broaden the ideas on the research and diversify new studies based its findings.

5.3. Recommendations

This research might be pursued by future research on various ways in terms of eco-schools, distributed leadership and the relationship between eco-schools and distributed leadership. Begin with; it would be valuable to examine the perceptions of the rest of the school components who are different from teachers and administrators. Future research could be designed to investigate the perceptions of the school staff who are in nonteaching role and students. In this way, the research could shed direct light into how these components involve in eco-school practice and position in distributed forms of leadership.

Another research could be constructed focusing on the themes of eco-school while practicing. For instance, “waste” is one of the themes of eco-school program. Future research could study this theme as “case” and design in the form of a case study that investigates distributed leadership a case for waste. Narrowing the content would enable the in-depth understanding of possible role of leadership in eco-schools for specific environmental topics.

Literature suggests the feature of distributed leadership in schools as being a change agent. In the context of environment and sustainability, the next research could approach the possibility of distributed leadership's transforming role in eco-schools. In that sense, the researcher should select the research site a school which has not an identity of "eco-school" yet but will perform the program in order to have a green flag during the research timeline.

Current research along with the previous studies discovered and explained the leadership of teachers while practicing eco-school. Although these researches considered the motivation and beliefs of the teachers through eco-school, their structure was built upon looking for behavioral evidence primarily. However, it seems that personal beliefs, values, and motivation are highly related to leadership tasks in school. Further research could even be proposed to investigate the relationship between distributed leadership and teacher leaders' beliefs towards the sustainability.

REFERENCES

- About Eco-Schools. (n.d.) Retrieved from: <https://www.ecoschools.global/how-does-it-work>
- Agbaje, K, Martin, R. & Williams, D. (2001). Impact of Sustainable Agriculture on Secondary School Agricultural Education Teachers and Programs in the North Central Region. *Journal of Agricultural Education*, 42 (2). 38-45.
- Ain, N. (2017). Holistic Thematic Learning in the Elementary School: Is It Thematic Holistic?. *Advances in Social Science, Education and Humanities Research.*, 158, 919–92. doi:10.2991/ictte-17.2017.99
- Aktepe, S. & Girgin, S. (2009). Comparison of Eco-Schools and Other Primary Schools in Terms of Environmental Education. *Elementary Education Online*, 8(2). 401-414.
- Aldiabat, K., & Le Navenec, C. (2011). Clarification of the Blurred Boundaries between Grounded Theory and Ethnography Differences and Similarities. *Turkish Online Journal of Qualitative Inquiry*, 2(3), 1-13.
- Atkinson, P., & Hammersley, M. (2007). *Ethnography: Principles in Practice* (3rd ed.). London: Routledge.
- Bennett, N., Harvey, J. A., Wise, C., & Woods, P. A. (2003). *Distributed leadership: A desk study*. London, England: National College for School Leadership.
- Biklen, S. K. (2010). The quality of evidence in qualitative research. *International Encyclopedia of Education*, 488-497.
- Buendía, R & Slottje, H (2014, April). Sustainability in Schools: Give Young Eco-Warriors Space to Grow. *The Guardian*. Retrieved from: <https://www.theguardian.com>

Campbell, P. (2010). Against the tide: challenges of leading a sustainable school, Nottingham, National College for Leadership of Schools and Children's Services. Retrieved from: <https://dera.ioe.ac.uk/2089/1/against-the-tide.pdf>

Ceylan O. (2015). Ekolojik Okullarda Liderlik (Master's Dissertation). Yeditepe University, Turkey.

Cincera, J., & Krajhanzl, J. (2013). Eco-Schools: What factors influence pupils' action competence for pro-environmental behaviour?. *Journal of Cleaner Production*, 61, 117-121.

Cohen, N. & Elliot, E. (2011). Young Children and Educators Engagement and Learning Outdoors: A Basis for Rights-Based Programming, *Early Education and Development*, 22(5), 757-777.
doi: 10.1080/10409289.2011.596460

Copland, M. A. (2003). Leadership of inquiry: building and sustaining capacity for school improvement. *Educational Evaluation and Policy Analysis*, 25(4), 375-395.

Davis, J. M. (2010). *Young children and the environment: Early learning for sustainability*. Melbourne: Cambridge Press.

DeFlaminis, J. (2013). Distributed Leadership: Building Leadership and Learning Capacity in Schools. Retrieved from:
https://www.paispa.org/uploaded/downloads/Misc_pdf/Session_2_-_Developing_Distributed_Leadership_Learning_Capacity_10.10.14.pdf

Dewey, J. (1938). *Experience and education*. New York: MacMillan.

Eco-Schools and How Good is our School. (n.d.) Retrieved from:
<https://www.keepsotlandbeautiful.org/media/1559703/es-and-hgios.pdf>

Eco schools History. (n.d.). Retrieved from: <https://www.ecoschools.global./our-history/>

- Educational Principles. (n.d.). Retrieved from:
<https://www.ecoschools.global/educational-principles>
- Elmore, R. F. (2000). *Building a new structure for school leadership*. Washington, DC: Albert Shanker Institute.
- Environmental Protection Agency. (2012). *A framework for sustainability indicators at EPA*. Retrieved from: <http://nepis.epa.gov/Adobe/PDF/P100FZZ7.pdf>
- Fagerstam, E. (2014). High school teachers' experience of the educational potential of outdoor teaching and learning. *Journal of Adventure Education and Outdoor Learning*, 14(1), 56–81.
<https://doi.org/10.1080/14729679.2013.769887>
- FEE. (2017.). Engaging the Youth of Today to Protect the Climate of Tomorrow. Retrieved from:
<https://static1.squarespace.com/static/552bcd30e4b02ed06b97c76d/t/592400cae3df2882304889dd/1495531746218/Eco-Schools+Handbook+v2-0.pdf>
- Ferreira, J.-A., Ryan, L., & Tilbury, D. (2007). Mainstreaming Education for Sustainable Development in Initial Teacher Education in Australia: A review of existing professional development models. *Journal of Education for Teaching*, 33(2), 225-239.
- Fetterman, D. (1997). *Ethnography: Step-by-Step*. (2nd ed). Thousand Oaks, CA, US: Sage Publications.
- Fraenkel, J.R., Wallen N.E., Hyun, H.H., (2012). *How to design and evaluate research in education* (8th ed.). New York, NY: McGraw-Hill.
- Fullan, M. G. (2001). *Leading in a culture of change*. San Francisco, CA: Jossey-Bass.
- Gamblin, M. (2013). *Becoming A Sustainability Chef: An Empirical Model Of Sustainability Perspectives In Educational Leaders* (Doctoral Dissertation). University of Toronto, Canada.

- Glickman, C., Gordon, S. & Ross-Gordon, J. (2001). *Supervision and Instructional Leadership: A Developmental Approach*. Boston, MA: Allyn & Bacon.
- Gray, J., Ian W. & Patrick C. (2018). Ecocentrism: what it means and what it implies. *The Ecological Citizen*, 1(2).
- Grenda, J. (2011). *Instances And Principles Of Distibuted Leadership: A Multiple Case Study Of Illinois Middle School Principals' Leadership Practices* (Doctoral Dissertation). University of Illinois, USA.
- Gough (1997). Founders of Environmental Education: Narratives of Australian EE Movement. *Environmental Education Research*. 3(1). 43-57.
- Gronn, P. (2000). Distributed properties: A new architecture for leadership. *Educational Management and Administration*, 28(3), 317–338.
- Griffin, G.A. (1995) 'Influences of Shared Decision Making on School and Classroom Activity: Conversations with Five Teachers', *Elementary School Journal* 96(1): 29- 45.
- Hargreaves, L. (2008). The Whole-School Approach to Education for Sustainable Development: From Pilot Projects to Systemic Change. Retrieved from: <https://www.developmenteducationreview.com/sites/default/files/article-pdfs/hargreaves%20pers%202.pdf>
- Harris, A. (2004). Distributed Leadership in Schools: Leading or misleading?. *Management in Education*. 16(5), 10-13. doi:10.1177/089202060301600504
- Harris, A. (2007). Distributed leadership: Conceptual confusion and empirical reticence1. *International Journal of Leadership in Education*, 10(3), 315- 325. doi:10.1080/13603120701257313
- Harris , A. (2008). *Leading Sustainable Schools*. Specialist Schools and Academies Trust. Retrieved from: http://www.bath.ac.uk/cree/Leading_Sustainable_Schools_130361.pdf

- Harris, A. (2008). *Distributed Leadership: Developing Tomorrow's Leaders*, London: Routledge.
- Harris, A. (2008). Distributed leadership: According to the evidence. *Journal of Educational Administration*, 46(2), 172-188.
doi:10.1108/09578230810863253
- Harris, A. (2012). Distributed leadership: implications for the role of the principal. *Journal of Management Development*, 31(1), 7 – 17.
- Harris, A. & Muijs, D. (2004). *Improving Schools through Teacher Leadership*, London: Open University Press.
- Harris, A. & Spillane, J. (2008). Distributed leadership through the looking glass. *Management in Education*, 22(1), 31–34.
- Harris, A., Leithwood, K., Day, C., Sammons, P., & Hopkins, D. (2007). Distributed leadership and organizational change: Reviewing the evidence. *Journal of Educational Change*, 8(4), 337-347. doi:10.1007/s10833-007-9048-4
- Henderson, K., & Tilbury, D. (2004). Whole-school approaches to sustainability: An international review of whole-school sustainability programs. Retrieved from: http://aries.mq.edu.au/projects/whole_school/files/international_review.pdf
- Higgs, A., & McMillan, V. (2006). Teaching through modeling: Four schools' experiences in sustainability education. *Journal of Environmental Education* 38(1), 39-53.
- Kalaitzidis, D. (2012). Sustainable school indicators: Approaching the vision through the sustainable school award. *Journal of Teacher Education for Sustainability*, 14(2), 168-180.
- Kensler, L. A. W. (2012). Ecology, Democracy and Green Schools: An Integrated Framework. *Journal of School Leadership*, 22 (4), 789-814.

- Klenke, K. (2008). *Qualitative research in the study of leadership*. Bingley, UK: Emerald Group Pub.
- Kopnina, H., & Cocis, A. (2017). Environmental Education: Reflecting on Application of Environmental Attitudes Measuring Scale in Higher Education Students. *Education Sciences*, 7(3), 69. doi:10.3390/educsci7030069
- Krnel, D. & Naglič, S. (2009). Environmental literacy comparison between eco-schools and ordinary schools in Slovenia. *Science Education International*. 20(1/2). 5-24.
- Jackson, L. (2007). *Leading Sustainable Schools: What the Research Tells Us* NCSL Retrieved from: [http://www.arcworld.org/downloads/14669_lead_sus_school%20\(2\).pdf](http://www.arcworld.org/downloads/14669_lead_sus_school%20(2).pdf)
- King, M. B., K. S. Louis, H. M. Marks, and K. D. Peterson. (1996). Participatory Decision Making. *Restructuring for Authentic Student Achievement: The Impact of Culture and Structure in 24 Schools*. San Francisco: Jossey-Bass.
- Leithwood, K. (1999). Changing Leadership for Changing Times. *International Journal of Educational Management*, 13(6). 301-302. <https://doi.org/10.1108/ijem.1999.13.6.301.4>
- Leithwood, K. & Jantzi, D. (2000). The effects of transformational leadership on organizational conditions and student engagement with school, *Journal of Educational Administration*, 38(2), 112-129.
- Leithwood, K.A. and Riehl, C. (2003). *What We Know About Successful School Leadership*. Philadelphia, PA: Temple University Press.
- Leo, U. & Wickenberg, P. (2013). Professional norms in school leadership: Change efforts in implementation of education for sustainable development. *Journal of Educational Change*, 14(4), 403-422. doi:10.1007/s10833-013-9207-8
- Louis, K. and Marks, H. (1996). Teachers' Professional Community in Restructuring Schools, *American Educational Research Journal*, 33(4), 757-89.

- Lunenburg, F & Ornstein, A. *Educational Administration: Concepts and Practices* (6th ed.). Belmont, CA: Wadsworth Cengage Learning.
- Mathar, R. (2013). The concept of whole school approach – a platform for school development with focus on sustainable development. Retrieved from: <https://esd-expert.net/files/ESD-Expert/pdf/Concept-Paper-Mathar.pdf>
- Maxwell, J. A. (2005). *Qualitative research design: An interactive approach* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- McCrea, E. J. (2006). The roots of environmental education: How the past supports the future. Environmental Education and Training Partnership (EETAP). Retrieved from: http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/1b/c6/41.pdf
- McEwan, C. K. (2003). *10 traits of highly effective principals: From good to great performance*. Thousand Oaks, CA: Corwin Press.
- Mc Neil, J. (1996). *Curriculum: A comprehensive introduction*. New York: Harper Collins College Publishers.
- Mogren, A. & Gerink, N. (2017). ESD implementation at the school organisation level, part 2 – investigating the transformative perspective in school leaders' quality strategies at ESD schools. *Environmental Education Research*, 23(7), 993-1014.
- Mogensen, F. & Mayer, M. (2005). Eco-schools: in 13 countries trends and divergences. Retrieved from: <https://www.ensi.org/global/downloads/Publications/173/ComparativeStudy1.pdf>
- Pirrie, A., Elliot, D., McConnell, F. & Wilkinson, J. E. (2006) Evaluation of eco schools Scotland (SCRE Research Report 124, University of Glasgow). Retrieved from: <http://www.scre.ac.uk/resreport/rr124/>

OECD. (2015). Global and local environmental sustainability, development and growth. Retrieved from: <https://www.oecd.org/dac/environment-development/FINAL%20POST2015%20global%20and%20local%20environmental%20sustainability.pdf>

Öhman, J. (2008). Environmental ethics and democratic responsibility: A pluralistic approach to ESD. *Values in democracy in education for sustainable development: contributions from Swedish research: Environmental ethics and responsibility*, 17–32.

Onwuegbuzie, A. J., & Leech, N. L. (2007). Validity and Qualitative Research: An Oxymoron?, *Quality & Quantity*, 41(2), 233-249. doi:10.1007/s11135-006-9000-3

Ozsoy, S. (2011). Can eco-schools improve elementary school students' environmental literacy levels?. *Asia-Pacific Forum on Science Learning and Teaching*, 13 (2). 1.

Patton, M.Q. (2002). *Qualitative Evaluation and Research Methods* (3rd ed.). Newbury Park, CA: Sage Publications.

Ray, H. A. (2018). Nature's Classroom: A Review of Motivators and Deterrents for Teacher Engagement in Outdoor Education Field Experiences. *Journal of Outdoor Recreation, Education, and Leadership*, 10(4), 323-333. doi:10.18666/jorel- 2018-v10-i4-8770

Riemer, F. J. (2012). *Ethnographic research*. In S. D. Lapan, M. T.

Sameipour, S. (2017). *Teachers' Perceptions toward Sustainable Agriculture in an Ohio Science High School* (Doctoral Dissertation). The Ohio State University, U.S.A.

Schelly, C, Cross, J., Franzen, W., Hall, P., & Reeve, S. (2010). Reducing energy consumption and creating a conservation culture in organizations: A case study of one public school district. *Environment and Behavior*, 43(3), 316-343.

Seven Steps Towards an Eco-School. (n.d.). Retrieved from:
<https://www.ecoschools.global/seven-steps>

Shallcross, A. (2003). *Education as Second Nature: Deep Ecology and School Development through Whole Institution Approaches to Sustainability Education* (Doctoral Dissertation). Manchester Metropolitan University.

Sheppard, B., Hurley, N. & Dibbon, C., (2010). Distributed Leadership, Teacher Morale, and Teacher Enthusiasm: Unravelling the Leadership Pathways to School Success. American Educational Research Association.

Sims, T. (2012). Green building benefits. *School Construction News*, 15(4), 17, 20.

Smyth J. & Hattam R. (2002). Early School Leaving and the Cultural Geography of High Schools. *British Educational Research Journal*, 28(3), pp. 375-97.

Spillane, J. P. (2006), *Distributed Leadership*. San Francisco, CA: Jossey-Bass.

Spillane, J., Halverson, R. and Diamond, J. (2001). Investigating School Leadership Practice: A Distributed Perspective. *Educational Researcher*, 30(3), 23-28.

Spillane, J. P., Halverson, R., & Diamond, J. B. (2004). Towards a theory of leadership practice: A distributed perspective. *Journal of Curriculum Studies*, 36 (1), 533-543.

Teijlingen, E. V., & Hundley, V. (2002). The importance of pilot studies. *Nursing Standard*, 16(40), 33-36. doi:10.7748/ns.16.40.33.s1

Timperley, H. (2005). Distributed leadership: developing theory from practice, *Journal of Curriculum Studies*, 37(4). pp. 395-420.

Tönük, S. & Kayihan, K. (2013). A study on sustainable use of school sites at (primary) eco-schools in İstanbul. *Journal of Environmental Planning and Management*, 56(7), 919-933. doi:10.1080/09640568.2012.709179.

Turhan, E. (2011). Eğitim Ve Sürdürülebilir Kalkınma (Esd) Kavramı ve Türkiye’de Okulların Eko Okula Değişim Ve Dönüşümlerinde Okul Yöneticilerinin Rolü. *e-Journal of New World Sciences Academy*, 7(1).

UNCED (1992). *United Nations Conference on environment and development*. Rio de Janeiro. UN. Retrieved from: <https://sustainabledevelopment.un.org/outcomedocuments/agenda21>

UNECE (2014). *Draft Unece Strategy For Education For Sustainable Development*. Retrieved from: <https://digitallibrary.un.org/record/536362>

UNESCO. (2012). *Education for Sustainable Development Sourcebook*. Retrieved from: <https://sustainabledevelopment.un.org/content/documents/926unesco9.pdf>

UNESCO. (2012). *Shaping the Education of Tomorrow: 2012 Full-length Report on the UN Decade of Education for Sustainable Development*. Retrieved from: <https://unesdoc.unesco.org/ark:/48223/pf0000216472>

UNESCO. (2017). *Education for sustainable development goals: Learning objectives*. Retrieved from: <https://www.iau-hesd.net/sites/default/files/documents/247444e.pdf#targetText=By%202030%2C%20ensure%20that%20all,culture's%20contribution%20to%20sustainable%20development.>

United Nations General Assembly. (1987). *Report of the world commission on environment and development: Our common future*. Oslo, Norway: United Nations General Assembly, Development and International Co-operation: Environment. Retrieved from: <http://www.un-documents.net/our-common-future.pdf>

United Nations. (2002). *Education for Sustainability From Rio to Johannesburg: Lessons learnt from a decade of commitment*. Retrieved from: <http://unesdoc.unesco.org/images/0012/001271/127100e.pdf>

- UN-AGENDA 2030 & SDG. (n.d.) Retrieved from:
<https://www.icde.org/sustainable-development-goal-4#targetText=The%20SDGs%20an%20urgent%20call,preserve%20our%20oceans%20and%20forests>
- White, J., Drew, S., & Hay, T. (2009). Ethnography Versus Case Study - Positioning Research and Researchers. *Qualitative Research Journal*, 9(1), 18-27.
doi:10.3316/qrj0901018
- Wieczorek, D. & Lear, J. (2018). Building the “Bridge”: Teacher Leadership for Learning and Distributed Organizational Capacity for Instructional Improvement. *International Journal of Teacher Leadership*, 9(2).
- Willis, J. W. (2007). *Foundations of qualitative research: Interpretive and critical approaches*. Thousand Oaks, CA: SAGE.
- Woods, P. A. (2004). Democratic leadership: drawing distinctions with distributed leadership. *International Journal of Leadership in Education*, 7(1), 3–26.
- Woods, P. A., & Roberts, A. (2015). Distributed leadership and social justice: Images and meanings from across the school landscape. *International Journal of Leadership in Education*, 19(2), 138-156.

APPENDICES

A.INTERVIEW QUESTIONS

Interview Questions – Teachers

I. DEMOGRAPHIC QUESTIONS:

1. Year of Birth
2. Educational background and working fields
3. Task Duration (If you are an eco-school coordinator)
4. Your professional experience
5. Have you ever participated in a project or seminar on environment and sustainability?
 - If yes, please specify:
6. Did you organize an activity related to environment and sustainability?
 - If yes, please specify:
7. Are you a member of an environmental non-governmental organization or student community?
 - If yes, please specify:

II. ECO-SCHOOL AND OTHER ENVIRONMENTAL PRACTICES

8. In which areas can we observe educational practices related to environment and sustainability in your school?
9. What does education for environment and sustainability mean to you?
10. What is your opinion about the eco-school program?

11. How did you become acquainted with the eco-school program?
12. What were your duties and responsibilities for the school to receive the green flag in the eco-school program and to remain as an eco-school?
 - a. How does the eco-school work continue for you?
13. Who does what duties and responsibilities in eco-school practices at school?
 - a. What are the rationale and / or motivation for teachers to undertake these tasks and responsibilities?
14. Are you an eco-school coordinator?
 - a. (If yes) What is the motive and / or motivation for undertaking these duties and responsibilities?
15. In your opinion, what are the differences and similarities between the classical environment and sustainability education taught in science courses and the eco-school program?
 - a. Do students' sensitivity and knowledge of environmental problems vary with the eco-school program?
16. Apart from eco-school practices, have you performed different environmental education and training for sustainable development?
 - a. Have you observed the work of different people on this issue?
17. What are your expectations regarding the eco-school program and other environmental practices in the school?
 - a. How much of these expectations do you think met in your school?
18. What are the major achievements you have gained as an eco-school?
19. What are the difficulties that you or the school experience in the eco-school process?
20. What kind of support do you receive from the school administration when carrying out activities for eco-school and other environmental practices?
 - a. Intellectual support, financial support, other?
21. How do you assess the general attitudes and behaviors of key components such as school administrators, teachers, students, and parents about eco-school and other environmental activities?

III. LEADERSHIP

22. How would you describe your school principal's leadership approach?
23. To what extent is your school principal's leadership approach compatible with eco-school and environmental practices?
24. How is leadership tasks distributed in your school?
- a. In the hands of a person?
 - b. Is it shared with all school components?
25. To what extent does your school principal share the leadership role with teachers and students?
- a. Does the distribution of leadership roles work through formal structures and processes (meetings, writing, etc.)? Can you give examples?
 - b. Does the distribution of leadership roles work through informal processes? Can you give examples?
26. To what extent does your school principal share the leadership role with teachers and students in the context of environment and sustainability?
27. To what extent do you think it is useful to distribute and share leadership roles and responsibilities at school?
28. Do you have a leadership role in school?
- a. Example: eco-coordinator
 - b. What contribution do you think this leadership role has to you in school and in your daily life?

IV. RELATIONSHIP BETWEEN ECO-SCHOOLS AND DISTRIBUTED LEADERSHIP

29. In your opinion, what are the advantages and disadvantages of conducting environmental activities in school including eco-school practices with a distributed leadership approach?

a. If the sustainability practices in the school were only under the responsibility of the school administration, would these activities still continue?

30. To what extent is your school suitable for distributed leadership practices?

a. Are teachers, students and parents ready for these roles?

b. Is your school culture ready for distributed leadership?

IV. COOPERATION

31. How do you evaluate the cooperation between the different stakeholders in your school, such as school administrators, teachers, students and parents?

32. How is this cooperation carried out in the context of sustainability studies?

a. What is the role of cooperation in becoming an eco-school and maintaining this identity?

V. DECISION-MAKING

33. How does the decision-making process work in your school?

34. To what extent do you think you can influence decisions made at school? Can you give an example?

35. Have you initiated any activities / practices / policies in your school? Did you feel your effort was supported?

36. How do decision-making mechanisms work in eco-school activities (eco-team building, theoretical and practical applications)? How are decisions taken between students and eco-coordinators and other teachers when creating and implementing content?

Is there anything else you want to add?

Interview Questions – Principals

I. DEMOGRAPHIC QUESTIONS:

1. Year of Birth
2. Educational background and working fields
3. Task Duration (If you are an eco-school coordinator)
4. Your professional experience
5. Have you ever participated in a project or seminar on environment and sustainability?
 - If yes, please specify:
6. Did you organize an activity related to environment and sustainability?
 - If yes, please specify:
7. Are you a member of an environmental non-governmental organization or student community?
 - If yes, please specify:

II. INTRODUCTION

8. What are your duties, roles and responsibilities as a school principal?
9. What changes did you make to the school during your position?
10. What do you pay the most attention to while making decisions about the school?
11. What are the core values and principles of your school? Are there any emphasis on environment and sustainability in these values?
12. Do you think you have implemented these values and vision into practice?

III. ECO-SCHOOL AND OTHER ENVIRONMENTAL PRACTICES

13. In which areas can we observe educational practices related to environment and sustainability in your school?
14. Does the school management have a development plan for the environment and sustainability?

15. In your opinion, who are the most effective in creating a school (eco-school) that cares about environmental problems?
16. What is your opinion about the eco-school program?
 - a. What is the importance of being an eco-school?
17. How well do you think eco-school work is being implemented in the process of becoming an eco-school in your school and maintaining this identity?
18. As a school administrator, how important do you find it to have a school strategy that focuses on environmental and sustainability issues?
19. In your opinion, what is the role of the school leader in environmental and sustainability studies in the school?
20. What do you think are the barriers / barriers to becoming a more environmentally friendly school?
21. What are your overall expectations regarding the eco-school program and other environmental practices?
 - a. How much of these expectations do you think met in your school?
22. Is there a motivation strategy you use to increase eco-school and other environmental and sustainability efforts in the school?
23. Who has what duties and responsibilities for the eco-school and other environmental activities in the school?
24. Do teachers get your opinion while practicing eco-school?
25. Are teachers' environmental activities supported by the school administration?
How?
26. How do you assess the overall attitudes and behaviors of key components such as school administrators, teachers, students and parents about eco-school and other environmental and sustainability studies?

IV. LEADERSHIP

27. How would you define your own leadership approach?
28. What do you understand from the concept of distributed leadership?
29. How is leadership tasks distributed in your school?

- a. In the hands of a person (you)?
 - b. Is it shared with all school components?
30. To what extent do you share your leadership role with teachers and students?
- a. Does the distribution of leadership roles work through formal structures and processes (meetings, writing, etc.)? Can you give examples?
 - b. Does the distribution of leadership roles work through informal processes? Can you give examples?
31. How useful do you think it is to distribute and share leadership roles and responsibilities at school?
32. Do you think that teachers perform leadership roles in your school? Can you give an example?
- a. Do teachers at your school start new activities and practices?
33. Do you authorize other administrators or teachers in some of your duties and responsibilities?

V. RELATIONSHIP BETWEEN ECO-SCHOOLS AND DISTRIBUTED LEADERSHIP

34. In your opinion, what are the advantages and disadvantages of conducting environmental activities in school including eco-school practices with a distributed leadership approach?
- a. If the sustainability practices in the school were only under the responsibility of the school administration, would these activities still continue?
35. To what extent is your school suitable for distributed leadership practices?
- a. Are teachers, students and parents ready for these roles?
 - b. Is your school culture ready for distributed leadership?

VI. COOPERATION

36. What do you understand by the term “cooperation”?
37. How do you evaluate the cooperation between different stakeholders in your school, such as school administrators, teachers, students and parents?
38. How is this cooperation carried out in the context of sustainability studies?
 - a. What is the role of cooperation in becoming an eco-school and maintaining this identity?
39. Are teachers encouraged to cooperate in your school?

VII. DECISION-MAKING

40. How does the decision-making process work in your school?
41. What decisions do you usually make without consultation with staff or other stakeholders?

Is there anything else you want to add?

Interview Questions – Assistant Principals

I. DEMOGRAPHIC QUESTIONS:

1. Year of Birth
2. Educational background and working fields
3. Task Duration (If you are an eco-school coordinator)
4. Your professional experience
5. Have you ever participated in a project or seminar on environment and sustainability?
 - If yes, please specify:
6. Did you organize an activity related to environment and sustainability?
 - If yes, please specify:

7. Are you a member of an environmental non-governmental organization or student community?

- If yes, please specify:

II. INTRODUCTION

8. What are your duties, roles and responsibilities at school?

9. What changes did you make to the school during your position?

10. What do you pay the most attention to while making decisions about the school?

11. What are the core values and principles of your school? Are there any emphasis on environment and sustainability in these values?

12. Do you think you have implemented these values and vision into practice?

III. ECO-SCHOOL AND OTHER ENVIRONMENTAL PRACTICES

13. In which areas can we observe educational practices related to environment and sustainability in your school?

14. Does the school management have a development plan for the environment and sustainability?

15. In your opinion, who are the most effective in creating a school (eco-school) that cares about environmental problems?

16. What is your opinion about the eco-school program?

a. What is the importance of being an eco-school?

17. How well do you think eco-school work is being implemented in the process of becoming an eco-school in your school and maintaining this identity?

18. As a school administrator, how important do you find it to have a school strategy that focuses on environmental and sustainability issues?

19. In your opinion, what is the role of the school leader in environmental and sustainability studies in the school?

20. What do you think are the barriers / barriers to becoming a more environmentally friendly school?

21. What are your overall expectations regarding the eco-school program and other environmental practices?
- a. How much of these expectations do you think met in your school?
22. Is there a motivation strategy you use to increase eco-school and other environmental and sustainability efforts in the school?
23. Who has what duties and responsibilities for the eco-school and other environmental activities in the school?
24. Do teachers get your opinion while practicing eco-school?
25. Are teachers' environmental activities supported by the school administration? How?
26. How do you assess the overall attitudes and behaviors of key components such as school administrators, teachers, students and parents about eco-school and other environmental and sustainability studies?

IV. LEADERSHIP

27. How would you describe your school principal's leadership approach?
28. How is leadership tasks distributed in your school?
- a. In the hands of a person (you)?
 - b. Is it shared with all school components?
29. To what extent does your school principal share the leadership role with teachers and students?
- a. Does the distribution of leadership roles work through formal structures and processes (meetings, writing, etc.)? Can you give examples?
 - b. Does the distribution of leadership roles work through informal processes? Can you give examples?
30. How useful do you think it is to distribute and share leadership roles and responsibilities at school?
31. Do you think that teachers perform leadership roles in your school? Can you give an example?
- a. Do teachers at your school start new activities and practices?

32. Do you authorize other administrators or teachers in some of your duties and responsibilities?

33. Does principal authorize other administrators or teachers in some of her/his duties and responsibilities?

V. RELATIONSHIP BETWEEN ECO-SCHOOLS AND DISTRIBUTED LEADERSHIP

34. In your opinion, what are the advantages and disadvantages of conducting environmental activities in school including eco-school practices with a distributed leadership approach?

a. If the sustainability practices in the school were only under the responsibility of the school administration, would these activities still continue?

35. To what extent is your school suitable for distributed leadership practices?

a. Are teachers, students and parents ready for these roles?

b. Is your school culture ready for distributed leadership?

VI. COOPERATION

36. What do you understand by the term “cooperation”?

37. How do you evaluate the cooperation between different stakeholders in your school, such as school administrators, teachers, students and parents?

38. How is this cooperation carried out in the context of sustainability studies?

a. What is the role of cooperation in becoming an eco-school and maintaining this identity?

39. Are teachers encouraged to cooperate in your school?

VII. DECISION-MAKING

40. How does the decision-making process work in your school?

Is there anything else you want to add?

B. ACTIVITY OBSERVATION SHEET

		Never				Always
Teacher Behavior	-The teacher clearly explains the purpose of the activity to the students.	0	1	2	3	4
	-The teacher gives enough information to the students about the activity.	0	1	2	3	4
	-The teacher motivates the students.	0	1	2	3	4
	-The teacher encourages students to make decisions.	0	1	2	3	4
	-The teacher helps the students.	0	1	2	3	4
	-The teacher collaborates with students to increase success.	0	1	2	3	4
	- The teacher reflects her knowledge about environment and sustainability to the activity.	0	1	2	3	4
	- The teacher has a high awareness of the environment and sustainability.	0	1	2	3	4
Student Behavior	OVERALL (Total/8)	/8=				
	- Students are willing to work on environment and sustainability.	0	1	2	3	4
	-Students are eager to raise awareness of other individuals in the school about the environment and sustainability.	0	1	2	3	4
	-The students reflect their theoretical knowledge about the environment and sustainability.	0	1	2	3	4
	-The students reflect their sensitivity to the environment and sustainability.	0	1	2	3	4
	-Students learn different-new information about the environment during the event.	0	1	2	3	4
	-The students share their ideas about	0	1	2	3	4

	environment and sustainability with their friends. -Students makes task-sharing when necessary. -Students are involved in decision-making. -Students come up with new ideas. -Students work together with the team. -Students encourage their friends to cooperate. -Students develop new abilities and skills. -The students show behaviors that show that they see the teacher as a role-model. -The students motivate their friends.					
		0	1	2	3	4
		0	1	2	3	4
		0	1	2	3	4
		0	1	2	3	4
		0	1	2	3	4
		0	1	2	3	4
		0	1	2	3	4
		0	1	2	3	4
	OVERALL (Total/14)	/14=				

C. APPROVAL OF METU ETHICAL COMMITTEE

UYDULAMALI ETİK ARAŞTIRMA MERKEZİ
APPLIED ETHICS RESEARCH CENTER



ORTA DOĞU TEKNİK ÜNİVERSİTESİ
MIDDLE EAST TECHNICAL UNIVERSITY

DUMLUPINAR BULVARI 06800
ÇANKAYA ANKARA/TURKEY

T: +90 312 210 22 91
F: +90 312 210 79 59

ueam@metu.edu.tr

www.Sayı: 28620816 / 137

08 MART 2017

Konu: Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgili: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Doç. Dr. Yaşar KONDAKÇI;

Danışmanlığını yaptığınız yüksek lisans öğrencisi Başak BAĞCI' nın *"Ekolojik Okullarda Dağıtımçı Liderliğin Doğası"* başlıklı araştırması İnsan Araştırmaları Etik Kurulu tarafından uygun görülerek gerekli onay 2017-EGT-026 protokol numarası ile 08.03.2017 – 31.12.2017 tarihleri arasında geçerli olmak üzere verilmiştir.

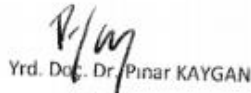
Bilgilerinize saygılarımla sunarım.


Prof. Dr. Canan SÜMER

İnsan Araştırmaları Etik Kurulu Başkanı


Prof. Dr. Mehmet UTKU
İAEK Üyesi


Prof. Dr. Ayhan Gürbüz DEMİR
İAEK Üyesi


Yrd. Doç. Dr. Pinar KAYGAN
İAEK Üyesi


Prof. Dr. Ayhan SOL
İAEK Üyesi


Doç. Dr. Yaşar KONDAKÇI (v.)
İAEK Üyesi


Yrd. Doç. Dr. Emre SELÇUK
İAEK Üyesi

D. TURKISH SUMMARY / TRKE ZET

EKO-OKULLARDA DAĐITIMCI LİDERLİK ZERİNE NİTEL BİR ARAŐTIRMA

GİRİŐ

İnsan nfusu ve tketimin artmasıyla birlikte sınırlı doĐal kaynaklar ok hızlı bir şekilde azalmakta ve bu da evreye byk zarar vermektedir. Alanların tahrip edilmesi ve kirlilik biyolojik eřitliliĐin azalmasına yol amakta, hava kirliliĐi ise gezegenimizin karŐı karŐıya olduĐu en nemli evresel problemlerden biri olan iklim deĐiŐikliĐine neden olmaktadır. Dnya zerindeki herkes kresel evre sorunlarından zarar grme potansiyeline sahip olduĐu iin, ulusal ve uluslararası kuruluŐların evresel riskler konusunda ortak hareket etmesi gerekmektedir (United Nations General Assembly, 1987).

Srdrlebilirlik kavramı; evre, ekonomi ve toplum olmak zere  element zerinde kavramsallaŐtırılmıŐtır. Srdrlebilir kalkınma “insanların gelecek nesillerin temel ihtiyalarını karŐılayabilmesinden dn vermeden gnmzn ihtiyalarını karŐılama arayıŐı” olarak tanımlanmaktadır (United Nations General Assembly, 1987, s.43).

BirleŐmiŐ Milletler'in srdrlebilir kalkınma ile ilgili eylem planı olan Agenda 21, farklı topluluklar ve alanlar iin srdrlebilirlik uygulamalarının etkilerine dikkat ekmektedir (UNCED, 1992). Raporun tm blmlerinde srdrlebilir gelecek iin eĐitimin nemli rol n plana ıkmaktadır. Srdrlebilir Kalkınma iin EĐitim (ESD), evreyle ilgili bilgi ve ilkeleri sadece Đretmekten te, evre ve srdrlebilirlik konularına daha geniŐ bir bakıŐ aısıyla bakarak anlam

kazanmaktadır (UN, 2012). ESD' nin amaçları ve özellikleri sürdürülebilir kalkınmayı teşvik ederek örgün ve yaygın eğitim dahil olmak üzere eğitimin her alanında disiplinler arası çalışmalarla yaşam boyu öğrenmeyi desteklemek olarak özetlenmektedir (UN, 2012).

Sürdürülebilirliğin okullarda gerçek anlamda uygulanması, müfredat çalışmalarından günlük aktivitelere, okul vizyonundan okul paydaşlarının etkileşimlerine ve okul politikalarından karar vermeye kadar okul hayatının her alanına yansımaları anlamına gelmektedir (UN, 2012). Okulların; okul yönetimi, öğretmenler, müfredat, kaynaklar ve diğer okul faaliyetlerini içeren bir sürdürülebilirlik merkezi olması gerektiği vurgulanmaktadır (Henderson & Tilbury, 2004). Sürdürülebilirliği bir değer olarak benimseyen okullarda, geri dönüşüm, kaynakların yeniden kullanımı, atık yönetimi gibi uygulamalarla çevresel sürdürülebilirlik okul kültüründe aktif olarak gözlemlenmektedir.

Dünya genelinde, okullarda sürdürülebilirlik uygulamalarına bütünsel yaklaşıma ilişkin yeşil okullar, eko-okullar, çevre okulları gibi sürdürülebilir okullar bulunmaktadır. Bu okullar, çevreyle ilgili duyarlılığın sınıfların ve hatta okulların ötesine taşınması gerektiğine inanan bakış açısının canlı örnekleridir (UNESCO, 2017). Eko-okul programı, okullarda çevre yönetimi sistemi açısından dünyanın en geniş kapsamlı sürdürülebilir okul programıdır (Pirrie, Elliot, McConnell & Wilkinson, 2006). Birleşmiş Milletler Çevre Programı (UNEP) eko-okulları; çevre eğitimi, yönetimi ve sürdürülebilirliği için önemli küresel girişimlerden biri olarak tanımlamaktadır (FEE, 2017). Bu okullar tüm eğitim düzeylerinde ve okul genelinde Sürdürülebilir Kalkınma için Eğitimi teşvik etmektedir (“Eco-Schools History”, n.d). 2012 UNESCO Raporuna göre, eko-okulların tanınmasının en önemli nedeni, sınıflarda işlenen klasik çevre eğitiminin ötesine geçmesi, öğrencileri ve okul toplumunun genelini öğrenme sürecinde aktif hale getiren bir anlayışa sahip olmasıdır (Mathar, 2013). Bu okulların temel amacı çocukların çevre sorunları ve sürdürülebilirlik konusundaki farkındalıklarını artırmak ve onları gerçek hayatlarında sürdürülebilir çözümlere hazırlamaktır (“About Eco-Schools”, n.d.). Öğrencilerin okul

ortamında olumlu bir etki yaratmalarını sağlamak amaçlanmaktadır. Bu nedenle, eko-okul programının bir diğer amacı öğrencilerin liderlik, iletişim ve işbirliği becerilerini artırmaktır. Eko-okulların sürdürülebilirlik eğitimi yoluyla hedeflerine ulaşmasında başarılı olmaları için etkili bir okul yönetimi ve kişilerin liderlik becerileri ön plana çıkmaktadır.

Liderliğin okul ortamlarındaki değişim ve gelişmede hayati bir rolü olduğu bilinmektedir. Son yıllarda, dağıtımçı liderlik, eğitim yönetimi ve liderlik alanında büyük ilgi gören konulardan biri olmuştur. Dağıtımçı liderlik, okul liderliği eylemini anlamlandırmayı sağlayan bir düşünce modeli olarak tanımlanmaktadır (Gronn, 2002; Spillane, Halverson ve Diamond, 2001, s.24). Dağıtımçı liderlik; okulda liderlerin, takipçilerin ve durumun etkileşiminden oluşan bir etki olarak kavramsallaştırmıştır. Bu durum, belirli bir görev için liderliğin birden fazla kişiye dağıtıldığını göstermektedir (Spillane, 2006). Liderlik üzerine bu çerçevenin vurguladığı nokta, liderliğin, yalnızca bireysel liderlerin sorumlulukları ve rolleri değil, organizasyonun tamamının sahip olduğu bir faaliyet sistemi anlamına gelmesidir. Liderlik, ekipler veya bireyler arasında paylaşılmakta ve karar verme süreci kişilerin etkileşimi ile gerçekleştirilmektedir (Harris, 2008). Bu liderlerden bazıları formal olmakla beraber, diğerleri informal olarak ortaya çıkma potansiyeline sahiptir. Okullarda dağıtımçı liderlik etki alanını, ekipler, zümreler, okul gelişim grupları veya disiplinler arası gruplar olarak gösterebilmektedir (Harris, 2008).

Sürdürülebilirlik kavramı, tanımı ve uygulanışı gereği, okullarda birden fazla sorumlu kişiye ve tüm okulu kapsayan geniş bir anlayışa ihtiyaç duymaktadır. Bu yaklaşım, sürdürülebilirliği daha iyi anlamak ve öğrencileri gerçek yaşamda sürdürülebilirliğe hazırlamak için gereklidir (Henderson & Tilbury, 2004). Buna ek olarak, okullar, diğer paydaşlarla ve topluluklarla network oluşturarak birlikte daha sürdürülebilir yaşama katılımından sorumlu olmaktadır. Bu açıdan Harris (2008) ve Jackson (2007), dağıtımçı liderliğin okullardaki sürdürülebilirlik uygulamaları için en çok desteklenmesi gereken liderlik modeli olduğunu ileri sürmektedir.

Sürdürülebilirliğin çeşitli unsurlarının, formal ve informal lider pozisyonlarındaki kişiler ve okul toplulukları tarafından ele alınabileceğine inanılmaktadır.

Eko-okullarda, dağıtımçı liderlik anlayışının, istenilen başarıları elde etmek için en iyi teşviklerden biri olacağı ileri sürülmektedir. Eko-okullardaki çabalar, dağıtımçı liderlik için önemli ihtiyaçlardan olan (Copland, 2003) işbirliği, faaliyetlerin dağıtımını ve ortak fikir birliğine işaret etmektedir. Okullarda eko-okul programının başarıyla uygulanması; birçok okul bileşeninden oluşan komite ile timlerin oluşturulması ve çevresel konular için harekete geçilmesi ile öğretmen ve öğrenci liderliği gerektirmektedir. Takımların faaliyetleri ve sorumluluklarının üyeler arasında uyum ve güven yaratması beklenmektedir. Bu nedenle, görevlerin öğrencilere, öğretmenlere, idarecilere ve velilere dağıtılması ile çalışma ekiplerinin başarılı işbirliği önem kazanmaktadır.

Dağıtımçı liderliğin eko-okullarla bir diğer önemli ilişkisi, açık bir şekilde gözlemlenebilir olan öğretmen liderliği etkinliğidir (Ceylan, 2015). Eko-okullarda koordinatör öğretmenlerin; öğrencileri, okul yönetimini, okul personelini ve diğer paydaşları yönetmek ve onları motive etmek için liderlik becerileri sunmaları gerekmektedir (Ceylan, 2015). Okulun ihtiyaçlarına ve kültürüne bağlı olarak çevreyle ilgili etkinlikleri iletirmek öğretmenlerin önemli rolleri arasında gösterilmektedir. Eko-okul uygulamalarında gözlemlenebilecek olası liderlik stilleri, Leithwood'un (1999) liderlik tanımlarına dayanarak öğretimsel, dönüştürücü, etik ve katılımcı liderlik olarak açıklanmaktadır (Ceylan, 2015). Eko-okuldaki kişilerin çevreye dair değerlerle ilgili okul yönetimi ve okul kültürü hakkında karar vermesi, hedeflerin başarısı için bir gereklilik olarak görünmektedir.

Bu noktada okul yönetimi, bireyler için iletişim kanallarının geliştirilmesini sağlamak ve öğretmenler ile öğrenciler için zaman, kaynaklar ve sorumluluklar oluşturmak gibi önemli görevlere sahiptir (Pirrie et al., 2006). Bir eko-okulda okul müdürünün rolü, çevreyle ilgili faaliyetleri ve sürdürülebilirliğe bağlılığı teşvik etmek olmalıdır (Turhan, 2012).

Bu açıklamalara dayanarak, dağıtımçı liderliğin ön koşullarının eko-okullarda olduğu iddia edilebilmektedir. Bununla birlikte, dağıtımçı liderliği kurumların sahip olduğu ya da olmadığı kabul edilen bir liderlik tarzı olarak görmek doğru değildir (Spillane, 2006). Bunun yerine okullarda liderliğin nasıl ve ne kadar dağıtıldığını anlamak önemlidir. Bu açıdan bakıldığında, özetle belirtmek gerekirse, dağıtımçı liderliğin eko-okullardaki liderlik uygulamasını anlamak için uygun bir çerçeve oluşturabileceğini söylemek doğru olacaktır. Okuldaki çevreyle ilgili etkinliklerde farklı liderlik görevlerinin aktif olması, okul gelişimi için çok boyutlu olumlu sonuçlar verebilmektedir.

Çalışmanın Amacı ve Araştırma Sorusu

Bu araştırmanın amacı, dağıtımçı liderlik modelini eko-okul bağlamında incelemek ve eko-okul uygulamasında liderliğin rolünü araştırmaktır.

Bu araştırmanın odağı aşağıdaki ana ve alt araştırma sorularına dayanmaktadır:

- Türkiye'deki eko-okullarda dağıtımçı liderlik uygulamalarının doğası nasıl tanımlanmaktadır?

- Eko-okul ortamında liderliğin rolü nedir?
- Eko-okullarda liderlik uygulamaları nasıl dağıtılmıştır?

Çalışmanın Önemi

Bu araştırma, eğitim yönetimi, liderlik, çevre eğitimi ve sürdürülebilirlik alanlarında teori, uygulama ve araştırmaya katkıda bulunma potansiyeline sahiptir. Çalışma, eko-okullardaki liderliğin kapsamını, özellikle dağıtımçı liderlik yapısıyla araştıran az sayıdaki araştırmalardan biridir.

Uygulama alanında, bu nitel araştırma eğitimcilere okullarında çevre koruma ve farkındalık için kullanabilecekleri çeşitli öğretim yöntem ve araçları sunmaktadır.

Araştırma, öğretmenlerin, okullarda çevre ve sürdürülebilirlik bağlamındaki değişimin en önemli parçası olma etkisine olan motivasyonlarını ve inançlarını artırma potansiyeline sahiptir. Bu çalışma aynı zamanda okul liderlerinin sürdürülebilirlik kavramına olan farkındalığını artırmayı teşvik etmektedir. Kolektif ve dağıtımçı liderlik biçimlerinin okullar için bir eko-okul haline gelme ve bu kimliği sürdürmede bir model oluşturduğunu sunma ve böylece eğitimcilere dağıtımçı liderlik uygulamaları için farklı bir gerekçe yaratmayı planlamaktadır. Eko-okullarda dağıtımçı liderlik, okul ortamını iyileştirmek için daha demokratik ve daha az hiyerarşik yönetim fırsatları yaratacak bir temel sunmaktadır (Woods & Roberts, 2015). Ayrıca çalışma, öğretmenleri ve öğrencileri kişisel gelişimlerini çevreyle ve liderlikle ilgili alanlarda artırmaya da teşvik etmektedir (Harris, 2008).

Bu çalışma aynı zamanda okullarda dağıtımçı liderliğin ve çevresel sürdürülebilirliğin teorik yaklaşımına katkıda bulunma potansiyeline sahiptir. Dağıtımçı liderlik, eğitim araştırmalarında gün geçtikçe daha fazla dikkat çeken için bir liderlik anlayışıdır (Harris & Spillane, 2008; Harris, 2004). Eğitimde sürdürülebilirlik uygulamaları için dağıtımçı liderlik rollerini tanımlamak ve geliştirmek, dağıtımçı liderliğin teorik boyutlarını zenginleştirmektedir.

YÖNTEM

Bu çalışmada liderlik uygulamalarının eko-okullarda çevresel sürdürülebilirlik bağlamında nasıl dağıtıldığı konusundaki karmaşık ve kültürel olguları ele almak amacıyla, nitel bir araştırma biçimi olarak etnografi kullanılmıştır. Etnografik araştırma, bir topluluğun gözlemlenebilir ve öğrenilmiş davranışları, günlük rutinleri ve insanların sergilediği doğal yaşam biçimini incelemeye kullanılan bir yöntemdir. Bu yaklaşım, seçilen eko-okulun günlük aktiviteleri, etkinliklerde kişilerin etkileşimleri ve davranışlarını incelemek için uygun bir model oluşturmaktadır.

Katılımcılar

Bu nitel araştırmada veri toplama uzun bir zaman ve kayda değer bir çaba gerektirmiştir. Bu nedenle, araştırmacının okulun günlük yaşamını yakından incelemesini sağlayan ve kolayca ulaşılabilen bir araştırma okulu seçmesi önem kazanmıştır. Bununla birlikte, araştırma, çevresel sürdürülebilirlik konusundaki çabaları ve tutumu bilinen, eko-okul programını gerçekte uygulayan ve örnek dağıtımçı liderlik eylemleri sunan bir eko-okul gözlemi gerektirmiştir. Araştırma alanı bu kriterlere uygun olan, Ankara'daki eko-okullardan bir tanesi olarak seçilmiştir.

Araştırılan eko-okulda öğretmenler, müdür yardımcıları ve müdürleri kapsayan 11 katılımcı ile yarı yapılandırılmış görüşmeler yapılmıştır. Görüşmelerde kişisel gizliliği sağlamak için katılımcılara rumuz isimler verilmiştir. Görüşmelerdeki öğretmen katılımcılar, araştırmanın yapıldığı tarihte ya da öncesinde eko-okulda koordinatör rolünde olan kişilerden oluşmaktadır. Okulun doğal ortamında katılımcı gözlem yapıldığı için, eko-okul etkinliklerindeki öğretmenler ve öğrenciler, okulun günlük rutini içindeki müdür, müdür yardımcıları, diğer öğretmenler ve çalışanlar da araştırmanın katılımcılarına dahil edilmektedir.

Katılımcıların çevresel sürdürülebilirlik konusundaki deneyimleri bazı yönlerden farklılık göstermektedir. Katılımcıların çevre konularındaki etkinliği çoğunlukla eko-okul faaliyetlerine dayanmaktadır. Eko-okul seminerleri, toplantıları ve aktiviteleri bu faaliyetlere örnektir.

Veri Toplama Araçları

Çalışmanın birincil veri toplama yöntemi yarı yapılandırılmış görüşmelerdir. Diğer yandan, saha çalışmasında katılımcı ve katılımcı olmayan gözlem, alan notları ve doküman analizi, verilerin doğrulanması ve kıyaslanması adına sıklıkla kullanılan diğer veri toplama yöntemlerini içermektedir. Böylece, toplanan verilerin

güvenilirliğini sağlamak amacıyla çeşitli veri kaynaklarının yorumlanmasında üçgenleme yöntemi kullanılmıştır.

Görüşme soruları açık uçlu olarak yapılandırılmıştır. Bu yarı yapılandırılmış görüşmeler okuldaki dağıtımçı liderlik biçimleri içeriğinde ve daha özel olarak okulun çevre uygulamalarına yönelik performansı ile ilişkilendirilmiştir. Sorular katılımcıların okuldaki görev tanımlarına bağlı olarak bazı farklılıklara sahiptir ve genel olarak belirli bölümlere ayrılmıştır. Birinci bölüm, katılımcıları tanımlayan yedi demografik sorudan oluşmaktadır. Diğer bir bölümde eko-okul ve okuldaki diğer çevresel faaliyetlerle ilgili sorular bulunurken, başka bir bölüm, katılımcıların okuldaki liderlik uygulamaları ve dağıtımçı liderlik ile ilgili fikirlerini almayı hedeflemiştir. Eko-okul ve dağıtımçı liderlik arasındaki ilişki üzerine sorular içeren bölüm, görüşmenin çekirdek kısımlarından birisidir. Son iki bölüm, işbirliği ve karar verme ile ilgili sorular içermektedir.

Bu çalışmada araştırmacı, periyodik olarak eko-okulda bulunarak 10 ay süresince katılım gözlem eylemi gerçekleştirmiştir. Bu anlamda öğrencilerin ve öğretmenlerin motivasyonları, karar alma süreçleri, bireylerin davranışları ve etkileşimleri üzerine gözlemler yapılmıştır.

Alan notları, gözlem ve görüşmelerden alınan notları içermektedir. Alan notları araştırma sahasından ayrıldıktan sonra mümkün olan en kısa sürede kaydedilmiştir.

Doküman analizi için gerekli belgeleri ise eko-okul gruplarının okul panoları, eko-okulun eylem planları, farklı zümrelerin eko-okul da dahil olmak üzere çevre çalışmalarıyla ilgili plan ve raporları, eko-okul gruplarının ve zümrelerin dönem sonu raporları oluşturmaktadır.

Veri Toplama

Araştırma alanına girilmesiyle, araştırmacı informal röportajlar ve gözlemler yapmıştır. Bunlardan elde edilen bilgiler, alan notlarına tanımlayıcı bilgiler olarak

yazılmıştır. Eko-okul faaliyetlerinde video kaydı veya fotoğraf çekimleri yapılmıştır. Araştırmacı, takımların ve çevre projeleriyle ilgili diğer okul faaliyetlerinin haftalık toplantılarına ve faaliyetlerine katılmıştır. Öğrenci ve öğretmen grupları tarafından düzenlenen eko-okul etkinlikleri, katılımcı ve katılımcı olmayan gözlem yoluyla farklı ders konularının yürütüldüğü çevre çalışmalarından elde edilen veriler araştırma sırasında alan notlarını oluşturmuştur. Okulun sürdürülebilirliğe yönelik günlük rutinleri ve kültürü gözlemlenmiştir. Daha sonra yarı yapılandırılmış görüşmeler gerçekleştirilmiştir.

Veri Analizi

Nitel çalışmalar, çeşitli tiplerde büyük miktarda veri sunmaktadır. Bu nedenle, toplanan verilerin seçilmesi ve düzenlenmesi oldukça önemlidir. Etnografik araştırmada, temalar çoğunlukla araştırma sırasında veya sonunda ortaya çıkmaktadır (Fraenkel, Wallen & Hyun, 2012). Bu çalışmada temalar, görüşme sorularının oluşturulmasıyla şekillenmeye başlamıştır.

Görüşme soruları belirli kategorileri kapsayacak şekilde planlanmıştır (Fraenkel, Wallen & Hyun, 2012). Araştırmacı araştırma alanına girdikten sonra alan notları ve dokümanlardaki verilerin karşılaştırılmasıyla ortaya çıkan tamamlayıcı veriler, kategorileri geliştirmiştir.

Görüşmelerin transkripsiyonu devam ederken, bazı verilerin belirli tip kategoriler aralığına düştüğü incelenmiştir. Transkripsiyon sona erdikten ve veriler tekrar değerlendirildikten sonra daha spesifik kodlar oluşmuştur. Örneğin, eko-okul kategorisine şu kodlar yerleştirilmiştir: “eko-okulun tanımlanması”, “sürdürülebilirliğin tanımlanması”, “eko-okul olmanın farkının tanımlanması”, “eko-okuldan beklentiler”, “eko-okulda motivasyon”, “zorluklar” ve “okul bileşenlerinin eko-okula karşı tutumları.”. Sonuçta, kategoriler listelenerek ve benzer veriler kodlar altında organize edilerek kod listesi oluşturulmuştur.

TARTIŞMA ve SONUÇ

Eko-Okullarda Liderliğin Rolü

Araştırmanın katılımcıları, eko-okul programının başarıyla uygulanmasını öğretmen inisiyatifine ve işbirliğine bağlamıştır. Öğretmen katılımcılar, eko-okul faaliyetlerinin çevresel konularda duyarlılık yaratan, etkili öğretim yöntemleri ve okul ortamının gelişimi için çeşitli fırsatlarla öne çıkan koordinatör öğretmenler yetiştirdiğini belirtmiştir. Okul kültürü, öğretmenlerin eylemlerini okulun çevre yönetim sisteminde politika üretici olarak yapılandırmaktadır. Bu anlamda çalışma, koordinatör rolünde öğretmenlerin rol ve sorumluluklarının, diğer çalışmaların da önerdiği liderlik aktivitelerine karşılık geldiğini ortaya koymuştur (Ceylan, 2015).

Eko-okul programını tanımlarken katılımcılar, farklı zümrelerdeki öğretmenlerin çevre konularıyla ilgili performansının, öğrenciler için olumlu rol modelleme oluşturduğunu belirtmiştir. İlgili farklı çalışmalar da, öğretmen liderlerin ve okul müdürlerinin sürdürülebilirlik etkinliklerindeki davranışlarının öğrenciler tarafından model alındığını ortaya koymaktadır (Higgs & McMilann, 2006; Gamblin, 2013; Shallcross, 2003).

Eko-okul programının temel amaçlarından biri öğrencilerin eko-okul sürecini yönetmesidir. Program, öğrencilere çevre sorunlarıyla ilgili adım atma konusunda ilham verme ve onları destekleme potansiyeline sahiptir (FEE, 2017). Bu çalışmanın bulguları, eko-okulla, öğrencilerin çevre konularındaki bilgilerinin yanı sıra iletişim ve liderlik becerilerinin de geliştiğini göstermiştir.

Bu araştırmadan elde edilen veriler, eko-okul programındaki eko-tim gruplarının okuldaki etkin çevre yönetiminin olası dezavantajlarını da ortaya çıkarmıştır. Bu anlamda katılımcılardan biri, eko-okulda bazen çevre konularının sorumluluğunun yalnızca eko-tim üyelerinin üzerindeymiş gibi algılandığını belirtmiştir. Katılımcının bu şüphesi, okulda sürdürülebilirlik uygulamaların tüm okulu kapsayıcı nitelikte

olması gerektiğini yansıtmaktadır. Sürdürülebilir kalkınma hedeflerine ulaşmak için sürdürülebilirliğin tüm okulun sahip olduğu bir varlık olması gerektiği birçok bilimsel çalışmanın ortak argümanlarından biridir (Henderson & Tilbury, 2004; Öhman, 2008; Gough, 1997; Higgs & McMillan, 2006; Schelly et al., 2010; Kensler, 2012). Bununla birlikte, bu çalışmadaki katılımcılarının çoğunluğu eko-okul programının okuldaki sürdürülebilirlik kavramı üzerine kolektif bir okul kültürü sağladığını birkaç kez vurgulamıştır.

Katılımcıların büyük çoğunluğu, farklı okul paydaşlarının eko-okul aktivitelerine dahil olmasıyla paylaşılan liderlik şekillerinin ortaya çıktığını belirtmiştir. Eko-okul olmak ve bu etikeri sürdürmek için gereken adımlar, farklı zümrelerden öğretmenlerin eko-okul temasındaki çevresel performansta aktif olmasını gerektirmektedir. Bu çalışmada, araştırılan okul ortamında çevre konuları ve sürdürülebilirlikle ilgili çeşitli aktivitelerin sürdürüldüğü gözlemlenmiştir. Bununla birlikte, daha da önemlisi, bu aktiviteler klasik müfredat içeriğinin dışına çıkarak sınıf-dışı uygulamalara dönüşmekte ve okul kültüründe ekolojik perspektif oluşmasını etkilemektedir. Okul bileşenlerinin hepsinin katılımıyla programdan istenilen başarı elde edilecektir (Mogensen & Mayer, 2005). Bu nedenle, çevresel aktivitelerin kapsamı çok önemlidir. Örneğin, bu çalışmadaki okulda enerji ve su tasarrufu etkinlikleri, okulun tamamının çevresel performansa dahil olduğu gösteren bir örnektir. Tüm okul öğelerini etkileyen bir başka uygulama da geri dönüşümdür. Katılımcıların büyük çoğunluğu okulun atık yönetiminden bahsetmiştir. Velilerden okul personeline kadar birçok paydaşın çevresel eylemlere katılımı ifade edilmiş, bu da okuldaki tüm bireylerin günlük uygulamalarda çevre dostu davranışlarda bulunduğu çıkarımını yansıtmıştır.

Eko-okul programının katılımcı doğası, öğrencilerin ve diğer okul bileşenlerinin çevresel duyarlılığını geliştirmekte ve okullarda farklı liderlik fırsatlarını ortaya çıkarmaktadır. Bununla birlikte, bazı katılımcılar farklı zümrelerin birlikte çalışması sırasında işbirliğinin önündeki engelleri açıklamışlardır. Katılımcılar, farklı zümre öğretmenlerinin sürdürülebilirlik konusunu fen bilimleri zümresi kadar ciddiye

almadığını belirtmişlerdir. Diğer zümreler başlangıçta hevesli olmalarına rağmen, okuldaki iş yükü ve sınırlı zaman nedeniyle motivasyonlarını sürdürmede zorluklar yaşamışlardır. Ancak, etkili liderlik bu gibi durumlarda önem kazanmaktadır. Ekolojik değerlere önem veren okul liderleri, müfredat ve okul kültürü açısından çevre duyarlılığını kazandırmada etkili yollar sunmaktadır (Campbell, 2011). Diğer çalışmalar ayrıca okul dışı kişiler ve topluluklarla işbirliğinin okullara, sürdürülebilirlikle ilgili istenilen sonuçlara ulaşmada yardımcı olduğunu ileri sürmektedir (Campbell, 2011). Özellikle velilerin katılımı; fikirlerin paylaşılması, birlikte çalışma ve sürdürülebilir değerlerin geliştirilmesini sağlamaktadır. Bu araştırmada eko-okul uygulamalarına velilerin katılımıyla ilgili olumsuz ve olumlu çeşitli bulgular bulunmaktadır. Bazı katılımcılar, atık yönetimine velilerin katılımını etkili bulmuşlardır. Bununla birlikte, veli katılımı başka katılımcılar tarafından eko-okuldaki bariyerlerden biri olarak belirtilmiştir. Sürdürülebilirlik konusunda ortak vizyonun inşa edilmesinin zorluğundaki en önemli etkenlerden biri olarak veliler gösterilmiştir. Katılımcılardan biri, velilerin okul kayıtlarına karar vermeden önce okulun çevre odaklı vizyonuna değil, akademik başarısına dikkat ettiğinden bahsetmiştir. Bu anlamda akademik başarıyı önemseyen eğitim politikaları, velilerin tercihlerini ve okullardaki çevre duyarlılığına verilen önemi etkilemektedir. Buna bağlı olarak birçok okul bütçesini akademik çalışmalara harcamaktadır. Oysa çevre duyarlılığı yalnızca bir okul vizyonu ya da politikası değil, ulusal ve uluslararası bir eğitim politikası haline gelmelidir. Farklı yetkililerin katılımıyla çevresel sürdürülebilirlik hükümet politikalarına da dahil edilmelidir (UN, 1992; United Nations General Assembly, 1987).

Eko-okullarda Dağıtımçı Liderlik

Çalışmalar, dağıtımçı liderlik modeli ile eko-okul programını birçok açıdan ilişkilendirmektedir. Eko-okul programının ilgilerinden biri, okullarda sürdürülebilirlik konularına birçok okul bileşeninin katılımına olan ihtiyacı karşılamaktır ("About Eco-Schools", n.d.; Mogensen & Mayer, 2005; Mathar, 2013; Henderson & Tilbury, 2004). Okulların eko-okul haline gelmesiyle birlikte çeşitli

okul paydaşlarının katılımı, sürdürülebilirlik bağlamında işbirliği ortamını desteklemektedir (FEE, 2017; Mogensen & Mayer, 2005; Pirrie et al., 2006). Bu araştırmanın odak noktası liderliğin nasıl ve hangi şekillerde dağıtıldığıdır. Öncelikle, araştırılan okulun kültürü katılımcılar tarafından kolektif bir kültür olarak tanımlanmıştır. Eko-okul programının uygulanmasında liderliği paylaştıran bir okul ortamı önem kazanmaktadır. Katılımcılar, okul müdürlerinin liderlik tarzını demokratik ve katılımcı olarak tanımlamışlardır. Diğer yandan müdürler, etkili iletişim becerilerine sahip liderler olarak nitelendirilmiştir. Diğer çalışmalar, çağın güncel liderlik anlayışının paylaşımcı ve kolektivist olmasının yanında, okul müdürlerinin okul ortamına etkisinin azalmadığını, halen oldukça fazla olduğunu vurgulamaktadır (Harris, 2012). Etkili müdürlerin yokluğunda dağıtımcı liderliğin geliştirilemeyeceği ve sürdürülemeyeceği belirtilmektedir. Müdürler, okul öğelerini bir arada tutan temel unsurlar olarak değerlendirilmektedir (Harris, 2012). Bu çalışmada da müdürlerin liderlik rol ve sorumluluklarını nasıl ve hangi koşullarda dağıttığı kilit rol oynamıştır. Öğretmenlere ve diğer bileşenlere sunulan destekleyici yaklaşım, farklı bireylerin liderliğinin ön plana çıkmasını kolaylaştırmıştır. Bulgulardan, okul yönetiminin farklı birimler ve kişilere yetki ve sorumluluklar atadığı anlaşılmaktadır. Gücün bu kadar dağıtılmasının ardındaki nedenler, müdürler tarafından okuldaki fazla miktarda iş yükü ve farklı okul bileşenlerinin okul faaliyetlerine bağlılığının önemli olması olarak listelenmiştir. Farklı birimlerin katılımı olmadan ortak kültürünün kalıcı olmayacağı belirtilmiştir. Öte yandan, okulda öğretmen liderliği büyük çoğunlukla etkisini, yenilikçi ve yaratıcı müfredat çalışmaları ile müfredat dışı faaliyetlerde göstermiştir. Bulgular anlamlıdır, çünkü dağıtımcı liderlik okullarda uzmanlığın okul gelişimdeki önemine odaklanmaktadır (Harris, 2004; Elmore 2000; Harris et al., 2007). Araştırma bulgularına göre eko-okulda, öğretmenlerin ve diğer okul bileşenlerinin yaratıcı ve uzmanlık gerektiren faaliyetlerde ve projelerde rol alması, öğretmenlerin özgürlüğünü artırmaktadır. Ancak araştırılan okulda öğretmenlerin etkinliğinin sınırları müdürler tarafından çizilebilmektedir. Farklı çalışmalar, okullarda dağıtımcı liderlik anlayışıyla ortaya çıkan yeni liderlerin etkinlik sınırlarının genişliği hakkında farklı argümanlar

sunmaktadır. Okul mdrlerinin sınırlar hakkındaki ynetiminin, eko-okulda ortak hedefleri korumak iin nemli olabileceęi belirtilmiřtir. Katılımcılardan bir tanesi, sınırlar koymanın okul mdrne olan gveni artırdıęını belirtmiřtir.

Bu alıřmadaki bulgular, eko-okul atmosferinde daęıtımcı liderlięin beklenmedik bir řekilde ortaya ıkabileceęini gstermektedir. Bu durum, Spillane'nin (2006) daęıtımcı liderlięi okul ortamında meydana ıkan bir deęer olarak tanımlamasını desteklemektedir. Arařtırılan okulda eko-okul programı, evre ynetimi kavramıyla ęretmen liderlięinin sahnelenmesine neden olmuřtur. Mdrlerden biri, okuldaki bazı bireylerin farklı stn beceri ve uzmanlıęa sahip olduklarını ve evresel srdrlebilirlik becerilerinin de bunlardan biri olduęunu belirtmiřtir. Mdr, evre konularıyla ilgili her iři bu ęretmenlere ve ęrencilere bıraktıęını eklemiřtir. Mdrler, evre alıřmalarını srdren ęretmen ve ęrencileri motive etmek iin dllendirme yntemini kullandıklarını belirtmiřtir. Dięer alıřmalar da eko-okullarda okul mdrnn rolnn srdrlebilirlik uygulamalarını desteklemek ve motive etmek olduęunu ne srmektedir (Turhan, 2012). Bununla birlikte bu alıřmada, isel motivasyonun, zellikle ęretmen liderleri harekete geirilmede belirleyici bir faktr olarak ortaya ıktıęı gzlemlenmiřtir. Bulgular, ęretmenlerin motivasyonunun ęrenci motivasyonuna ve cořkusuna yansıdıęını gstermiřtir.

Bu alıřmadaki ęretmen katılımcılardan birinin, ęrencilerle "su" temalı yrttę evre projesi, ęretmenin geliřen liderlięine rnek olarak verilmiřtir. ęrenci grubu ve eko-koordinatr ęretmen su kalitesi zerine bir proje bařlatmıř ve periyodik toplantılarla projeyi srdrmřtr. Koordinatr ęretmenin etkinlięi, mdr ve mdr yardımcısına ne yapmak istedięini belirterek bařlamıřtır. ęretmenin bařlangı motivasyonunun, meslektařı ve hevesli ocuklar ile evre projelerine katılma arzusundan kaynaklandıęı grlmřtr. te yandan, projenin ęrencileri zellikle su olmak zere doęal kaynakların srdrlmesi konusunda bilgilendirmesi amalanmıřtır ve projenin bazı adımları okulun yakınındaki bahede ve řehirdeki gllerden birinin kenarında gerekleřmiřtir. alıřmalar, ęretmenlerin isel motivasyonunun ęretmenin okul dıřı ęrenme yntemine karar vermesinde nemli

bir belirleyici olduğunu göstermektedir (Fagerstam, 2014). Motivasyon faktörü, öğretmenlerin kararları üzerinde öyle bir etkiye sahiptir ki, bu durum ortaya çıkan engelleri kaldırmayı ve sorun çözmeyi sağlamaktadır. Bu çalışmada bahsedilen koordinatör öğretmen, faaliyetlerin hazırlanması ve öğrencilerle toplantılar yapılması için fazladan zaman yaratmıştır. Okul yönetiminin desteği, özellikle güvenliğin sağlanması ve onaylanması için okul dışı öğrenme olanaklarında önemli bir rol oynamaktadır (Ray & Jakubec, 2018). Araştırılan bu okulda, tüm katılımcılar okul yönetiminin her durumda ihtiyaçlara göre çevreyle ilgili aktiviteler için bütçe ayırdığını belirtmiştir. Bahsedilen su temalı çevre projesinde, okul dışı öğrenme alanlarına ulaşım ve diğer maddi ihtiyaçların karşılanması, eko-okul öğrencilerinin ve öğretmenin motive olmasında etkili olmuştur. Ayrıca, okul dışı eğitimin öğrencilerin liderlik becerilerini desteklediği de farklı çalışmalarda belirtilmiştir (Cohen & Elliot, 2011). Öğrencilere işbirlikçi bir öğrenme sağlamak ve onları takım çalışmasına dahil etmek, öğrencilerin liderlik becerilerini geliştirmiştir.

Katılımcılar okuldaki farklı uzmanlık alanlarının liderliğin dağıtımı için bir ortam yarattığını açıklamıştır. Diğer çalışmalar bu iddiayı desteklemekte ve bireylerin uzmanlığının dağıtımcı liderliğin çekirdeğini oluşturduğunu öne sürmektedir (Harris, 2004; Elmore, 2000). Bu araştırmanın bulguları, okullarda sürdürülebilirlik temasının sürdürülebilir kalkınma için bilgi ve becerilere yönelik talepler açısından dağıtımcı liderlik potansiyeli oluşturduğunu ortaya koymaktadır. Araştırılan okulda bir katılımcı, öğretmenlerin ve diğer okul paydaşlarının uzmanlığı dahilinde bir çalışma yapılabilmesi için okul yönetiminin güvenini kazanması gerektiğinden bahsetmiştir. Uzmanlık kanıtlandığında ve güven sağlandığında liderliğin dağıtıldığını belirtmiştir.

Bu araştırmanın bulguları, yukarıda da bahsedildiği gibi okulda çevresel aktivitelerle ön plana çıkan farklı kişiler hakkında bir dizi örnek göstermiştir. Eko-okul programının kağıt üzerindeki yapılanmasının, çevresel temalarla yapılan müfredatlar arası faaliyetlerle işbirliğini zorladığı bir gerçektir. Bu çalışmadaki okulda, yapılan disiplinler arası etkinlikler ve okulun farklı bileşenlerinin katılımı birçok kez açıklamıştır. Bu durumda, koordinatör öğretmenlerin işbirliğine dayalı planlama

konusunda ynetsel becerilerin yanı sıra yeterli uzmanlıęa sahip olmaları ve kendilerini bu amaca adanmaları da nemlidir. Katılımcıların biroęu eko-okulun ortak teması iin farklı okul bileşenlerinin faaliyetlere katılımını belirtmiştir. Araştırılan okulda, okulda var olan kolektif kltrn bu işbirliği iin olumlu bir atmosfer saęlamış olduęu ıkarımı yapılabilmektedir.

Farklı alışmalar, ieriksel olarak srdrlebilirlięin işbirliği ve fikirleri paylaşma konusunda eşsiz bir potansiyele sahip olduęunu belirtilmektedir. En yaygın sonucu olarak, bu okul kltr demokratik eęitimi teşvik etmektedir (Schallcross, 2003). Bu nedenle, bu araştırmadaki kolektif okul kltr, elbette, okul bileşenlerinin atıklarını geri dnşm kutularına atmalarından ok daha anlamlı bir etkiye de sahiptir.

Birok alışma, işbirliki ve kolektif okul kltrnn karşılıklı anlayış ve gvene dayandığını kabul etmektedir. te yandan, okul kltr etkisini okulun deęerleri, insanların tutumları ve okuldaki rutinlerde gstermektedir (Smyth & Hattam, 2002). Bu anlamda okulun ortak yararı iin işbirliğini teşvik etmede ortak vizyon ve amalar n plana ıkmaktadır (Schallcross, 2003). Bu alışmada, evre ve srdrlebilirlik deęerleri baęlamında edinilen ortak ama, daęıtımcı liderlięin unsurlarından olarak ortaya ıkmıştır. Okul kltr, bireyleri bu deęerleri benimsemeye hazırlamıştır.

Bu nitel alışmanın bulgularından eşitli yorumlar ve farklı sonuçlar ıkarılabilmektedir. Ancak araştırma aynı zamanda kesin olarak sunulan sonuçlara sahiptir. ncelikle, bulgular, eko-okullardaki evre ynetim sisteminin en iyi şekilde uygulanması iin farklı okul bileşenlerinin eşitli biimlerde dahil olması gerektiğini gstermektedir. İkinci olarak, okulların sahip olduęu kolektif okul kltrnn, eko-okul uygulamalarını teşvik etmede etkisi olduęu anlaşılmaktadır. Bu kltr, bireylerin evresel temalara olumlu bakmalarını saęlamakta ve daha srdrlebilir uygulamalar iin dnşm desteklemektedir. nc olarak, eko-okul programının uygulanması, daęıtımcı liderlik modelinin deneyimlenmesini saęlamaktadır. Koordinatr ęretmenlerin liderliği geri kalan okul birimleri ile etkileşimleri ve

yönetimdeki görevleriyle ön plana çıkmaktadır. İşbirlikçi okul kültürünün teşvik edilmesi, liderlik performansının öğrenci ve öğretmen grupları aracılığıyla dağıtılmasını sağlamaktadır. Son olarak, bireylerin eko-okul uygulamalarına olan motivasyonları ve dolayısıyla katılımları, çevre ve sürdürülebilirlik konularındaki geçmiş deneyimleri ile yakından ilişki olmaktadır. Kişilerin sürdürülebilirliğe yönelik içsel motivasyonu, liderlik becerilerinin ortaya çıkmasını sağlayan önemli bir unsur olarak ortaya çıkmaktadır.

ÖNERİLER

Bu çalışma eğitimde sürdürülebilirlik ve liderlik araştırmalarına katkıda bulunarak, bu iki kavram arasında açık bir ilişki kurmaktadır. Bu nedenle, çalışmanın bulgularının bu alanlardaki fikirleri genişleterek yeni çalışmaları çeşitlendirme potansiyeli bulunmaktadır.

Gelecek araştırmalarda, eko-okullar, dağıtımçı liderlik ve eko-okullar ile dağıtımçı liderlik arasındaki ilişki araştırılabilir. Örneğin; öğretmenlerden ve okul yöneticilerden farklı olarak okullarda çalışan diğer personellerin ve öğrencilerin fikirlerini incelemek değerli olacaktır. Böylece, diğer okul paydaşlarının da eko-okul programının uygulanmasına ve dağıtımçı liderlik modeline nasıl dahil olduğu doğrudan açıklanacaktır.

Eko-okul faaliyetlerinde odaklanılan özel temalar üzerine kurulan başka bir araştırma da yapılabilir. Örneğin, “atık” eko-okul temalarından biridir. Gelecekte yapılacak çalışmalar, bu temayı durum çalışmasıyla inceleyebilir ve dağıtımçı liderliği tüketim alışkanlıkları bağlamında araştıran bir çalışma şeklinde tasarlanabilir. İçeriği daraltmak, belirli çevre konuları için eko-okullarda liderliğin olası rolünün derinlemesine anlaşılmasını sağlayacaktır.

Farklı çalışmalar, okullarda dağıtımçı liderliğin dönüştürücü özelliği üzerinde durmaktadır. Bir sonraki araştırmalar, çevre ve sürdürülebilirlik bağlamında,

dağıtımcı liderliğin eko-okullardaki değişime etkisine odaklanabilir. Bu anlamda araştırmacı, araştırma alanı olarak henüz “eko-okul” kimliğine sahip olmayan ancak araştırma süresince yeşil bayrak almak için programı uygulamaya yeni geçiren bir okul seçmelidir.

Bu çalışma ve önceki çalışmalar eko-okul programını uygularken öğretmen ve yönetici liderliğini keşfetmiş ve açıklamıştır. Her ne kadar eko-okul aracılığıyla eğitimcilerin motivasyon ve inançlarına değinseler de, bu araştırmaların yapıları davranışsal kanıtlardan elde edilen veri arayışı üzerine inşa edilmiştir. Bununla birlikte, kişilerin inançları, değerleri ve motivasyonlarının okuldaki liderlik görevleri ile oldukça ilişkili olduğu bilinmektedir. Gelecek çalışmalar, dağıtımcı liderlik ile liderlerin çevre ve sürdürülebilirlik konusundaki inanış ve değerleri arasındaki ilişkiyi araştırabilir.

E. TEZ İZİN FORMU/THESIS PERMISSION FORM

ENSTİTÜ / INSTITUTE

Fen Bilimleri Enstitüsü/ Graduate School of Natural and Applied Sciences

☐

Sosyal Bilimler Enstitüsü/ Graduate School of Social Sciences

☒

Uygulamalı Matematik Enstitüsü/ Graduate School of Applied Mathematics

☐

Enformatik Enstitüsü/ Graduate School of Informatics

☐

Deniz Bilimleri Enstitüsü/ Graduate School of Marine Sciences

☐

YAZARIN / AUTHOR

Soyadı/ Surname : Bağcı
Adı / Name : Başak
Bölümü / Department : Eğitim Yönetimi ve Planlaması

TEZİN ADI/ TITLE OF THE THESIS (İngilizce / English) : A QUALITATIVE INVESTIGATION OF DISTRIBUTED LEADERSHIP IN ECO-SCHOOLS

TEZİN TÜRÜ/ DEGREE: Yüksek Lisans/ Master

☒

Doktora / PhD

☐

1. **Tezin tamamı dünya çapında erişime açılacaktır.** /Release the entire work immediately for access worldwide.
2. **Tez iki yıl süreyle erişime kapalı olacaktır./** Secure the entire work for patent and/or proprietary purposes for a period of **two years.** *
3. **Tez altı ay süreyle erişime kapalı olacaktır.** / Secure the entire work for period of **six months.** *

☒☐☐

**Enstitü Yönetim Kurulu kararının basılı kopyası tezle birlikte kütüphaneye teslim edilecektir.*

A copy of the decision of the Institute Administrative Committee will be delivered to the library together with the printed thesis.

Yazarın imzası / Signature Tarih/ Date