NEAR EAST UNIVERSITY
INSTITUTE OF EDUCATIONAL SCIENCES
ENVIRONMENTAL EDUCATION AND MANAGEMENT

ENVIRONMENTAL CITIZENSHIP LEVELS IN LIBYA'S PRIMARY SCHOOL STUDENTS

MASTER OF SCIENCE

HISHAM ALJADI

NICOSIA
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Approval of the Institute of Educational Sciences Directorate

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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.

Hisham Aljadi

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ACKNOWLEDGEMENT

My first appreciation goes to Allah first as he has given me good health and strength to successfully complete my academic thesis program. I would like to show my appreciation and gratitude to my family members for their love, support, and motivation since the inception of my program to the completion of my master program in 2020 at Near East University. I would further like to show appreciate to my wife, children, parents, siblings and friends for their support throughout the course of my program. Also I would like to show appreciation to the department head, Prof. Dr. Serife Gunduz for her attention, support and academic support during my master program. I would further like to show appreciation to Assoc. Prof. Dr. Emete YAĞCI for her professional supervision and guidance from the inception to the completion of thesis as my supervisor.

I will like to show my sincere gratitude to my lecturers, advisors, colleagues who are directly or indirectly involved in the successful completion of my program, without your individual and collective support, I wouldn't have been able to complete my thesis and program with such confidence. There are a lot more people I need to show my gratitude too, but neither time nor space will allow me to do so, I really appreciate you all. Thank you.

ABSTRACT

ENVIRONMENTAL CITIZENSHIP LEVELS IN LIBYA'S PRIMARY SCHOOL STUDENTS

Hisham Aljadi

Master Thesis, Major Field of Environmental Studies and Management

Thesis Supervisor: Assoc. Prof. Dr. Emete YAĞCI

January, 2020, 60 pages.

Libya is faced with complex environmental challenges. Especially after the discovery of oil this has resulted in mass oil production and industrialization that has resulted in environmental degradation. Several individuals, organizations and countries are fighting individually and collectively to not only create awareness on the resultant consequences of manmade activities on climate change and the environment, but they are working on how to alter the way we perceive the environment we live in. It is through these collective efforts and over time that we have come to realize across the world with considerable slow progress that our current climate change and the various increase in threats to both human welfare and the entire ecosystem have occurred.

Most importantly, there is an increasing emergence of environmentally aware children who are fighting climate change. Continuous global progress for a better world can be attained if young children are educated and allowed to participate in environment issues. For this reason, this study investigated the degree to which selected primary school students are in tune with the concept of environmental citizenship and how it is manifested in their knowledge, attitude, and behavior. 300 samples of 5^{th} and 4^{th} grade students were randomly selected and administered questionnaires. Data was run in SPSS software and a descriptive analysis was provided. The result shows a moderate to weak environmental knowledge, good level of environmental attitude, but moderate to weak environmental behaviors.

Keywords: Environmental citizenship; environmental attitude; environmental knowledge; environmental behavior; SPSS software; Libya; Primary school students; 4^{th} and 5^{th} grade.

ÖZET

LİBYA İLKÖĞRETİM OKULU ÖĞRENCİLERİNDE ÇEVRE VATANDAŞLIĞI SEVİYELERİ

Hisham Aljadi

Yüksek Lisans Tezi, Çevre Eğitim ve Yönetiminin

Tez Danışmanı: Doç. Dr. Emete YAĞCI

Ocak, 2020, 60 Sayfa

Libya, tıpkı diğer tüm ülkeler gibi, özellikle seri petrol ve gaz üretimi ile sonuçlanan keşif petrolünün yanı sıra çevresel bozulmaya yol açan sanayileşme sonrasında kendi karmaşık çevresel zorluklarıyla karşı karşıyadır. Bazı bireyler, kuruluşlar ve ülkeler, insan faaliyetlerinin iklim değişikliği ve çevre üzerindeki etkileri konusunda farkındalık yaratmak için bireysel ve toplu olarak savaşıyorlar, içinde yaşadığımız çevreyi algılama şeklimizi nasıl değiştirecekleri konusunda çalışıyorlar. Mevcut iklim değişikliğimiz ve hem insan refahına hem de tüm ekosisteme yönelik tehditlerin artması konusundaki farkındalık konusunda tüm dünyada yavaş yavaş kayda değer bir ilerleme kaydedilmiştir.

En önemlisi, iklim değişikliği açısından daha iyi bir dünya için nedenlerle mücadele eden çevreye duyarlı çocukların ortaya çıkması giderek artmaktadır. Küçük çocukların eğitilmesi ve daha iyi bir dünyaya katılmasına izin verilmesi halinde dünyayı daha iyi hale getirme konusunda ilerleme kaydedilecektir. Bu nedenle, bu çalışma Libya okullarındaki ilkokul öğrencilerinin çevre vatandaşlığı düzeylerini, bilgi, tutum ve çevreye karşı davranışları ölçeğiyle incelemiştir. Libya'daki üç şehirden toplanan 300 örnek ile 5. ve 4. sınıf öğrencileri rastgele seçilmiş ve anket uygulanmıştır. Veriler SPSS yazılımında çalıştırıldıktan sonra betimsel analiz sağlandı. Sonuç, orta ila zayıf çevresel bilgi, iyi düzeyde çevresel tutum, ancak orta ila zayıf çevresel davranışları gösterir.

Anahtar Kelimeler: Çevresel vatandaşlık; çevresel tutum; çevre bilgisi; çevresel davranış; SPSS yazılımı; Libya; İlkokul öğrencileri; 4. ve 5. sınıf

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LIST OF ABBREVEATION

UNESCO : United Nations Educational, Scientific and Cultural Organization

EE : Environmental Education

SPSS : Statistical Package for Social Sciences

UNEP : United Nations Environment Program

IUCN : International Union for the Conservation of Natural Resources

COI/DEFRA: Certificate of Inspection/Department for Environment, Food and Rural Affairs

IEEP **:** International Environmental Education Program

r **:** Pearson Correlation

N **:** Number of Students

P : Correlation Significance

SD : Standard Deviation

F : Frequency

ERB : Relationship Between Attitudes and Behavior

EKT : Environmental Knowledge Test

EAS : Environmental Attitude Scale

ECBS : Environmental Citizenship Behavior Scale

CHAPTER I

INTRODUCTION

1.1. Background of Study

Industrial revolution has brought about huge and unprecedented economic development not only in developed countries but across all countries in the world. This has ushered in new areas of development such as the discovery of information technology that continues to provide benefits for human development till today. However, these developments from industrialization has also brought about major environmental problems that have resulted in various kinds of environmental disasters. The world continues to carelessly use natural resources more than nature allows without replacing or re-growing them such as the cutting down of trees for various purposes that result in deforestation. Deforestation in turn results in several environmental catastrophe including greenhouse gas emissions, disruptions in the water cycle, an increase in global temperatures, desert encroachment, drought, death of wild life leading to lost in biodiversity and extinction, flooding, erosion, and subsequent loss to humans such as famine/starvation, illness, and death. The impact also goes beyond environment, it also results in political instability (war and migration) and poor economic performance. According to Meerah et al. (2010), the rate at which humans continue to use the world and its natural resources relentlessly and carelessly, shows that by 2050, we will need an equivalent of two planets worth of natural resources for the continuation of the existence of life. Human population continues to rise uncontrollably across the world and it is projected to reach 9.7 billion by 2050 (United Nations, 2019). However, the population of wildlife reaching from mammals to fishes continue to decline considerably as reports show a third decrease dating from 1970 to 2003. This is due to the activities of man carry out such as pollution, forest clearing, and over hunting/fishing.

On the positive side, there are several individuals, organizations and countries that are fighting to create awareness on the impact of human activities on climate change and the environment. It is through these collective efforts over time that considerable progress is slowly becoming apparent across the world regarding awareness of our current climate change and the various increase in threats to both

human welfare and the entire ecosystem. Most importantly, there is increasing emergence of environmentally awareness of children who are fighting the cause for a better world in terms of climate change. Among these children is a child, 16-year-old world-famous Greta Thunberg, a Swedish environmental activist that is pressuring the world leaders to implanting reforms that will save and protect the world. Another environmental activist whom the world has not given much attention to is an 11-year-old, Ridhima Pandey from India, and 11-year-old Naomi Oloyede from Nigeria. Their beliefs and actions will continue to progress and help in making the world better for generations to come. If young children are educated and allowed to participate in the cause of a better world, then there is hope for a better world.

Libya just like any other country is also faced with its own complex environmental challenges. Especially after the discovery of oil as this has resulted in mass oil and gas production as well as industrialization that has resulted in environmental degradation.

Behavioral change would result in people taking on the responsibility as the planet's custodian and at the same time providing them with a more sustainable lifestyle (Hawthorne & Alabaster 1999).The endorsement and advocacy for human activities to be sustainable to humans is perceived as the only solution to simultaneously meet the ever-growing human needs and to also save and protect the environment today and in the future. According to Hawthorne and Alabaster (1999), this endorsement was first discussed during the 1972 Conference on the Human Environment by the United Nations in Stockholm. It is at this time that it recognized that there is a significant importance had been associated with: formal education, public awareness, as well as training (UNCED, 1992) (Meerah et al. 2010).

According to Davidson (2004), the fight for a better environment has transitioned to the concept of citizenship. He explained that in order to achieve long lasting principles that will be compatible with environmental sustainability, we must understand the notion of citizenship in relation to the aspect of the environment. The concept of citizenship was mostly perceived from the facet of politics, however, with the emergence of several issues, the concept of citizenship has been molded to several facets including global citizenship, ecological citizenship, environmental citizenship, liberal citizenship etc. The concept of citizenship is very complex with multiple facets,

dimensions as well as contexts. The multiple facets of citizenship are status, rights, participation and identity. Environmental citizenship approach also takes into consideration the multi-faceted nature of citizenship and the many dimensions in which rights and responsibilities fall under this scope.

In order to further strengthen the cause, several prominent researchers have proposed alternative approaches or models of citizenship with respect to the environment in order to enhance environmental sustainability. The aim of environmental citizenship is to engage and motivate citizens of the environment to behave in such a way that will save and protect the environment through individual and collective efforts so that we don't only have quick fixes at the moment, but aim for a long lasting positive change for a better world (Stefano, 2018)

Education in the form of awareness is one of the greatest forces to effectively battle ignorance and effect change. Jaberi (2014) argues that in this 21st century, education as a tool for change is necessary for creating mass awareness regarding current environmental problems and the future of the environment, thus education is responsible for preparing and motivating humans to be aware of environmental challenges. Additionally, several other researchers such as Hicks (2003), Krogman and Foote (2011), Merryfield (2009), and Pike (2008) who agree that environmental citizenship education prepares students for today's social, cultural and economic world, to provide education and knowledge about the world's current environmental challenges and prospect, and to assist learners with the development of adequate skills, attitudes and behaviors to deal with these realities.

Most research carried out regarding education for environmental citizenship are mainly concentrated on universities, high schools and so on including the study of Abdi and Shultz (2008; Davies et al., 2005; Shultz, 2011; Stearns, 2009. There have not been studies conducted on environmental citizenship education amongst primary school students as a case study. The studies of Mundy et al., 2007; Richardson 2008, Erdoğan (2009), and Gunduz et al. (2017). Kuzminov et al., 2011) explained that there is great potential and capabilities for primary schools to become agencies of economic and social development as well as creating and raising environmental awareness at an early age. As the saying goes "charity begins at home", it can be thought as environmental awareness hence it should begin at an earlier age. Therefore, research

on environmental citizenship is an area which requires research through the point of view of children to support and justify the path to global environmental sustainability.

1.2. Environmental Challenges in Libya

There are several environmental challenges affecting Libya. But these environmental problems became more prominent after the discovery of oil in the country. In 1955, crude oil was discovered and more exploration operations were conducted this made Libya a commercial center for crude oil exploitation. As we all know, oil and gas are highly explosive and are accompanied by various natural radiation which could lead to a number of health hazards and environmental disasters on people or the environment surrounding them. There has been report of regional implications on Libya's environment regarding the pollution of water bodies and the atmosphere which is linked to the production of Libya's oil and gas. Oil spillage from production activities flow and spread into aquatic or terrestrial biota and therefore affects most of the living systems by disturbing their health or even killing most of the animals, plants as well as humans that eat from these areas. Due to its volume and toxicity, crude oil is the pollutant of greatest concern as its complex mixture of organic, inorganic, and metallic compounds, with the organics pre dominating the mixture. The relative proportion of crude oil is significant to determining the extent of catastrophic complications. For instance, an oil spillage will allow lighter components to be release rapidly than heavier ones by evaporation, hence disturbing the entire environment.

1.3. Environmental Citizenship

There is no single consensus definition of environmental citizenship. Individuals that attempt to provide definition usually add together the individual definition of the two in terms of "environment" and "citizenship" to provide a possible definition that is also fashion based on their perceptions. For any definition of environmental citizenship, the key terms include a sense of belonging to the environment, as well as the associated responsibilities of the environment citizens to act and perform their duties towards saving and protecting the environment. It also entails the set of rights and obligations of citizens of the environment to the entire eco system. Although there is an argument on whether environmental citizens should focus only on their immediate surroundings such as their house, work place, streets,

community, city, and country, or they should consider their selves as part of a broader community of environmental citizens who not only have the responsibilities of their immediate environment, but the entire world. It is ‘an attempt to make environmental conservation and sustainability an important duty of citizenship that citizens all over the world should be aware of their environment and the effect of their actions, attitudes, and behavior (UNEP, 2002).

Basically, environmental citizenship is the notion that considers all humans as a collective member of the world, globe or entire ecosystem that requires individual and collective loyalty to protect the environment (Center for Environmental Philosophy, 2001). Meerah et al. (2010) regards environmental citizenship as an individual and collective active participation of people who regard themselves as environmental citizens so that sustainability can be attained. Individual and collective embracement of all environmental challenges and our attitudes towards solving it is the loyalty in environmental citizenship. Acting responsibly to the environment may begin as an individual at first, followed by the family home, the area, to the collective responsibility of the entire world acting positively to the environment at all times. Usually, people who consider themselves as environmental citizens often have a rather different lifestyle from the normal or average citizen (Bell, 2004). This is because the implications of environmental citizenship come with the obligations, responsibilities and duties of the environmental citizens expected behavior as being positive towards sustaining the environment which is quite different from the actions of an average citizen who is not aware of the consequences of his/her behavior and actions on the environment.

Although environmental citizenship is relatively a new concept, it has been gaining grounds and recognition especially during the policy making processes as well as the academic world (Pallett, 2017). For the past two decades the world has seen active participation of individuals, organizations, and countries who are individually and collectively working together to increase the prominence of environmental citizenship in policy making so that the goal of environmental sustainability as well as protection can be achieved. One of the primary goals of environmental citizenship is the continuous reduction and regulation of the activities of humans that actively impact the environment negatively.

Historically, the concept of environmental citizenship was included in the fight for sustainable development and the policies since the mid-1980s to 1990s and the struggle for awareness continues till today. During the mid-1980s, the concept of environmental citizenship was the principle in creating awareness on the need for sustainable technologies and infrastructures, environmental science and other forms of environmental knowledge, and environmental policy making itself (Pallett, 2017).

1.4. The Role of Education In regards to Environmental Citizenship

As previously mentioned, education is one of the greatest forces to influence change. It provides knowledge that in turn influences behavior, attitude, and actions. The various environmental challenges the world is facing today is as a result of our lifestyles, industrial action, and lack of awareness etc. According to Martinho et al. (2010), education is a vital tool that can be used for fundamental change at both societal and personal level. Students who are educated about their environment are aware of their actions towards the environment, therefore, they tend to make better decisions about their own lives and influencing their surrounding environment. The role of education in promoting environmental citizenship is vital which thus affects environmental sustainability consequently it cannot be over emphasized. According to Dobson (2007), to accomplish this role, the curriculum for environmental education should include the topics of rights, values and norms, and content on justice, in the form of obligations, duties, and responsibilities at transnational, intergenerational, and interspecies scopes. The aforementioned content may further encourage a change of attitude instead of a mere change of behavior, thereby generating a long-term commitment of citizens to a sustainable world (Dobson 2007).

The ideals and principles governing environmental sustainability include intergenerational equity, gender equity, social tolerance, poverty alleviation, environmental preservation and restoration, natural resource conservation, and just and peaceable societies (UNESCO, 2005). In this sense, fostering appropriate values and awareness of rights and justice should translate into knowledge in one's social-environmental context, and in turn, into citizen action toward sustainability in the long term. These actions would be based on a conscious commitment of citizens to sustainability, in contrast to rules and regulations aiming to change behavior.

Many authors agree that in the current global context of conflicting views about the environment, education should have a critical role of forming citizens that can foster sustainability (Carlsson and Jensen 2006; Dobson 2003, 2007; Huckle 2008), despite the pressures that, for example, economic interests may oppose. Hawthorne & Alabaster (1999) argued that environmental citizenship can be perceived as the ultimate outcome of education for sustaining the environment. In another words, education for environmental citizenship is a process of teaching people about the environment which helps in changing their attitudes, providing access to knowledge, and developing new skills which collectively combine to influence positive behavior to save and protect the environment (Hawthorne & Alabaster, 1999). For a very long time now, the advocacy for formal education to be perceived as a bridge to sustaining our environment has been becoming widely acceptable to intrinsically change the mindset of people towards positive behavior to environment.

There are several countries that have incorporated environmental citizenship in their educational curriculum. Some of these countries have reached to the extent of teaching environmental citizenship in primary schools. Accordingly, Dobson (2003) suggests fostering "action-oriented" activities and experiences in the curriculum through providing scenarios to learn civic practices. This relates to pedagogic proposals that reject teaching and learning only based on the dissemination of facts and memorization, and rather promote inquiry, action, and hands-on experiences through direct experimentation or simulations (Bybee and Van Scotter 2006; Khan 2012; Trey and Khan 2008; VanWynsberghe, Carmichael, and Khan 2007). In this regard, Carlsson and Jensen (2006) make a distinction between activities and action in the context of education for environmental citizenship. The authors consider pedagogical activities as valid ways to promote interest and further inquiry on a topic, whereas student actions go beyond, implying further involvement and participation in the solution of problems related to environmental citizenship (Carlsson and Jensen, 2006).

One of the earliest studies to show the role of education in regards to environmental citizenship is the study of Hawthorne and Alabaster's (1999) who established a model that showed how significant environmental education has major contributions to behavioral changes for sustainability, environmental citizenship. Other studies have been observed since then such as the studies of Grodzinska-Jurczak

et al. (2006) and Loubser and Swanepoel (2005). These studies showed that environmental education programs (especially, biological science education) impacted positively upon the students' knowledge, attitude, skills about waste issues, and provided opportunities for students' relatives and the whole local community to become more environmentally conscious, through the process of intergenerational communications and influence (Meerah et al., 2010).

Latta and Wittman (2012) critique the conviction of educating citizens with the aim of behavioral change only. They argued that this objective depoliticizes the discussions regarding environmental citizenship and focuses on the individual scope rather than the communal. In this sense, the argument from their perspective is that education should focus on forming not only informed citizens, but also citizens who can participate in political debate regarding collective struggles. The previous argument is directly related to the ideas of deliberation and participation. Thus, the relation between education and environmental citizenship is important and there should be more focus on education for sustainable attitudes, values, and as a conscious commitment instead of on behavioral change alone. Additionally, education for environmental citizenship should focus on activities that rely on action and direct experience rather than solely on prescriptive lecture-based teaching that does not contribute to promote critical thinking, debate, and active participation. (Acuna, 2015)

1.5. Statement of Problem

Societies across the globe suffer from environmental crises that demand urgent action (A. Tal, 2002). These crises include climate change; water, air, and land pollution; loss of biodiversity; and social-environmental injustices such as unequal access to environmental resources and exposure to pollution (Orr, 1991; Saylan & Blumstein, 2011). A society's response to environmental crises reflects its values and its belief in the need to make cultural changes to improve the lives of its citizens and its natural environment (Orr, 1994). Policymakers have formally recognized the importance of reversing environmental degradation through the implementation of environmental education programs. Consequently, environmental education was developed to create a deep level of knowledge about the environment, foster an awareness of and positive attitudes towards the environment, and enhance pro environmental behaviors (Sauvé, 1996). Although the United Nations Educational,

Scientific and Cultural Organization (UNESCO) recognized environmental education as a way to decrease environmental degradation four decades ago (UNESCO/UNEP, 1975, 1977; United-Nations, 1992), and despite similar declarations in countries around the world, actually implementing environmental education (EE) has been difficult. It remains a marginal educational issue even in many developed countries. When schools do manage to implement environmental education, it is usually bound to the area of science, focusing mainly on environmental knowledge and attitudes (Hart & Nolan, 1999; Rickinson, 2001). Due to social crises affected by environmental factors, environmental education should also include social components, which in turn would also demonstrate to learners that active citizenship can be a democratic tool to solve these crises (Orr, 2002). The social component of environmental education includes exploring the relationships between humans and the environment, focusing on how individuals and communities use and share natural and social resources in a just way, and developing action skills and dispositions for citizenship and environmental justice (Tilbury, 1995). (Gan, 2016 files).

1.6. Aims and Objectives

The world continues to experience environmental challenges in the forms of water, air, and land pollution; loss of biodiversity; and social-environmental injustices such as unequal access to environmental resources and exposure to pollution. Ecological policy makers have formally recognized environmental education programs in combating these challenges. If environmental citizenship education is provided for students as early as primary school, there is huge potential and hope of a better environment tomorrow. However, despite the aim of environmental education which is to deepen our knowledge about the environment in order to trigger positive attitudes towards the environment (pro environmental behaviors), it has been a challenge to implement environmental citizenship education programs in and across the globe even in developed countries.

The main aim and objective of this thesis is to investigate environmental citizenship levels amongst students in Libya's primary schools. The study will be a descriptive model in order to measure the environmental citizenship education levels among Libya's primary students within the three pre-determined components, i.e.

knowledge, attitude and behavior in terms of different variables. The following objectives will be explored:

1. To provide a comprehensive literature review on levels of education and environmental citizenship.
2. To explore how analysis is and how environmental citizenship is portrayed in Libyan primary schools.
3. To measure environmental citizenship education levels among Libya's primary students within three pre-determined components, including knowledge, attitude and behavior in terms of different variables.

1.7. Research Question

The following are research questions the study aims to address;

1. What is the demographic information of the sample primary school students in Libya?
2. What is the level of environmental knowledge of the sample primary school students in Libya?
3. What is the attitude level of the primary school students in Libya?
4. How is the level of environmental responsible behaviors affected by students' level of environmental knowledge and attitude?
5. Which of the predetermined variables affect students' level of environmental citizenship?

1.8. Significance of the Study

The result from this study will be of significant benefit because it will not only describe the current atmosphere, but also provide contribution to the quality of Environmental Citizenship Education efforts in Libyan Primary schools and to make suggestions for the enrichment and improvement of the teaching methods. The relevance of this study stems from the importance which individual attitudes not only have on behavioral choices, but also the possibility of an environmentally sustainable society with engaged citizens. As previously mentioned, the field of citizenship has

greatly evolved, and its multifaceted nature has expanded the previously traditional idea that citizenship is strictly a relationship between one and their government, involving voting, following laws, and so on. New dimensions such as biodiversity and nature, global well-being and equality have extended citizenship to include an awareness in addition to one's nation state and provided a deeper understanding of the consequences of actions beyond time and space. This study highlights the importance of creating awareness of environmental citizenship.

1.9. Limitations of the Study

The main limitation to this study is the political instability in Libya that limits our access to several cities in Libya as well as the schools. Libya is currently undergoing political challenges which had led to so many schools shutting down and people live in fear. If we had the opportunity to access several cities and schools for the purpose of this study, I believe the result from the analysis of the data would have been a more inclusive result which will portray a better estimation of the level of environmental citizenship in primary school students in the country.

1.10. Organization of the study

The thesis is organized in five chapters. Chapter one discusses the introduction and background of the study with the following subsections environmental challenges in Libya, environmental citizenship, the role of education in regards to environmental citizenship, statement of the problems, aims and objectives etc. The second chapter deals with the review of related literature where a collection of previous scientific articles or books were reviewed. The third chapter is concerned with methodology and the data analysis methods. In general, chapter three gives detailed information about the research design and strategy. Chapter four presents the result from the analysis and gives appropriate descriptive discussion while chapter five gives the conclusion to the study and recommendation for future studies.

CHAPTER II

LITERATURE REVIEW

2.1. Concept of Citizenship

The basic concept of citizenship has been explored by several researchers and continues to gain more attention as the world evolves. Just like any concept, different scholars from diverse fields refer to citizenship from their point of view taking several factors into consideration. According to a prominent researcher Joppke (2010), the term as "citizenship" is a notoriously polyvalent concept, with many meanings and applications. This makes the concept of citizenship a universal concern hence needs a collective contribution from all fields to achieve a single universally acceptable definition. There are two limitations that have been found by researchers. According to the prominent researchers Siim & Squires (2008), the concept of citizenship for a long time have been mainly concentrated on the functions of an entire state or nation, however, the narrative regarding the concept is continuously changing and more people are beginning to understand the concept within a framework of multi governance. By perceiving citizenship as multi-governance, we regard such government including their local, regional, and global relations and practices in its multi-layered sense. Secondly, the concept of environmental citizenship has been shaken by the influence of groups' recognition claims. Group recognition claim here means the emphasized approach from specific groups' rights and inequalities, broadening the scope of diversity within citizenship itself (Stefano, 2018).

One of the first researchers to establish a quite but not completely comprehensive basis for the concept of citizenship Marshall (1950). He divided citizenship into civil element, political element, and social element. He continues by describing the civil element, which is composed of the "rights necessary for individual freedom" (Marshall, 1950); the political element, namely "the right to participate in the exercise of political power, as member of a body or as an elector of the members of such body"; and lastly, the social element, which he describes as "the range from the right of economic welfare and security, to the right to share to the full in the social heritage according to the standards prevailing in society". Marshall's (1950) framework was largely based on principles of equality, solidarity, and freedom, and

has become a key reference in any citizenship study today and in the future (Siim & Squires, 2008). It has also allowed citizenship to be viewed both as equal rights and respects as well as a tool to study political and social developments in societies (Stefano, 2018).

Along with the concept of citizenship is often associated with the nation-state through a national identity, in today's world where globalization is experienced, it is seen that the concept goes beyond the legal and political boundaries drawn by nation-states. For this reason, experts need to have a broader definition instead of the concept of nation-state citizenship; they have produced concepts such as transnational citizenship, cosmopolitan citizenship, world citizenship and global citizenship by taking into account the impact of globalization (Çolak, 2019).

In a lay man's understanding, citizenship is the membership or loyalty of an individual to a given community that provides certain rights in return for that individual. A community in this context is referred to as a group or society of people (family, village, city, province, country, and continent) living within a geographical location with several things in common such as history, culture, problems, solutions (including mechanisms, institutions, laws, customs), and membership/loyalty etc. People in a given community share similar or common problems and work individually and collectively to solve such problems. They posse customs and historic values, as well as similar communication within the community (Hanna, Sabaroff, Davies and Farrar, 1966). What constitutes a good citizen of a given community depends on the values, practices, norms, and laws etc. of such community that requires loyalty from its members. According to Richard Bellamy (2008), the elements of citizenship includes status (membership), rights (protection), duties (participation), and education (awareness).

The concept through the years have evolved as the world becomes more enlightened about it. Many groups have established their own dimension and gave their own meaning to their perception of citizenship. However, due to the continuous threats posed on the environment it leads to a lot of environmental challenges and climate change, the concept of citizenship has been developed to include sustainability for development. Dobson and Micheletti are one of the two contributors to this cause. In his argument, Dobson (2003; 2007; 2009; and 2010) explained that some governments of the world use fiscal measures to in an attempt to promote and create awareness on

the topic of environmental responsible behaviors. The fiscal measures offer citizens of such country's incentives for responsible behaviors towards the environment and penalties for irresponsible behaviors towards the environment and to change such behaviors. While behaviors signify the expression of feelings, beliefs, and thoughts through actions, it is attitudes which in practice shape this response as they are the mind's predisposition to ideas, values, and institutions. Therefore, while changes to individuals' attitudes can easily result in a change in individuals' behaviors, the opposite does not seem as likely (Dobson, 2007). Dobson focus is thus on developing a notion of citizenship which strives for a sustainable society, as to not only change behaviors, but affect attitudes.

2.2. Environmental Citizenship

The word "environment" is derived from the word "environ", which is a French word meaning to surround, to envelop, or to enclose. In this regard, we can refer to our environment the same way as we refer to surroundings, which is made up of all-natural things or the entire eco system. (Cao, 2018). According to (Pallett, 2017), Debates over the proper definition of environmental citizenship and how to inculcate its associated virtues of within particular populations have become a significant element in environmental politics and policy, particularly in western democracies. Furthermore, environmental citizenship has been a key site of struggle and contestation through which broader issues of political engagement and process have played out, and where visions of the future have been co-constructed.

Basically, environmental citizenship is the notion that considers all humans as a collective member of the world, globe or entire ecosystem requires individual and collective loyalty to protect the environment (Center for Environmental Philosophy, 2001). Individual and collective embracement of all environmental challenges and our attitudes towards solving it is the loyalty in environmental citizenship. Acting responsibly to the environment may begin as an individual act at first, expanding to the family home, the area, to the collective responsibility of the entire world acting positively to the environment at all times.

The concept of environmental citizenship began in Canada by Environment Canada and since then it has spread across the globe. It is a very hot topic in environmental

sustainability development. According to UNEP (2002), the idea is to attempt to improve sustainability and conservation of the environment which is a duty and responsibility of all its citizens that they should be conscious of. Environmental citizenship in its core is not a new idea, its elements are found in environmental stewardship in ancient history and religions such as Islam, and other Abrahamic religions, however it is not committed to any religious or cultural practices.

Three prominent philosophers in history Aristotle, Aldo Leopold, and Mark Sagoff have presented their views about citizenship and its relation to human ethics and the environment. In the words of Aristotle "*Citizenship and ethics are one. Ethics is from the standpoint of the individual. Citizenship is from the standpoint of the group. The moral character of an ethical person is the same set of characteristics or virtues needed to be a good citizen.*". Moreover, Aldo Leopold expressed ". . . *a land ethic changes the role of Homo sapiens from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also respect for the community as such"*. On the other hand, Mark Sagoff said "*We are citizens, not just consumers. Our environment requires citizen preferences, not just consumer preferences. As citizens, we need to protect nature, not just buy, sell, and consume it. It has a dignity, not just a price*" (Center for Environmental Philosophy, 2001).

In recent years, the concept of environmental citizenship was modelled in 2018 by the European Network for Environmental Citizenship. it defines environmental citizenship as a duty or responsibility of pro environmentalism behavior which is expected to be exhibited by citizens who are expected to serve as agents of positive change individually and collectively in the environment in private, public, local, national, as well as global settings, in a move to prevent, protect, provide solution to modern environmental problems as well as boosting environmental sustainability. In another sense, environmental citizenship may involve the exclusive rights and duties to the environment, and the comprehension of all the problems and how they are generated as well as creating a will and competence to take active parts in addressing environmental problems individually as well as collectively within a democratic means, and taking into account inter- and intra-generational justice (Cao, 2018).

Table 2.1: Characteristics of environmental citizenship (Stefano, 2018)

Strand	**Liberal**
Sphere	Public
Rights VS responsibility	Rights (contractual)
Territory	Territorial bound
Values	Justice and fairness

2.3. Historical Background of Education for Environmental Citizenship

Education can be seen as a technique for providing instruction, and the processes of curriculum development regarded as exempted from any kind of theoretical and ideological contamination. However, if the curriculum is a means to achieve certain purposes, these should be discussed and analyzed before they articulate the goals, which in turn underlie the processes of curriculum development. (Martinho et al, 2010). Basically, education for environmental citizenship is how we can inculcate the idea of environmental citizenship in our educational programs. Often, education is seen as the means to foster the necessary awareness that would allow citizens to decide and act as citizens of the environment, in other words, that acquiring a mindset of environmental citizenship is tied to a specific knowledge that can be taught. (Acuna, 2012).

Unfortunately, there are only few researchers who have researched on the topic and very few are actually paying attention to it today, hence it is safe to say not much has been achieved in the aspect of research in regards to education for environmental citizenship. Environmental education in its earliest form was first introduced in 1891 by Wilbur Jackman (McCrea, 2006) through his work which later helped shaped a nature study movement that was focused on taking students outdoor to become aware of the indivisible environment (Disinger, 1983). The approach of nature study is to provide students with direct and first hand observational experiences of the environment through outdoor exploration so that they become more anxious and interested in the environment and subsequently respecting the environment through their actions (Stapp, 1974).

In 1947, environmental education processes were further fastened by the International Union for the Conservation of Nature and Natural Resources (IUCN). However, it was in 1960 that environmental education gained wide recognition (Roth, 1992). According to Swan (1984), it was in 1968, environmental education was used in National Conference in Environmental Education and it was in this period that researchers attempted to define the concept. It was formalized in 1970 by The World Conservation Union. The United Nations Conference on the Human Environment raised concern for the need to solve global environmental problems through environmental education (McCrea, 2006).

Proposed steps to establish International Environmental Education Program (IEEP) that will be interdisciplinary, both in and out of school, as well as a lifelong environmental education. IEEP became established in 1975 in full force and has since spread across all parts of the world. Five years later (1980), IEEP focused on interdisciplinary environmental education at primary and secondary levels. Between 1981 and 1983, the IEEP focused on establishing effective content, methods and materials for environmental education practices as well as training activities. Sustainability development movement was later created in 1987 which further boost the attention on environmental education (Marcinkowski, 2006). After the advent of environmental sustainability development, environmental education went through some historical changes from environmental education, environmental product declaration, education for sustainable development (Sato, 2006). Environmental education slowly spread around the globe in different times. The concept gained solid ground in the following countries Kenya, Japan, and Finland in 1968, 1969, and 1974 respectively (Schmieder, 1977).

Some of the studies relating to education for environmental citizenship include Koskinen (2010) “Children and young people as environmental citizens - the environmental education perspective to participation”, Martinho et al. (2010) “Environmental Citizenship And Participation: The Role Of Education Programs”, Acuna (2012) “Environmental Citizenship in Chilean School Textbooks A case study on environmental citizenship education in Chilean basic-education textbooks of 2012”, Jaberi (2014) “Global Citizenship Through the Eyes of the Grade Seven Elementary Students: A Case Study”, Symeonidis (2015) “Towards Global Citizenship Education: A comparative case study of primary school policy and practice

between Greece and Sweden", Gan (2016), "Environmental Education And Citizenship: A Case Study Of Elementary Teachers And Principals Perspectives In Israel", Gunduz et al., (2017) "Primary School Students Level Of Environmental Citizenship In North Cyprus", Taniguchi and Nakano (2017) "Citizenship Education for Sustainable Development: Theoretical and Practical Approaches for Project ESICS", Çolak et al. (2018) "Social Studies Courses Teachers' Views on Global Citizenship and Global Citizenship Education", Stefano (2018) "Citizenship and Environmental Sustainability: A Survey Study on Swedish Lund University Students".

2.4. Knowledge and Environmental Citizenship

Several studies have shown a considerable degree of correlation between knowledge and environmental citizenship. For distinct studies, researchers addressed knowledge in relation to environmental citizenship in different ways such as knowledge in relation to the environment, ecology, sustainability, environmental awareness, and global citizenship etc. However, all these descriptions have a common justification of the correlation between level of knowledge and the environmental awareness which according to Hines et al. (1986/87) entails that an individual's knowledge of his/her environment is based on both knowledge on ecological behavior and factual knowledge. Erdoğan (2009) further points out that knowledge of the environment is represented in different forms but mostly in the area of environmental education.

The concept of knowledge in general has been proven by several prominent early researchers to be a prognosticator or predictor among a collection of predictors which explains the difference in responsible behavior as shown in the studies of Hines et al. (1986/87), Armstrong & Impara, 1991, Hungerford & Volk (1984), Korhoren & Lappalinen (2004), Bamberg & Möser (2007), Erdoğan (2009), and Gunduz et al. (2017). Furthermore, some researchers have focused on the correlation between knowledge and responsible behaviors towards the environment including the early studies of Sia et al. (1985/86), Cottrell & Allan (1997), and Kaiser & Wölfing et al. (1999). All these studies show a considerable relationship between an individual knowledge of the environment and his/her attitude or behavior towards the environment. A brief delineation of the results of these early studies is explained in the following paragraphs.

With a sample distribution of n = 171, the study of Sia et al., (1985/86) found a significant level of correlation between participants' level of environmental knowledge and their environmental behaviors by the Pearson correlation analysis ($r = 0.55$, and $p < 0.05$). in simple terms, it means the higher the environmental knowledge of the participants, the more the exhibit responsible behaviors towards the environment and vice versa. On the other hand, the Pearson's r data analysis $r = 0.299$ and a standard deviation $SD = 0.195$ was the result from the meta-analysis of more than ten research articles (Hines et al, 1986/87) indicating the relationship between level of knowledge and the type of behavior towards the environment. This is in consensus with earlier study of Sia et al., (1985/86). Furthermore, the common prognosticators or predictors of environmental behavior was examined by Cottrell and Allan (1997) over a group of participants by multiple regression analysis. Their study found that perceived knowledge of the environment ($\beta = 0.238$) and verbal commitment ($\beta = 0.386$) is responsible for 21.8 %of variation in responsible behaviors towards the environment.

Kaiser and Wölfing, et al. (1999) in their study evaluating the relationship between amount of knowledge and general environmental behaviors for Swiss sample and US samples (two studies for each samples), the result Pearson correlation analysis for study 1, 2 for the Swiss sample was $r1 = 0.360$ and $r2 = 0.290$ while the US sample has $r1 = 0.216$ and $r2 = 0.253$ respectively. This also contributes to the consensus of earlier researchers on the correlation between knowledge and behaviors in regards to the environment. Another study evaluating the correlation between 206 sample of Dutch students' level of knowledge of the environment and their level of environment responsible behaviors found a positive Pearson correlation analysis ($r = 0.20$, $p < .05$, $n = 206$).

Another study evaluating the correlation between 206 sample of Dutch students' level of knowledge of the environment and their level pf environment responsible behaviors found a positive Pearson correlation analysis ($r = 0.20$, $p < 0.05$, $n = 206$). Knowledge was discovered to be the single most significant predicator of environment responsible behavior in the study sample by Marcinkowski (2001). A comprehensive meta-analysis of three dissertation (Marcinkowski (2001); Sia et al. (1985/86); and Sivek et al. (1989/90)) by Marcinkowski (2001) found the contribution of knowledge as a predictor to environmental behaviors, however, compared to the

study of Marcinkowski (2001), the studies of Sia et al. (1985/86); and Sivek et al. (1989/90) showed relatively low contribution.

2.5. Attitude and Behavior for Environmental Citizenship

The relationship between knowledge, attitude, and behavior of the environment is illustrated in figure 2.1. One of the early descriptions of environmental attitude was established by Hines et al. (1986/87) who refers to the term as a physiological construct. They describe environmental attitude as an individual's set of values and beliefs of the environment that have fundamental influences on the way he/she expresses their feelings, advantages or disadvantages, and favorable or unfavorable directly or indirectly towards the environment. Any means of creating awareness in relating to environmental citizenship is aimed at changing human perspectives, attitudes, level of knowledge, and the development skills on the environment. This is consistent with the views of Hawthorne and Alabaster (1999) who said that the process of ecological citizenship education is simply changing attitudes of people, creating awareness/sound knowledge, as well as skills development. All these collectively combined influences human behaviors towards the environment (Hawthorne and Alabaster, 1999).

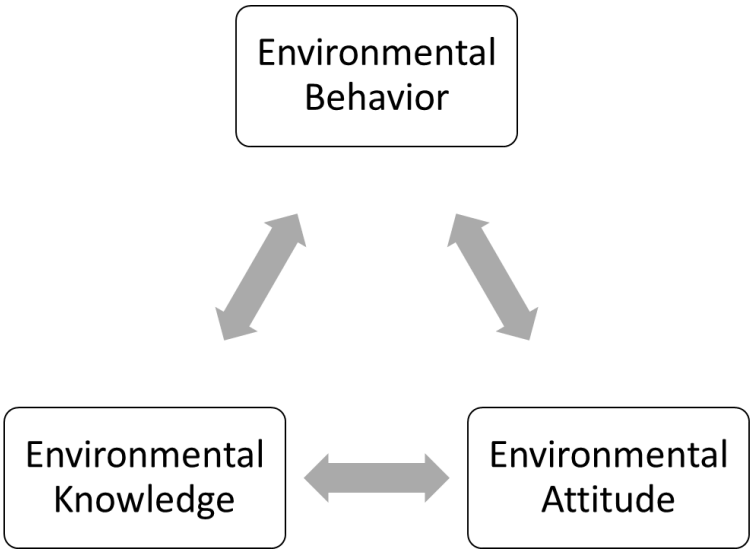

Figure 2.1: Interrelationship between environmental knowledge, attitude, and behavior (Geiger et al, 2018)

According to Morgil et al. (2002), education for environmental citizenship begins first in the family after which the school can work for improvement. Therefore, the family home structure serves as the primary source of environmental awareness for children. The secondary source of environmental education is the school and should be incorporated to students' program from primary school. When children are exposed to environmental awareness from an early age, the society becomes naturally interested in environmental issues, engaging on problem solving, as well as various approaches to improve the status of the environment (Gunduz et al., 2017). The recognition that human behavior has a detrimental impact on the environment is central to the environmental agenda (Pianosi, 2017).

Pro-environmental behaviors can be described as behaviors that deliberately pursue the reduction of the negative impact of humans' activities on the natural environment (Stern, 2000). There is a range of pro-environmental behaviors that are the focus of behavior change studies and programs. They include: water and energy conservation, waste management and recycling, maintenance and promotion of biodiversity, transportation, healthy lifestyles. These behaviors can be implemented at the individual level (COI/DEFRA, 2007), but also at an organizational level (schools, community groups and workplace) (Bartlett, 2011).

Stern (2000) states that environmentally significant behaviors can be defined by their impact on the environment. The impact is defined as the "extent to which it changes the availability of materials or energy from the environment or alters the structure and dynamic of ecosystems or the biosphere itself" (Stern 2000,). In the context of a university, it is difficult to estimate the impact for which staff and students are responsible. The dissimilarities that occur in individual behavior can in fact produce significant differences. If Janda's well-known quote, "buildings don`t use energy, people do" (Janda 2011,) is true, then the institution per se is not responsible for having an impact on the environment, but the people that use and inhabit the institution are responsible for its overall impact on the environment. Behavior, individually and collectively, is therefore clearly important in the context of energy use and pro-environmental behaviors in organizations. Therefore, the question is not if people need to change their behavior, but how much and how soon they have to act in order to not have a negative impact on the environment (Pianosi, 2017).

Several studies by prominent researchers have shown the relationship between human attitudes or behaviors towards the environment to their level of education of the environment. This includes the study of Dillon and Gayford (1997) "A Psychometric Approach to Investigating the Environmental Beliefs, Intentions and Behaviors of Pre- service Teachers", Bradley et al. (1999) "Relationship between Environmental Knowledge and Environmental Attitude of High School Students", Hsu (2004) "The Effects of an Environmental Education Program on Responsible Environmental Behavior and Associated Environmental Literacy Variables in Taiwanese College Students", McMillan et al.(2004) "Impact of University-level Environmental Studies Class on Students' Values", Tikka et al. (2000) "Effects of Educational Background on Students' Attitudes, Activity Levels, and Knowledge Concerning the Environment", and Meerah et al. (2010) "Environmental citizenship: What level of knowledge, attitude, skill and participation the students own?".

Although there are a collection of previous studies investigating the correlation between environmental attitudes and behavior which have provided results proving the strong correlation, other researchers have not necessarily found the correlation to be moderate, weak or no correlation at all for specific case studies. For example, the outcomes from the study of Newhouse (1990) and later Chan (1996).

Adams (2003) reviewed and considered a substantial number of articles relating to attitude and behavior, however, the outcome of his review claimed that "attitudes do not necessarily influence or lead to overt behavioral changes". Even though several research studies have been conducted to investigate the relationship between attitudes and behavior (ERB), Adams (2003) claims by considering substantial researches that "attitudes do not necessarily influence or lead to overt behavioral changes". On the other hand, the claim was that attitude has been considered as one of the most important predictors of ERB.

As a result of continues and improved environmental awareness, environmental citizenship education has been adopted and adapted into school curriculums in several parts of the world. Despite its growing acceptance in school curriculum across the globe and it being a priority learning area, there is no single name given for courses or educational programs of environmental citizenship. According to Kerr (1991), education for citizenship comes in diverse subject names

including “history, geography, economics, law, politics, environmental studies, values education, religious studies, languages and science”. In his study, Alemdar (2005) found that in the schools there is no subject name ecological education within the school curriculum, however, the content of environmental education could be found and are taught in subjects such as Science and Technology and Social Studies courses curriculum in fourth and fifth grades of primary school in Turkish Republic of Northern Cyprus (TRNC). In Africa, most of environmental related education is embedded in courses such as social studies and geography. No matter what name or subject a country takes to represent education for environmental citizenship, it must be designed in such a way that it subsumes comprehensive knowledge, competencies, skills, attitudes, values and practice that pupils need to become informed and active citizens (Namasasu, 2012).

According to Bradley et al. (1999), people’s behaviors is most importantly influenced by their attitude. Attitude are exhibited either positively or negatively. This is consistent with the explanation of Gunduz et al. (2017) that ecological attitude learned tendencies in the form of consistent behaviors against environment either positive or negative. Moreover, Kagitcibasi (1998), explained that attitudes are not only tendencies or feelings but a combination of thinking, feelings and attitude. Positive attitude towards the environment entails doing all the right actions that does not only destroy the environment, but also protect and improve the environment such as planting tree, recycling, producing eco-friendly products etc. On the other hand, negative attitude towards the environment destroys the environment directly or indirectly such as uncontrolled waste disposal, pollution by industrial activities, and destruction of ecological settings to mention but a few. Meta-analysis of 51 empirical studies investigating the relationship between attitudes and ERB which resulted in a corrected correlation coefficient of .35. This moderate correlation indicates the existence of relationship between environmental attitude and ERB (Hines, et al., 1986/87) suggesting that individuals who had more positive attitudes tended to show more ERB than the ones who had less positive environmental attitudes. Attitudes towards the environment is not only the responsibility of government agencies, global agencies, and big companies, it is the responsibility of each individual and environmental sustainability goal can only be achieved through collective efforts of all individuals.

Since several studies have shown positive correlation between level of education and attitudes (positive or negative attitudes) towards the environment, it therefore means that an individual with high or sufficient knowledge of the environment is likely to behave positively to the environment and vice versa.

The review of research studies in the literature reveals that the relationship/correlation between environmental attitude and ERB seemed to be high (Chan, 1996; Makki et al., 2003; Meinhold & Malkus, 2005) or moderate (Hines et al., 1986/87; Balderjhan, 1988; Kuhlemeier, et al., 1999; Thapa, 1988; Scott & Willits, 1994) or weak (Sia et al., 1985/86; Grob, 1995), or were never observed (Evans, Brauchle, Haq, Stecker, Wong & Shapiro, 2007). Chan (1996) studied with 992 students from Hong Kong and investigated the correlation between attitudes and intention to act (which is one of the best predictors of ERB) of these students. Chan found significant, positive and high correlation among environmental attitudes and the different types of behavioral intentions (paper recycling, using less tissue, and overall behavioral intention). All the correlations ranged from .37 to .46 ($p < 0.0001$). Makki et al., (2003) reported significant and high correlation between Lebanon secondary students' environmental attitudes and environmental behavior ($r = 0.77$, $p < 0.01$, $n = 660$). Meinhold and Malkus (2005) observed high correlation between pro-environmental attitudes and environmental behaviors adults in West coast of the USA ($r = 0.45$, $p < 0.001$, $n = 848$).

In the study of Kuhlemeier et al. (1999) with 206 Dutch secondary school students, the correlation between environmental attitude and ERB was observed to be moderate ($r = 0.36$, $p < 0.05$). Scott and Willits (1994) observed modest level relationship between levels of attitude and level of behavior; such as between balance of nature and consumer behavior ($r = 0.21$, $p < .001$) and political behavior ($r = 0.19$, $p < 0.001$), between humans-with-nature and consumer behavior ($r = 0.18$, $p < 0.001$), and political behavior ($r = 0.11$, $p < 0.001$). Sia et al., (1986/87) found weak correlation between environmental behavior and attitude toward pollution ($r = -0.26$, $p < 0.05$, $n = 171$) and further no correlation between environmental behavior and attitude toward technology ($r = -0.08$, $p > 0.05$, $n = 171$). Grob (1995) proposed a structural model of 12 sub-components of environmental attitudes and behavior. He observed significant correlation of six sub-components with reported environmental behaviors; recognition of environmental problems ($r = 0.39$, $p < 0.01$), affective reactions ($r = 0.36$, $p < 0.01$),

disturbance because of real-ideal discrepancies ($r = 0.22$, $p < 0.01$), post materialistic values ($r = 0.33$, $p < 0.01$), openness to new ideas ($r = 0.39$, $p < 0.01$) and belief in science and technology ($r = -0.16$, $p < 0.01$). Evans et al., (2007) investigated 100 young children's environmental attitudes and behavior. They found no correlation between attitudes and behaviors ($r = 0.01$, $p > 0.05$) of young children. However, this correlation was significant for their parents ($r = 0.50$, $p < 0.05$).

Kaiser, Ranney, et al. (1999) and Kaiser, Wölfing et al. (1999) confirmed three measures as factors of environmental attitudes. They believed that environmental knowledge, environmental values and ecological behavior intention were main components of theory of planned behavior and encompasses most commonly used attitude approaches. They tested attitude-behavior relationship by incorporating these measures into structural equation models. In the first structural model, environmental knowledge and environmental values explained 40% of the variance of ecological behavior intentions which, in turn, predicted 75% of the variance of ecological behavior (Kaiser, Wölfing et al., 1999). In the second structural model, environmental knowledge, environmental values and responsibility feelings together predicted 45% of the variance of ecological behavior intention which explained 76% of the variance of general ecological behavior.

In addition to associational studies to examine the relationship between attitudes and ERB, there have been several other studies investigating students' attitudes and its determinants. These studies aimed to measure not only students' general attitudes (Bogner & Wiseman, 1997; Bonnett & Williams, 1988; Reid & Sa'di, 1997; Bradle Walickzec & Zajicek, 1999; Eagles & Demara, 1999; Makkı, et al., 2003) but also their attitudes toward specific environmental topics issues such as animals (Eagles & Muffitt, 1990).

Eagles and Demara (1999) conducted a study to examine 72 6th graders' moralistic and environmental attitude toward environment. They found a positive correlation between student's environmental involvement and ecological score, and a positive correlation between student's environmental involvement and moralistic score. Reid and Sa'di (1997) did a study to find out the British and Joardian children's general attitudes toward the environment. Results showed that the Joardian children's positive attitudes were lower than British children's and the Joardian pupils scored

significantly lower than the British pupils. Although no difference was found between Joardian male and female students having same scores, the British female students scored significantly higher than the male students.

A study conducted by Bonnett and Williams (1988) aimed to explore students at the age of six with their attitudes towards nature and the environment and how students understand the environment. Their study indicated that students felt as though they were a part of nature, and they also felt strong empathy towards certain aspects of nature. The study conducted by Makkı et al., (2003) aimed to assess 660 secondary school students' general environmental knowledge and attitudes. The findings pointed out those participants' attitudes towards the environment were positive, and participants didn't have adequate environmental knowledge.

CHAPTER III

METHODOLOGY AND DATA COLLECTION

3.1. Introduction

All the methods and strategies used for collecting data from participants in the study and the approach of data analysis are discussed in this chapter. This chapter also provides reasons regarding the choice of the methodology and how the research questions specified for the study aimed to be tackled. The chapter begins with the following subsections; research design, study sample and population, data collection instruments, questionnaire design, research model, and data analysis.

The frame work for the study stems on evaluating the environmental citizenship levels in Libya's primary school students. The study will be descriptive focusing on three predetermined components (knowledge, attitude, behavior). In other words, both quantitative and qualitative method of analysis was employed. Random sampling method which involved random selection of Libyan schools and for the primary school students in each of the selected schools.

Quantitative method was used to collect primary data. The quantitative approach to questionnaires is a popular and an essential tool for acquiring public knowledge. It is simple to administer, coded and analyzed together, allowing comparisons to be made, and quantification to occur, while avoiding irrelevant responses (Benabderrahmane and Chenchouni, 2010). Data was retrieved through the use of semi structured questionnaires through the inductive qualitative method. The survey instrument was a one on one mode of distribution of questionnaires in schools. The questionnaire used in the study was designed by Sucuoğlu (2017) which was carefully designed to retrieve the required data needed for assessment of environmental citizenship levels in Libya's primary school students.

On the other hand, qualitative method was used to gather as much data as possible in order to support the study. This means secondary data was used and were sourced from previous related studies and information related to this thesis from the World Wide Web, books, magazines as well as publications in journals.

3.2. Research Design

For this study description analysis will be employed. The descriptive method of qualitative analysis is a widely used method in research for interpreting or discussing analysis of quantitative data (Frankel & Wallen, 2006). This will improve effective description of the sample population under study. The research design was aimed to determine the environmental citizenship levels in Libya's primary school students via the means of the questionnaire. The dependent variable is the level of environmental citizenship of primary school students in the country. The independent variables in the study are environmental citizenship variables including knowledge, attitude, and behavior. Afterwards, the relationship between the study variables (Dependent and independent variables) will be determined.

Figure 3.1 shows the conceptual framework of the thesis. According to Erdoğan (2009), the following categorical variables are useful for describing the features of environmental literacy including gender of the participants, type of school being attending, pre-school attendance, parents' level of education, and city etc.

After requesting and being granted permission to use the questionnaire by Sucuoğlu (2017), the questionnaire instrument was distributed across Libyan primary schools. Although sampling of the cities and primary schools were achieved randomly, selection of primary school students were realized in several steps as shown in Figure 3.1 and Figure 3.2.

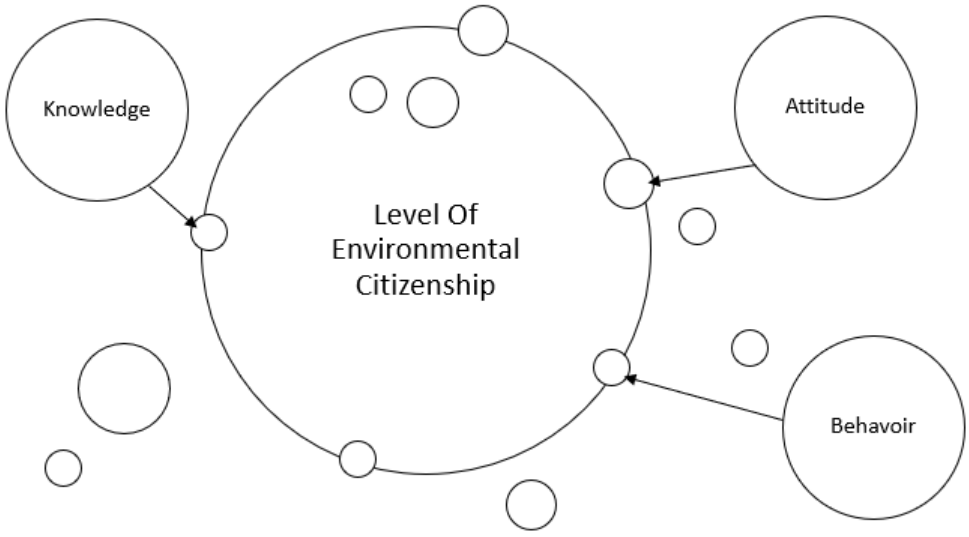

Figure 3.1: The dependent and independent variables (Gunduz et al., 2017)

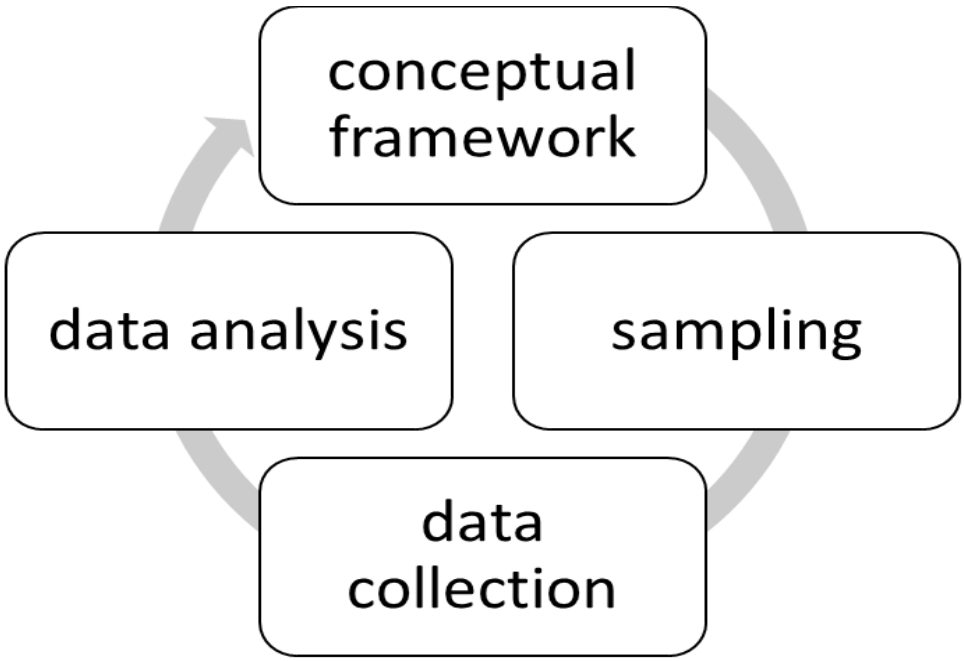

Figure 3.2: General research design of the thesis

3.3. Study Population and Sample

The population of the study was only primary school students across Libya. The population sample was also selected through a process as indicated in figure 3.3 and Libya was the sample area. The sample size was determined by selecting 300 primary school students in each of the selected schools.

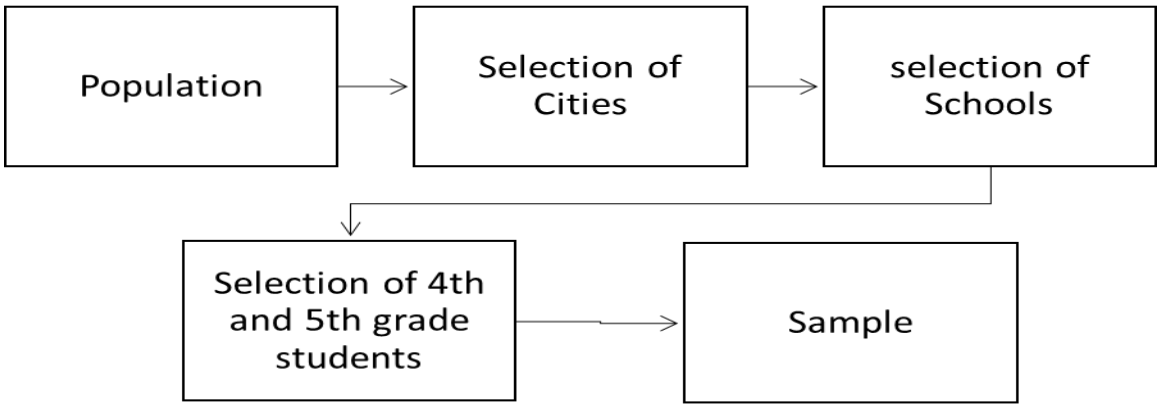

Figure 3.3: Sampling steps showing the selection process (Erdogan, 2009)

The identity of primary school (names) and the participants were made anonymous due to the political and security instability/challenges that continue to rock Libya. For this study, three major cities were selected where there is considerable level of security. These cities include the city of Tripoli, Benghazi, and Sabha. These were arranged according to the population. Tripoli which is the most populated and the capital city of Libya, had 144 participants selected for this study. Moreover, Benghazi is the second largest city in the country, a total selected sample of 99 primary school students were selected. On the other hand, Sabha which is the third largest city in Libya, included 57 samples for this study. In total, there were 300 samples selected across the cities to conduct the questionnaire survey. The sample process was based on the criteria and steps presented in figure 3.3 (Erdogan, 2009).

3.4. Questionnaire Design

The questionnaire was designed by Sucuoğlu **(**2017) and constituted of four sections with 27 questions. The questionnaire was designed in line with the objectives and study questions so as to capture the full view of respondents on the various factors revealing their awareness of environmental citizenship. The questionnaire was composed of four parts: Part A: Respondent's profile (personal information). Part B: Environmental Knowledge Test (EKT) (knowledge). Part C: Environmental Attitude Scale (EAS) (attitude). Part D: Environmental Citizenship Behavior Scale (ECBS) (behavior). 300 comprehensive questionnaires were made available in line with the above reasons and due to the financial constraints of the study. After permission was obtained from the original designer of the questionnaire, the distribution of questionnaire to all the participants were initiated so that data could be gathered for analysis **(**Gunduz et al.**,** 2017).

3.5. Validity and Reliability

In order to analyse the reliability and validity of the instruments, the Cronbach alpha was used. This is to also check for any internal constituencies. As the study's questionnaire survey contains several Likert scale questions, this method of validity and reliability is deemed fit for the study. The alpha tool from SPSS provides the user effective tool for measuring Cronbach alpha with a numerical coefficient of reliability. The consistency of coefficient from 0.70 above is considered reasonable, and

delineates the closeness of the scale. For this study, coefficient are presented below and therefore, the scales are valid, reliable and dependable for this study.

Table 3.1: Releability score of Environmental Knowledge Test (EKT)

Cronbach's Alpha	N of Items
0.80	20

Table 3 2: Releability score of Environmental Attitude Scale (EAS)

Cronbach's Alpha	N of Items
0.89	29

Table 3.3: Releability score of Environmental Citiziship Behavoir Scale (ECBS)

Cronbach's Alpha	N of Items
0.733	27

The validity for EKT was found to be 99.o% for 297 samples, only three were excluded while the validity for EAS and ECBS were found to 100% respectively.

3.6. Data Collection

In order to collect data from the sampled students, questionnaires were distributed to all participants. The sample area was primary school students through Libya. The method of questionnaire distribution was through the use of one-on-one distribution method. The reason for this was to ensure clarity during the administration of the questionnaires, which were distributed in November 2019. This is because during the November period, all primary schools are open and the majority of students attended school during school hours, as the students were still at schools.

3.7. Ethical Conduct

Before data was collected, there was official engagement not only with the Near East University ethical committee, but also with the participating schools and primary school students. The ethical form was filled and submitted alongside the questionnaire to the committee for approval to continue with the study. Therefore, the

ethical conduct utilized in this study was based on the policies and procedures of the university's ethics committee. Additionally, consent of approval was actually received from each of the selected schools and targeted study areas. All participants were assured of confidentiality. In order to encourage participants (primary school students) willingness to participate in the study effectively, comprehensive information about the study including the aims and objectives where effectively explained. Participants were also encouraged to provide the responses they deemed appropriate or accurate and questions they do not understand, they could ask questions for clarification so as to make them aware that their effective and accurate involvement determines the realization of the motives behind the study. Finally, in order to ensure reliability, originality and the authenticity, no distortion of the collected data was intended or tolerated.

3.8. Data Analysis

In order to analyze the data gathered, the following steps were considered. All the data collected through questionnaires were sorted out and put into a statistical package for social sciences (SPSS) for statistical analysis and to code all the categories of the variables. Once data screening was completed, basic descriptive statistics were initially performed by means of SPSS so as to screen and describe the data. Furthermore, a series of independent t-tests and ANOVAs were also performed for addressing the research questions. Analysis will include various means of data representation including statistical tables, figures, pie charts, and histogram etc.

CHAPTER IV

FINDINGS

In this chapter all the results received from the collected data will be presented. A vivid description of the demography of the primary school students who participated will be provided. To provide a clear descriptive statistic for each section from the questionnaire, the findings were divided into four parts. The first part focused on the finding relating to personal information of the participants which is basically the demographic information. The demographic statistics or characteristics of participants were presented in the form of frequencies and percentages. Other parts of the description analysis used descriptive tools such as tables, frequencies and percentages in order to present the comparable results and better understand these results (Erdogan, 2009).

While the second part provides results from the Environmental Knowledge Test (EKT). Furthermore, the third part focuses on the Environmental Attitude Scale (EAS). Lastly, the fourth part deals with the findings from the Environmental Citizenship Behaviour Scale (ECBS). In general, the descriptive result is shown in the same order as the research questions in order to provide a clear view of the intended aims and objectives of the study. One-way ANOVA (analysis of variance) and Independent samples T-test where run for each categorical variable to establish the difference and effect of demographic statistics. The demographic statistics included class, gender, grade, and parents' education level, parents' income, to be a member of environmental institution and to join an environmental activity. To investigate any variance among EKT, EAS, and ECBS scores of participants with respect to variables under consideration, Tukey tests were utilized. Finally, a summary was also provided at the end of the analyses of the research questions which were lengthy descriptions (Gunduz et al., 2017).

4.1. Descriptive Statistics of participants Demography

The most important variables are taken in to consideration as the demographic statics of the participants included gender, age, parent (both father and mother) educational level, and the city of the participants. The summary of the result from the

SPSS analysis of the demography of participants is shown in table 4.1. The gender of the respondents recorded more participation of female than male. The total frequency for females are 151 which is 50.3% of the total sample. The total frequency of participating males are 149 with a 49.7% of the entire study sample. The age distribution of the primary school students were predetermined for the research and included only students of ages ranging from 10 to 12, therefore it was not analyzed in the SPSS software. Moreover, the grade level of the students was analyzed. Result shows that majority of the participants are in the 5^{th} grade educational level with a total frequency of 181 and 60.3% of the total study sample. The total frequency of 4^{th} grade primary school student was 119 which equals to 39.7% of the total distribution.

Moreover, the father and mother education levels were considered as parent educational level. 4% of participant's mother could read and write while only 3.7% of the fathers fell in this category. 2.7% of mothers had a primary education level while 5% of the fathers fell in this category. For secondary school education, the analysis shows 20% of fathers 7.3% of the mothers. 22.7% of mother had a high school education while 15% of the father fell in this category. For the university education level, the results show 56% of mothers had a university education while 52.3% went to fathers. For post graduate education level including masters and doctorate level of education, fathers had 22% while mothers had only 5.3%. Only 2% of the respondents indicated that mothers were illiterate.

Lastly, a total of 144 primary school students who participated in this study were studying in primary schools in the city of Tripoli. This frequency is equivalent to 48% of the entire study sample. The number of primary school students who participated from schools in Benghazi was 99 from a total sample of 300. This frequency is equivalent to 33% of the total study sample. There were 57 total primary school students who participated in the study from the city of Sabha. This frequency is equivalent to 19% of the total population.

Table 4.1: Demographic information of participants (N= 300)

Variable		***F (frequency)***		**% (percentage)**	
Gender	Female	151		50.3	
	Male	149		49.7	
Grade	4th grade	119		39.7	
	5th grade	181		60.3	
Parent Educational level (mother (M) and father (F))		Father	Mother	Father	Mother
	Can read and write	11	12	3.7	4
	Primary school	15	8	5	2.7
	Secondary school	6	22	20	7.3
	High school	45	68	15	22.7
	University	157	168	52.3	56
	Postgraduate (M.A, PhD.)	66	16	22	5.3
	Illiterate	0	6	0	2
	others	0	0	0	0
City	Tripoli	144		48.0	
	Benghazi	99		33.0	
	Sabha	57		19.0	

4.2. Environmental Knowledge Test (EKT)

This section seeks to explore the level of primary school student's knowledge of the environment. It consists of 20 carefully designed questions by Hadiye (2017) to meet the aim. All the 20 questions where designed to be answered as multiple-choice questions from which the participant is required to choose the right answer. When a student answers the correct answer, it is recorded as 1 and the rest of the wrong options are recorded as 0s. The mean score and standard deviation for all the 20 questions was calculated to be 2.229 and 0.91085 respectively. For this section, the total score of questions targeting primary school student knowledge range from 1 to 20. The result showed that only 55.67 % of participating students got the answers correct in this question which correspond to the frequency of 167 from the entire study sample. At the end of this section, the mean of all the section will determine the result for the environmental test for primary school educated students which is arranged as 100%-

80% (educated enough), 80%-60% (educated), 60%-40% (moderately educated), 40%-20% (weakly educated), and 20%-0% (uneducated). See table 4.2.

Table 4.2: EKT Categories

EKT Categories	
Educated Enough	100%-80%
Educated	80%-60%
Moderately Educated	60%-40%
Weakly Educate	40%-20%
Uneducated	20%-0%

For the question "*which of the following should be avoided in protecting the environment?*", the means score was 1.76 and the standard deviation was 0.894. The question was provided along with four options to the students to choose the correct answer. Only 20 (6.7%) students from the study sample choose the correct option which is- saving water. This shows that a very large percentage of the students do not know that by saving water, we are saving our environment because water is useful for all forms of life. The mean and standard deviation for the question "*Which of the following is the basic cause of environmental pollution?*" was 2.38 and 0.856 respectively. The majority response from the primary school students were 27% which correspond to a frequency of 81 of the total sample. When primary school students where asked the question "*Which of the following is negatively affected by environmental problems?*", a frequency of 159 participant answered correctly while only 141 (47%) respondents got the answer wrong as shown in bar chart in Table 4.3.

Table 4.3: *Which of the following is negatively affected by environmental problems?*

	Frequency	**Percent**
a) People living in small countries	30	10.0
b) People living in big countries	73	24.3
c) All the living creatures in the world	159	53.0
d) Endangered animals	38	12.7
Total	**300**	**100.0**

Result indicated that the majority of the participants understood that sunlight is crucial for the life as 68% (frequency of 204) indicated while only 42% (96) of primary school

students got it wrong. For the question "*Which of the following is the most crucial for life?*" surprisingly, 229 out of 300 primary school students selected the correct answer which shows that using private cars instead of taking public transport is not an environment-friendly behavior as shown in the pie chart in Table 4.4.

Table 4.4: *Which of the following IS NOT an environment-friendly behavior?*

	Frequency	**Percent**
a) Saving water	20	6.7
b) Preferring recycled products	42	14.0
c) Using private cars instead of taking public transport	229	76.3
d) Using low energy consuming electric apparatus	9	3.0
Total	**300**	**100.0**

In the response to the question "*Which of the following IS NOT a way to prevent environmental problems?*", 131 (43.7%) primary school indicated that Using nuclear energy instead of natural gas is not a way to prevent environmental problems. This shows that 57% (169) of the primary school students got the question wrong. Moreover, on the next question "*Which of the following IS NOT a negative effect of litter?*" the result from participant's responses shows that 185 which correspond to 61.7% of the study sample choose erosion which is the correct answer to the question. This shows that quite a number of the students identify the dangers of litter to the environment. On another question "*Which of the following is true for lignite, coal, and petrol*?" the following responses where provided; 197 (65.7%) out of 300 participants understood the basic detail of lignite, coal, and petrol which is, they are all sources of energy. Only a small percentage of 34.3% of the respondents got the options wrong.

Furthermore, primary school students where asked "*Which of the following degrades in soil in the shortest period?*" 66.3% (199) of respondents believed newspaper has the shortest period of degradation due to its biodegradable nature (it is sourced from trees) as shown in the bar chart in Table 4.5. This shows that a slight majority of the sample are aware of the dangers of the other options (wrong options) as only 33.7% of the sample got the answer wrong.

Table 4.5: *Which of the following degrades in soil in the shortest period?*

	Frequency	Percent
a) Glass bottle	3	1.0
b) Newspaper	199	66.3
c) Cans	45	15.0
d) Plastic bags	53	17.7
Total	300	100.0

The question "*Which of the following IS NOT the result of water pollution?*" primary school students provided a very positive response to the questions. 250 participants out of 300 participants choose the correct answer which is fog, as it does not result to water pollution. Its frequency of 250 is equivalent to 83.3 of the total sample under consideration. It is clear that only a small percentage of 16.7% of primary school student got the options wrong as shown in the pie chart in figure 4.4. This is a clear indication that the majority of primary school students in this study are aware of the implications of the other options to water bodies that serve as a habitat for aquatic life and support the entire existence of mankind and all other creatures.

A frequency of 189 of the sample choose natural leaves as the option that does not result in causing permanent pollution. This frequency is equivalent to 63% of the entire study sample. The response from this question shows that quite a good frequency of primary school students are aware of the biodegradable nature of plant wastes and only 37% of the responses got the answer wrong as shown in Table 4.6.

Table 4.6: *Which of the following DOES NOT cause permanent pollution?*

	Frequency	Percent
a) Detergents	81	27.0
b) Plastic bags	9	3.0
c) Plastic bottles	21	7.0
d) Dry leaves	189	63.0
Total	**300**	**100.0**

For the question "*Which of the following causes soil pollution*?", an immersing 96% of primary school students choose the answer correctly in Table 4.7. A total of 288 participants choose litter and litter piles as the option that results in soil pollution.

Only a negligible 4% got the answer wrong. This is an indication that at almost all of the sample under consideration are aware of the dangers of littering the environment and the subsequent effect it has on the soil and the environment in general.

Table 4.7: *Which of the following causes soil pollution*?

	Frequency	**Percent**
a) Litter and litter piles	288	96.0
b) Growing forestry	3	1.0
c) Growing vegetation	6	2.0
d) Fog	3	1.0
Total	**300**	**100.0**

For the question "*Which of the following IS NOT the major cause of Ozone depletion?*", the majority of the respondents 72.3% (217) choose the option water vapor is not the major cause of the depletion of the ozone layer. Only 28.7% of respondents selected the wrong options which is an indication that respondents in their majority are quite aware of the harmlessness of water vapor and the harmful effects of the other options. On the other hand, the question "*Which of the following IS NOT a method of preventing erosion",* there was a huge disappointment in choosing the correct response as only 14.7% of the participants choose afforestation wasteland as the option that it is not a method of preventing erosion. This finding shows that the majority of primary school students in this study are unaware of the implications of afforestation wasteland on the environment and the usefulness of the other options as they selected them as the right answer to the question showing that students under disregarded these options. Another disappointing result from the participants are the response of primary school students to the question "*Which of the following adds to environmental pollution?*". The majority of the respondents choose the wrong answer to the question. 81.3% (f = 244) of the participants choose the wrong answer. Only a frequency of 56 which correspond to 18.7% of the total sample choose the correct answer which is natural disasters contribute to environmental pollution. This result indicates the poor knowledge or education of the students regarding the consequences of natural disasters to the entire environment we live in.

The responses to the question "*who is responsible for the prevention and development of the environment?*" shows that majority of the respondents are not

aware of the responsible bodies that are in charge of prevention and development of the environment. The responses are presented as follows; 11 (3.7%) of the respondents choose The State, 184 (61.3%) of the respondents choose The State and the citizens, 18 (6.0%) of the respondents choose The Citizens, and 87 (29.0%) of the respondents choose The Ministry of Environment and Forestry which is the correct answer to this question. It is that the constitution gives the responsibilities and duties of prevention and development of environment to the Ministry of Environment and Forestry. However, it is supposed to be a collective duty of both the state sand the citizen where individuals are expected to abide by eco-friendly rules, policies, and regulations laid by the state. The result of this question may be affected by the unclarity of the question or the confusion of the options. For the question "*Which of the following IS NOT the reason for global warming?*", only 25% (f = 75 from sample of 300) of respondents choose Decrease in fossil fuel consumption as the correct option. The majority of primary school students got the answer wrong with a high percentage of 75% corresponding to a frequency of 225. The implication of this response indicates that a number of the study sample is unaware of the reasons of global warming since there is only a decrease in fossil fuel consumption from the options which is correct and the remaining options actually result in global climate warming.

For the question "*How can some waste be recycled?*", the respondent turns back to positive answers in support of the given question. A high frequency of 250 which correspond to a percentage of 83.3% of the total study sample provided the correct answer. They agreed that by recycling, we can manage the menace of waste. Since only a low percentage of 16.7% of the total study sample provided the wrong answer, providing a strong indication that the majority of the participants are aware of the importance of recycling waste to improve environmentally friendly habit.

On the other hand, the question "*Where do we experience the least air pollution?*", has the selected answer of the forests as the places we experience the least air pollution from the list of the provided options. 195 (65.0%) of the respondents got the answer correct while 35% of the respondents got the answer wrong. This is an indication that a number of the primary school students are actually educated about the role of forests purifying the atmosphere by absorbing the carbon dioxide and releasing oxygen to the atmosphere. The students who got this answer correct are possibly aware

of the implications of cutting down trees as it results to a number of implications to the environment.

The last question from this section of testing primary school student education of the environment is "*Which of the following is the major cause of water pollution?*" 96.0% (f = 288 from 300) provided the right answer to the question. A negligible 4% of the sample got the answer wrong. This shows majority of sample are aware of the major cause of water pollution which is one of the major reasons for high mortality in aquatic life as shown in Table 4.8.

Table 4.8: *Which of the following is the major cause of water pollution?*

	Frequency	Percent
a) Waste from factories	288	96.0
b) Water from dams	6	2.0
d) Spring rain	6	2.0
Total	300	100.0

From the environmental knowledge test conducted in this section, the total percentage of correct answers or responses from the primary school students were 55.67% as shown in Table 4. 9. This percentage represents the total percentage of the study sample who have knowledge about the environment this can be perceived in the correct answers they have chosen. From the table 4.2, this percentage falls in the category 60%-40% (moderately educated). Therefore, 55.67% (f= 167) of the total study sample for this study is moderately educated.

Table 4.9: A summary of the responses for EKT

EKT	***f***	**%**
Correct Response	167	55.67
Wrong Response	133	44.33

4.3. Environmental Attitude Scale (EAS)

This section analyzed primary school students' affective disposition (attitude) towards the environment. For this section, a total of 29 questions were administered to the study sample to meet the aim. All the questions utilized the five-point Likert scale (Absolutely Disagree, not sure, Agree, strongly agree, and disagree) to allow participants to provide their responses. The mean percentage of each of the responses are analyzed as 100%-80% (strong positive attitude), 80%-60% (positive attitude), 60%-40% (not sure attitude), 40%-20% (weakly negative attitude), and 20%-0% (negative attitude). See Table 4. 10.

Table 4.10: EAS Attitude Scale

EAS Attitude Scale%	
Strong Positive Attitude	100%-80%
Positive Attitude	80%-60%
Not Sure Attitude	60%-40%
Weakly Negative Attitude	40%-20%
Negative Attitude	20%-0%

To simplify the descriptive process, the responses were reconfigured as strongly agree and agree to be analyzed altogether as agree, not sure is simply analyzed as neutral, disagree and strongly disagree are analyzed as disagree. This makes the descriptive analysis much easier for explanation. Because of the nature of the questions which is aimed at investigating the attitude scale of the study sample, there was no right or wrong answer for any of the questions. The mean score for all 29 questions in this section is 2.42 while the standard deviation is 0.989. At the end of the analysis, the general percentage of responses will be analyzed based on the scale of agree (positive attitude), not sure (neutral attitude), and disagree (negative attitude).

In response to the question "*I can spare some of my pocket money*", the following responses were provided by primary school students; strongly agree (5%), Agree (37.7%), not sure (43.7%), disagree (8.7%), and absolutely disagree (5%) which correspond to the frequency of 15, 113, 131, 26, and 15 respectively. The response to this question shows a fairly positive attitude as only 43.7% of the total sample indicated they were not sure while only 5% and 37.7% strongly agree and agree. For

the question "*I want to join a local organization*", a majority of the responses were between 105 (35%) not sure, and 98 (32.7) agree response. 18%, 12.3%, and 2.0% of the responses were strongly agree, disagree, and absolutely disagree respectively. This response shows that the majority of primary school students were not sure if they wanted to join a local organization that is working to save and protect the environment. In response to the question "*I don't think environmental problems affect economy negatively*" the responses clearly did not agree with the notion of the question. This is because the majority of the percentage 33.7% (101) absolutely disagree and 31 % (f = 93) indicated they disagree with the notion. 50 (16.7%) participants were not sure of the effect of environmental problems on the economy. Only 10% and 8.7% strongly agree and agree respectively. The responses for the question "*At home and at school I'm forced to exhibit environment- friendly behavior*" was quite interesting. Although the question was quite tricky and agreeing or disagreeing with the notion of the questions may both be positive or negative. The motive of the question is to investigate where parents and schools set rules that should be abided by. The responses where all shared out with the majority of the percentages as 28.3%, 26%, and 20.7% for disagree, agree, and not sure. Only 14.7% and 10.3% strongly agree and strongly disagree respectively.

For the question "*I intend to contribute to protective organizations*", the majority of the percentage went to primary school students who strongly agree on the notion of the question. 49.3% (148) and 33% (99) strongly agree, agreed on the notion of the question which is enough to show that the majority of the study sample is in agreement with the notion. However, the responses to this question is not in consensus with the responses of the question "*I want to join a local organization*" where 35% (the majority response) where not sure if they wanted to join a local organization. In response to the question "*I want to volunteer in environmental activities*", almost all the sample study was perceived to have a positive attitude towards the question as 44.7% and 44.3% of agreed and strongly agree. Only 8% and 3% where not sure and disagreed respectively. There were no responses for absolutely disagree. A large percentage of the study sample responded positively to the question "*I want to separate litter for recycling in future*". 46% of the respondents agreed to the notion while 34.7% strongly agree. On the other hand, 16.7% of the respondents were not sure if they

wanted to separate litter for recycling in the future and only 2% and 0.7% of the responses selected disagree and absolutely disagree as shown in Table 4. 11.

Table 4.11: *I want to separate litter for recycling in future*

	Frequency	**Percent**
Strongly agree	104	34.7
Agree	138	46.0
Not sure	50	16.7
Disagree	6	2.0
Absolutely disagree	2	.7
Total	**300**	**100.0**

For the question "*Participating in activities to solve environmental problems does not help*", the responses were the majority concentrated on not sure, disagree, and absolutely disagree. For not sure, disagree, and absolutely disagree respectively the percentages are as 26.3%, 29.0%, 19.3%. Only a small percentage of the responses falls into the agree and strongly agree scale. There was a much-recorded positive response for the question "*I enjoy participating in activities or a better environment*". 48% and 42.3% of the responses were strongly agree and agree. While only 5.7%, 3.0%, and 1.0% of the responses fell into not sure, disagree, and absolutely disagree. Responding to the statement "*I enjoy watching programs dealing with environmental problems*", the finding shows that the majority of the study sample were in agreement with the statement. 47.3% of the study sample agreed while 38.7% strongly agree. On the other hand, only 7.3% and 6.7% of the study sample indicated that they were not sure and disagree respectively. There were no responses for strongly disagree.

For the statement "*Although more expensive, I'd like to buy environment-friendly products*", 51.7% of the responses agreed that they would buy environment-friendly products even though they are more expensive than normal products while 30.3% strongly agree. Furthermore, the 44% and 31% of the total study sample strongly agree and agree that recyclable waste such as paper, plastic and glass shouldn't be disposed of together with other litter. Only 16.3% of the sample were not sure of the statement as shown in Table 4.12.

Table 4.12: *Recyclable waste such as paper, plastic and glass shouldn't be disposed of together with other litter*

	Frequency	**Percent**
Strongly agree	132	44.0
Agree	93	31.0
Not sure	49	16.3
Disagree	14	4.7
Absolutely disagree	12	4.0
Total	**300**	**100.0**

For the statement "*I don't think noise pollution is a threat to the environment*" the responses were spread out among the options. However, majority of the responses were in the not sure (31%), disagree (37.3%), and strongly disagree (14.3%). Only 14.3% and 3% agreed and strongly agree with the statement. In response to the statement "*Everybody should be responsible for protecting the environment*", majority of the respondents responded in the affirmative. 75.3% of the respondents strongly agree while 19.3% agreed as shown in Table 4.13. The remaining percentage was between not sure and disagree. The statement "*I don't think public organizations contribute to protecting the environment*" recorded the following responses; 7.3% (strongly agree), 24.0% (agree), 29.7% (not sure), 17.3% (disagree), and 21.7% (strongly disagree).

Table 4.13: *Everybody should be responsible for protecting the environment*

	Frequency	**Percent**
Strongly agree	226	75.3
Agree	58	19.3
Not sure	14	4.7
Disagree	2	.7
Total	**300**	**100.0**

48% of primary school students in this study strongly prefer having a picnic in the forest to shopping on holidays while 31.7% of the participants agreed. Only 14% were not sure of their responses. Additionally, 61% and 29% of the participants indicated strongly agree and agreed respectively that Environmental problems are one

of the most crucial issues to be solved urgently. Only 16%, 7%, and 1.7% indicated not sure, disagree, and absolutely disagreeing respectively. In line with the previous questions, the statement "*Human beings are more harm to the environment than other living things*" shows that 56% of respondents strongly agree while 34% choose agree. Moreover, 29% of the respondents indicated that they disagree with the statement "*Preserving the environment is over-dramatized*" while 35% were not sure of their responses. 19.3% strongly disagree while only 7.3% and 16.7% indicated strongly agree and agree. 59.3% and 33.3% of the primary school students strongly agree and agree that it's my responsibility, as a citizen, to preserve the environment as shown in Table 4.14. Furthermore, 34.7% and 29.3% disagree and strongly disagree with the statement that switching off the light does not save much energy.

Table 4.14: *It's my responsibility, as a citizen to preserve the environment*

	Frequency	**Percent**
Strongly agree	178	59.3
Agree	100	33.3
Not sure	12	4.0
Disagree	7	2.3
Absolutely disagree	3	1.0
Total	**300**	**100.0**

For the statement "*Unless measures are taken, air and water pollution may end in unwanted results*", 42% and 37.7% of respondents indicated they strongly agree and agree respectively. Only 15% indicated they were not sure of the statement. The statement "*I'm not interested in subjects in environmental problems and the environment*" recorded majority of the responses disagreeing with the notion of the statement. 42% and 38.3% indicated disagree and strongly disagree while 11.7% of the participants were not sure of the statement. The next statement investigated and found that majority of the respondents are worried about the state of endangered animals. 42.3% and 36.5% indicated that I'm worried about endangered animals while only 13% were not sure of if they are worried. 17% and 29.3% of the responses indicated I don't mind a running tap as I wash my hands and brush my teeth. 17.3% disagree while 20.3% strongly disagree. Only 16% were not sure of the statement. 40% of the respondents disagree with the statement "*I'm not interested in environmental*

problems on radio, TV, and in magazines" and 27.7% indicated that they absolutely disagree. 20% of the primary school students were not sure of the statement. For the statement "*Human beings over-use and consume natural resources*", 47% of responses strongly agree while 35.3% agree as shown in Table 4. 15. Moreover, 28% indicated that they were not sure if Human beings over-use and consume natural resources. In response to the statement "*In every building water and energy should be saved*", 48.3% strongly agree and 44% agree to the notion. Only 5.7% were not sure of the statement. Lastly, the last statement for this section "*When necessary, people have to cut down trees to build houses or places for business*", 37.7% and 12% agree and strongly agree that when necessary, people have to cut down trees to build houses or places for business. However, 21% were not sure of the notion of the statement. Only 16.7% and 12.7% indicated that disagree and absolutely disagree respectively.

Table 4.15: *Human beings over-use and consume natural resources*

	Frequency	**Percent**
Strongly agree	142	47.3
Agree	106	35.3
Not sure	28	9.3
Disagree	12	4.0
Absolutely disagree	12	4.0
Total	**300**	**100.0**

In order to understand the level of primary school students, the responses where further simplified in to just agree, neutral and disagree. Agree is (agree + strongly agree), Neutral (not sure), and disagree (disagree + absolutely agree). The overall result from this section shows that only 70% (f = 210) of the study sample agree to positive statement towards the environment. This percentage represent the total percentage of the study sample who shows positive attitude towards the environment. 16.67% (f = 50) remained in the neutral line. This percentage represents the total percentage of the study sample who shows neutral attitude towards the environment. However, only 13.33% (f = 40) of the respondents disagree due to the responses they provide. This percentage represent the total percentage of the study sample who shows negative attitude towards the environment.

Based on the EAS categories presented in Table 4.10 the agree percentage (70%) falls in the category 80%-60% (positive attitude). Therefore, 70% (f = 210) of the total study sample for this study have positive attitude towards the environment as shown in Table 4.16.

Table 4.16: A summary of the responses for EAS

EAS	***f***	**%**
Agree	210	70
Not Sure	50	16.67
Disagree	40	13.33

4.4. Environmental Citizenship Behavior Scale (ECBS)

This section analyzes primary school students' environmental behaviors Scale. For this section, a total of 27 questions were administered to the study sample to meet the aim. All the questions utilized the five-point Likert scale (never, rarely, sometimes, often, and always) to allow participants provide their responses. The mean percentages of each of the responses are analyzed as 100%-80% (strong positive behavior), 80%-60% (positive behavior), 60%-40% (neutral behavior), 40%-20% (weakly negative behavior), and 20%-0% (negative behavior). See Table 4. 17.

Table 4.17: ECBS Categories

ECBS Categories	
Strong Positive Behavior	100%-80%
Positive Behavior	80%-60%
Not Sure Behavior	60%-40%
Weakly Negative Behavior	40%-20%
Negative Behavior	20%-0%

To simplify the descriptive process, the responses were reconfigured as often and always are analyzed altogether as positive behavior, sometimes is simply analyzed as neutral, never and rarely are analyzed as negative behavior. This makes the descriptive analysis much easier to explain. Because of the nature of the questions

which is aimed at investigating primary school students' environmental responsible behaviors scale. It is important to indicate that there was no right or wrong answer for any of the questions. The mean score of for all 27 questions in this section is 2.79 while the standard deviation is 1.28. At the end of the analysis, the general percentage of responses will be analyzed based on positive, neutral, and negative attitude indications.

The responses to the statement "*write in newspapers and magazines about environmental problems*", the majority of respondents (69.7%, f = 209) indicated that they never write newspapers and magazines about environmental problems. 13 % of the study sample said they rarely do so. For the statement "*I buy recyclable school material*", responses were distributed among the options. The highest indication was 39% for some times and 20.7% for rarely. Only 16.3% indicated that they always buy recyclable school materials while 13.3% and 10.7% indicated often and never respectively. 64.7% of the respondents indicated that they never write letters to politicians or are involved in environmental problems. 19% responded that they rarely do so. Only 6.7% responded affirmatively. However, responses were in a tug of war regarding the statement "*I drop recyclable material (glass, paper, plastic) into recycling units at home, at school, and in the street*". 25% and 21% of primary school students indicated that they always and often drop recyclable material (glass, paper, plastic) into recycling units at home, at school, and in the street. On the other hand, 27.3% and 7.3% indicate that never and rarely respectively. Only 19.3% said they sometimes do so as presented in Table 4.18.

Table 4.18: I drop recyclable material (glass, paper, plastic) into recycling units at home, at school, in the street

	Frequency	**Percent**
Always	75	25.0
Often	63	21.0
Sometimes	58	19.3
Rarely	22	7.3
Never	82	27.3
Total	**300**	**100.0**

43.7 % of primary school responded that they never volunteer in conferences and meetings about environment and environmental problems. 19.3% and 17%

indicate rarely and sometimes while 13.3% and 6.7% indicate participants always and often do so. 24.7%, 19.3%, 22.7%, 22.3%, and 11.0% indicate always, often, sometimes, rarely, and never respectively for the statement "*I ask my mom to separate recyclable materials at home*". In response to the statement "*I volunteer in cleaning, arranging etc. the environment*", the primary school students indicate that they sometimes, always, and rarely volunteer in cleaning, arranging etc. the environment in the following percentages 27.3%, 28.7%, and 22% respectively. Only 17.7% and 4.3% indicate they rarely and never do so. 29.7% and 26% of the participants indicate that they never and rarely join or be a member of clubs, groups and organizations working for the environment. 22.7% and 8.7% of the primary school students indicate they always and often do so. Only 13% indicate they sometimes do so.

For the statement "*I discuss environmental Issues with my family*", 26%, 22.3%, and 21% of the respondents indicate that they always, often, and sometimes discuss environmental issues with their family. Only 17.7% and 13% of the participants indicate that they rarely and never discuss environmental issues with their family. 56.3% and 23.7% of the responses indicate that they always and often give their hand-me-down clothes to the ones who are in need. Only 13.7% of the respondents indicate they sometimes do so. In response to the statement "*I try to save water when washing my hands/brushing my teeth*", 58.3% and 30.7% of the primary school students indicate that they always and often try to save water when washing their hands/brushing their teeth. Only 8.3% and 2.7% indicate sometimes and rarely as shown in Table 4.19. 29.7% and 12.3% of the total sample study indicate that they never and rarely drop used batteries into waste-battery collection boxes. 22.7% and 19% of the primary school students responded that they often and always drop used batteries into waste-battery collection boxes. Only 16.3% choose sometimes.

Table 4.19: I try to save water when washing my hands/brushing my teeth

	Frequency	**Percent**
Always	175	58.3
Often	92	30.7
Sometimes	25	8.3
Rarely	8	2.7
Total	**300**	**100.0**

In response to the statement "*I separate recyclable litter*", the responses from the primary school students were arranged as follows; 23.0% (always), 24.7% (often), 24.3% (sometimes), 17.7% (rarely), and 10.3% (never). 41.8% and 19.2% of responded always and often prefer programs about nature and animals. 22% and 12% indicate that they rarely and never do so. Only 4.7% indicate that they sometimes prefer programs about nature and animals. The missing system for this statement was 3 which is equivalent to 1% of the sample study. For the statement "*I read all the announcements on the notice-boards at school*", 31% and 27% indicate that they read all the announcements on the notice-boards at school. 26.3% say they sometimes while 11% and 4.7% indicate they rarely and never do so. In response to the statement "*I prefer food sold in recyclable packets*", 34% of the participants indicate that they sometimes do so. Only 21.7% and 17.7% indicate their support to the statement by choosing always and often respectively. 39.3% and 26% indicate that they always and often use both sides of paper respectively as shown in Table 4.20. Only 14%, 9.3%, and 11.3% indicate that they sometimes, rarely, and never use both sides of paper.

Table 4.20: I use both sides of paper

	Frequency	**Percent**
Always	118	39.3
Often	78	26.0
Sometimes	42	14.0
Rarely	28	9.3
Never	34	11.3
Total	**300**	**100.0**

50% of the primary school students responded that they always warn polluters around. Additionally, 20% of the respondents often warn polluters around. Only 14.3% and 10.7% sometimes and rarely do so. For the statement "*I watch programs to do with environmental problems*" 29.3% and 21.7% indicate that they rarely and never watch programs to do with environmental problems. 17.3% and 13.7% indicate that they always and often do so. Only 18% of the total sample indicated the sometimes watch programs to do with environmental problems. 29.7% and 24.3% indicated that they do not pass on any environmental Problems to my teachers and Directors as they responded with the choice of rarely and never. 20.7% say they sometimes do so. Only

16% and 9.3% indicated that they often and always pass on any environmental Problems to my teachers and Directors. For the statement "*I discuss environmental problems and ways to settle them with my friends*", the majority of the responses where arranged as 34.7% (rarely), 19.3% (often), 19% (sometimes), and 17.3% (never). Only 9.7% indicated that they always discuss environmental problems and ways to settle them with my friends.

The responses to the statement "*I participate in environmental discussions*" shows that 30.3%, 25%, and 20.7% of respondents indicated they rarely, never, and sometimes participate in environmental discussions respectively. Only 15.7% and 8.3% indicated that they always and often do so. 69.7% of respondents always close running/dripping taps at home/school while 14% often do so. For the statement "*I unplug all electrical appliances at home when they are not in use*", 63% of the respondents indicated that they always do so while 13.7% choose often. Only 9.7% and 10% indicated that they sometimes and rarely unplug all electrical appliances at home when they are not in use. The responses for the statement "*I urge people around to Join in environmental activities*" are presented in Table 4.21 as follows; 22.0% (always), 14.3% (often), 22.0% (sometimes), 21.7% (rarely), and 20.0% (never). 34.3% and 19.3% indicated they warn my family not to harm the environment while 28.7% and 15% indicated that they sometimes and rarely do so. For the last statement in this section, 21.3% and 18.3% of the respondents indicated that they always and often search the internet or written documents for what I can do about environmental problems. However, 20%, 19% and 21.3% indicated that they sometimes, rarely, and never search the internet or written documents for what I can do about environmental problems respectively.

Table 4.21: I urge people around to join in environmental activities

	Frequency	**Percent**
Always	66	22.0
Often	43	14.3
Sometimes	66	22.0
Rarely	65	21.7
Never	60	20.0
Total	**300**	**100.0**

In order to understand the level of primary school student's behavior to the environment, the responses where further simplified in to just always, sometimes, and never. Always is (often + always), sometimes (sometimes), and never (rarely + never). The overall result from this section shows that only 45.67% (f = 137) of the study sample always agreed to positive statement towards the environment. This percentage represent the total percentage of the study sample who shows positive behavior towards the environment. 19% (f = 57) indicated they sometimes do so. This percentage represent the total percentage of the study sample who sometimes show positive or negative attitude to the environment. Moreover, 35.33% (f = 106) of the respondents indicated they never show positive attitude towards the environment due to the responses they provided. This percentage represent the total percentage of the study sample who shows negative behaviors towards the environment.

Based on the ECBS categories presented in table 4.6 the always percentage (45.67%) falls in the category 60%-40% (neutral behavior). Therefore, 45.67% (f = 137) of the total study sample for this study have Not Sure behavior towards the environment as shown in Table 4.22.

Table 4.22: A summary of the responses for ECBS

ECBS	***F***	**%**
Always	137	45.67
Sometimes	57	19
Never	106	35.33

4.5. Mean and Correlation of Environmental Citizenship Scale

With regard to total scores for all respondents, the mean of the EKT is 55.67 which reflects a moderate to weak knowledge and understanding of environmental knowledge based on the result from EKT test. The mean of EAS is 70 which represent the environmental attitude of the total study sample. From this mean score, the attitude of the primary school student is understood to be high. That means, a majority of the study sample have positive attitude towards the environment. On the other hand, the mean of ECBS is 45.67 which represent the mean of environment responsible behaviors. The implication for this mean is the behavior of the students range from weak to medium, but generally, it is weak.

For correlation, the correlation significant for EKT, EAS, and ECBS starts at 0.001. In Table 4.8, there is a positive and significant correlation between primary school students' environmental knowledge (EKT) and primary school students' attitude to the environment (EAS) ($r= 0.422$, $p < 0.001$). However, this correlation falls in the middle. Moreover, the correlation between primary school students' environmental knowledge (EKT) and primary school students' environment responsible behaviors (ECBS) was found to be also positive and significant ($r = 0.214$, $p < 0.05$), however, the study also shows that the level of correlation is quite low. Lastly, the correlation between there is a positive and significant correlation between the primary students' attitude to the environment and primary school students' environment responsible behaviors (ECBS) ($r= 0.507$, $p < 0.001$). This result is consistent with the results from the study of Alp et al. (2008), Varişli, (2009), Malandrakis and Chatzakis (2014), and Gunduz et al. (2017).

Table 4.23 shows the Pearson correlation coefficients between primary school students scores of environmental citizenship scale; environmental knowledge, environmental attitude and environmental behavior.

Table 4.23: The Pearson correlation coefficients between school student's scores of environmental citizenship scale

Environmental Citizenship Scale	**Statistical Variables**	**EKT**	**EAS**	**ECBS**
EKT	*P*	-	.047	.072
	r	-	.422	.214
	N	-	300	300
EAS	*P*	.047	-	.038
	r	.422	-	.507
	N	300	-	300
ECBS	*P*	.072	.038	-
	r	.214	.507	-
	N	300	300	-

***Correlation significant at 0.001; r – the Pearson correlation coefficient; p – significance; N – number of students.**

CHAPTER V

DISCUSSION

From the findings of SPSS software analysis of primary school students using their personal information, EKT, EAS, and ECBS, the primary school student was not extremely good when it comes to environmental discourse as shown in Table 4.24. However, they were not poor either. The overall literacy level of the students was analyzed to be moderate. The overall result from the EKT test shows that only 55.67% (f= 167) answered questions correctly about the environment. 44.33% (f= 133) of the respondents failed the questions. Therefore, the total study sample for this study is moderately educated based on the result from EKT test. Moreover, the result from EAS shows that 70% (f = 210) of the respondents agreed to positive statements towards the environment. 16.67% (f = 50) remained in the neutral line, while 13.33% (f = 40) of the respondents disagreed due to the responses they provided. Therefore, a majority of the study sample have a positive attitude towards the environment. Lastly, the overall result from ECBS shows that 45.67% (f = 137) of the study sample always agreed to positive statement towards the environment. 19% (f = 57) indicating they sometimes do so. 35.33% (f = 106) of the respondents indicated they never show a positive attitude towards the environment due to the responses they provided. Therefore, the total study sample for this study has a 'not sure behavior' towards the environment.

Table 5.1: Summary of findings from chapter IV

Environmental Literacy Scale		**f**	**%**	**Mean**	**STD**
EKT	Knowledge	300		44.55	4.38
	Correct	167	55.67	2.23	0.91
	Wrong	133	44.33	-	-
EAS	Attitude	300		70.39	5.98
	Agree	210	70	2.47	0.98
	Not sure	50	16.67	-	-
	disagree	40	13.33	-	-

ECBS	Behavior	300		75.36	12.35
	Always	137	45.67	2.79	1.28
	Sometimes	57	19	-	-
	Never	106	35.33	-	-

In general, this chapter concludes that the general environmental citizenship levels of the primary school student ranged from weak to moderate, that is, the sample study was unable to influence their knowledge of the environment on their attitudes and behaviors to the environment. Based on the review of literature, the researcher makes the following suggestions;

- Primary school courses should develop and improve course curriculum intended to improve environmental citizenship knowledge, attitude, and behavior.
- Primary school students in Libya should be exposed to more extracurricular activities such as excursions to national parks, field trips, wildlife parks, trekking, and other practical environmental projects.

For any intended improvement for primary school students, environmental citizenship levels, there must be an established national strategy in Libya and comprehensive policy framework that will create a pathway for such achievement.

CHAPTER VI

CONCLUSION AND RECOMMENDATION

The study has descriptively analyzed the level of environmental citizenship in Libyan primary schools. The study took into consideration several independent variables including environmental knowledge, attitude and behavior that were correlated to each other. Followed with a correlation of these independent variables to a dependent variable (environmental citizenship level). The findings from the analysis in this study has shown that participants from these primary schools in Libya have weak to moderate environmental knowledge of environmental issues, as seen from the results of EKT test. The study also found that student's attitude was quite strong as a majority of the study sample has a positive attitude towards the environment as on the result from EAS (environmental attitude test). The findings from ECBS (environmental behavior test) shows that the total sample study had a medium to weak environmental behavior. The correlation between all the independent variables were positive and significant, however, the level of correlation according to the analysis is quite low.

Although the analysis of data has successfully identified correlation between these variables, there are some limitations to the study. The findings of the study are drawn from analysis derived from participants' responses; therefore, the conclusion may not completely reflect the overall knowledge, attitude, or behavior of the environment in regards to the sample study or the entire students in Libya. Furthermore, this study only used a sample of 300 primary school students selected from three major cities in Libya (Tripoli, Benghazi, and Sabha) which is not a total representation of Libya. Moreover, the result from this study has been taken from real primary data obtained from a questionnaire survey that was distributed to Libyan primary schools to obtain information about their level of environmental literacy by taking into consideration three scales of environmental citizenship- knowledge, attitude, and behavior.

To conclude, the overall result from the study analysis carried out using the SPSS software shows that the level of primary school students' knowledge and attitude in regards to the environment is not reflective in the behaviors of the students, hence

just knowledge and attitude to the environment is not sufficient to put into practice. Therefore, there needs to be effective and efficient improvement in the primary school curriculum in such a way that primary school students are exposed to environmental citizenship issues, and ways they can better their general knowledge, attitude, and behaviors to the environment in a much more practical way. In spite of the research dealing with Libyan primary school students' awareness of environmental citizenship, Libya seems to suffer from a gap in the efforts in this area. In the school curricular planning, environmental citizenship awareness is lacking. This study highlights the importance of creating awareness of environmental citizenship.

Recommendation

This study was observed with a sample of 300 primary school students belonging to 5^{th} grade and 4^{th} grade only in three of the biggest cities in Libya. Future study should focus on expanding the study area (if possible, the whole of Libya) and the study sample. The study also considered only three dimensions (independent variables) to determine the primary school student's environmental citizenship levels based on the three scale mentioned earlier, however, there are several dimensions that would significantly improve outcomes if they are utilized. Additionally, future researches should consider using effective questionnaire instrument that will best suit Libyan students and avoid lengthy and difficult survey questions. This may significantly affect your result.

Lastly, the general result obtained not so good result about the level of environmental citizenship of the students, therefore, there needs to be improvement from the government of Libya by her educational policies and the education system that will expand environmental education in Libya. The schools should also introduce practical measures in an interesting way that will win the engagement of the primary school students in environmental issues. There should also be special and specific environmental education curriculum designed for primary school throughout their level of education. This will provide solid background of the environment and current issues.

REFERENCES

Acuna, V. (2012). Environmental Citizenship in Chilean School Textbooks A case study on environmental citizenship education in Chilean basic-education textbooks of 2012. Master Thesis, The Faculty of Graduate and Postdoctoral Studies, (Resource management and Environmental Studies), The University of British Columbia (Vancouver).

Adams, W.J. (2003). Promoting environmentally responsible behavior: An evaluation of the global learning and observations to benefit the environment (GLOBE) programme. Unpublished masters' thesis, University of South Africa, South Africa.

Alemdar, S. (2005). The Cyprus Turkish Education System. Retrieved from http://talimterbiye.mebnet.net/CypTurEduSys.pdf.

Alp, E., Ertepinar, H., Tekkaya, C., & Yilmaz, A. (2008). A Survey on Turkish Elementary School Students' Environmental Friendly Behaviors and Associated Variables. *Journal of Environmental Education Resources*, Vol.14 (2), 129.

Armstrong, J.B., & Impara, J.C. (1991). The impact of an environmental education program on knowledge and attitude. *The Journal of Environmental Education*, 22(4), 36-40.

Balderjahn, I. (1988). Personality variables and environmental attitudes as predictors of ecologically responsible consumption patterns. *Journal of Business Research*, 17, 51-56.

Bamberg, S., & Möser, G. (2007). Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behavior. *Journal of Environmental Psychology*, 27(1), 14-25.

Bellamy, R. (2008). Citizenship: A Very Short Introduction. 1st ed. Oxford: Oxford University Press.

Bogner, F.X., & Wiseman, M. (1997). Environmental perception of urban and rural pupils. *Journal of Environmental Psychology*, 17, 111-122.

Bonnett, M., & Williams, J. (1998). Environmental education and primary children's attitude towards nature and environment. *Cambridge Journal of Education*, 28(2), 159-177.

Bradley, J.C., Waliczek, T.M., & Zajicek, J.M. (1999). Relationship between environmental knowledge and environmental attitude of high school students. *The Journal of Environmental Education*, 30(3), 17-22.

Cao, B. (2018). Defining Environmental Citizenship. [Online] Enec-cost.eu. Available at: http://enec-cost.eu/wp-content/uploads/2018/06/Keynote-Presentation-by-Dr-Benito-Cao-The-University-of-Adelaide-Australia-Defining-Environmental-Citizenship.pdf [Accessed 16 Nov. 2019].

Center for Environmental Philosophy. (2001). Environmental Citizenship. Retrieved 16 November 2019, from http://www.cep.unt.edu/citizen.htm

Chan, K.K.W. (1996). Environmental attitudes and behavior of secondary school students in Hong Kong. The environmentalist, 16, 297-306.

Çolak, K., Kabapınar, Y., & Öztürk, C. (2018). Social Studies Courses Teachers' Views on Global Citizenship and Global Citizenship Education. *Journal of Education and Science*, Vol 44, No 197, 335-352.

Cottrell, S.P., & Graefe, A.R. (1997). Testing a conceptual framework of responsible environmental behavior. *The Journal of Environmental Education*, 29(1), 1727.

Dillon, P. J., Gayford, C. G. (1997). A Psychometric Approach to Investigating the Environmental Beliefs, Intentions and Behaviours of Pre-service Teachers. *Environ Educ Res*, 3, 283 (1997).

Disinger, J. F. (1983). Environmental education's definitional problem. (ERIC Information Bulletin #2). Columbus, OH: ERIC, SMEAC.

Dobson, A. (2003). Citizenship and the Environment. Oxford: Oxford University Press.

Dobson, A. (2007). Environmental Citizenship: Towards Sustainable Development. *Journal of Sustainable Development*, 15, 276-285.

Dobson, A. (2007). Green Political Thought. 4th ed. New York: Taylor and Francis. Dobson, A., 2009. "Citizens, Citizenship and Governance for Sustainability", in Adger, W.N., & Jordan, A. Governing Sustainability. New York: Cambridge University Press. 125-141.

Dobson, A. (2010). Environmental Citizenship and Pro-Environmental Behavior: Rapid Research and Evidence Review. Report for the Sustainable Development Research Network, 1-86.

Eagles, P. F. J., & Demare, R. (1999). Factors influencing children's environmental attitudes. The Journal of Environmental Education, 30(4), 33-38.

Eagles, P.F.J., & Muffitt, S. (1990). An analysis of children's attitudes toward animals. *The Journal of Environmental Education*, 21(3), 41-44.

Erdoğan, M. (2009). Fifth Grade Students' Environmental Literacy and the Factors Affecting Students' Environmentally Responsible Behaviors. PhD Thesis, Department of Educational Sciences, Middle East Technical University, North Cyprus.

Evans, G.W., Brauchle, G., Haq, A., Stecker, R., Wong, K., & Shapiro, E. (2007). Young children's environmental attitudes and behaviors. *Environment and Behavior*, 39(5), 635-659.

Gan, D. (2016). Environmental Education and Citizenship: A Case Study of Elementary Teachers and Principals Perspectives in Israel. PhD Thesis, the College of Professional Studies, Northeastern University Boston, Massachusetts.

Geiger, S.M., Dombois, C., & Funke, J. (2018). The Role of Environmental Knowledge and Attitude: Predictors for Ecological Behavior across Cultures? An Analysis of Argentinean and German Students 1.

Grob, A. (1995). A structural model of environmental attitudes and behavior. *Journal of Environmental Psychology*, 15, 209-220.

Gunduz, S., Sucuoglu, H., Bastas, M. (2017). Primary School Students Level of Environmental Citizenship in North Cyprus. *Journal of Environmental Protection and Ecology*, 18, No 2, 672–681.

Hanna, P.R., Sabaroff, R.E., Davies, G.F. & Farrar C.R. (1966). Geography in the teaching of social studies. Boston: Houghton Mifflin Company.

Hawthorne, M. Alabaster, T. (1999). Citizen 2000: Development of a Model of Environmental Citizenship. Global Environ Change, 9, 25.

Hicks, D. (2003). Thirty Years of Global Education: A reminder of key principles and precedents. *Journal of Educational Review*, Vol. 55, No. 3.

Hines, J., Hungerford, H., & Tomera, A. (1986/87). Analysis and synthesis of research on responsible environmental behavior: A meta-analysis. *The Journal of Environmental Education*, 18(2), 1-8.

Hsu, S.J. (2004). The effects of an environmental education program on responsible environmental behavior and associated environmental literacy variables in Taiwanese college students. *The Journal of Environmental Education,* 35(2), 37-48.

Hungerford, H.R. & Volk, T.L. (1984). The challenges of K-12 environmental education. In Arthur B. Sacks (Ed.) Monographs in environmental education and environmental studies, Volume 1 (pp. 3-30). Troy, OH: NAAEE.

IUCN (1972). European working conference on environmental conservation. International Union for the Conservation of Nature and Natural Resources, Morges, Switzerland: IUCN.

Jaberi, E. (2014). Global Citizenship through the Eyes of the Grade Seven Elementary Students: A Case Study. Electronic Master Thesis and Dissertation Repository. 2444, the University of Western Ontario.

Janda, K.B. (2011). Buildings don't use energy: people do. Architectural science review, 54(1), p.15. Available at: http://openurl.library.dmu.ac.uk/sfxlcl3?sid=google;auinit=KB;aulast=Janda;atitle=Buildingsdon'tuseenergy:peopledo;id=doi:10.3763/asre.2009.0050;title=Architecturalsciencereview;volume=54;issue=1;date=2011;spage=15;issn=0003-8628.

Joppke, C. (2010). "The Inevitable Lightening of Citizenship." *European Journal of Sociology*, 51 (1): 9–32. doi: 10.1017/S0003975610000019 [Crossref], [Web of Science ®], [Google Scholar]

Kağıtçıbaşı, Ç. (1988). İnsan ve insanlar: Sosyal psikolojiye giriş. İstanbul: Evrim Basım Yayım Dağıtım.

Kaiser, F.G., Ranney, M., Terry, H., & Bowler, P.A. (1999). Ecological behavior, environmental attitude, and feeling of responsibility for the environment. *European Psychologist*, 4(2), 59-74.

Kaiser, F.G., Wölfing, S., & Fuhrer, U. (1999). Environmental attitude and ecological behavior. *Journal of Environmental Psychology*, 19, 1-19.

Kerr, D. (1991). Re-examining citizenship education: the case of England. National Foundation for Educational Research: Berkshire.

Koskinen, S. (2010). Children and young people as environmental citizens - the environmental education perspective to participation. Finish Youth Research Society. Retrieved from https://www.youthresearch.fi/abstract-children-and-young-people-as-environmental-citizens

Krogman, N., & Foote, L. (2011). Global Citizenship and the Environment: Embracing Life in All its Forms. In L. Shultz et al., Global citizenship education in postsecondary institutions: theories, practices, policies. (pp. 108-120). New York: Peter Lang.

Kuhlemeier, H., Bergh, H. V. D., & Lagerweij, N. (1999). Environmental knowledge, attitudes, and behavior in Dutch secondary education. *The Journal of Environmental Education*, 30(2), 4-15.

Kuzminov, Y., Frumin, E. & Zakharov, A. (2011). Russian Schools: Alternative Modernization from above. Obrazovatelnaya Politica. (pp. 5-54). Retrieved from http://www.hse.ru/data/2012/11/26/1301610231/2011_rosschool.pdf.

Malandrakis, G., & Chatzakis, S. (2014). Environmental Attitudes, Knowledge, and Alternative Conceptions of Primary School Children in Greece. *Journal of Applied Environmental Education & Communication*, Vol. 13(1), 15-27.

Marcinkowski, T. (2006). Analysis of the "forerunners" and their contributions. [EDS5410 Course notes]. Foundations of Environmental Education. Department of Science and Math Education, Florida Institute of Technology, Melbourne, FL, USA.

Marshall, T.H. (1950). Citizenship and Social Class. Cambridge: Cambridge University Press.

Martinho, A.P., Nicolau, P.B., Caeiro, S., Amador, F., Oliveira, C. (2010). Environmental Citizenship and Participation: The Role of Education Programs. The 14th European Roundtable on Sustainable Production and Consumption (ERSCP) the 6th Environmental Management for Sustainable Universities (EMSU).

McCrea, E.J. (2006). The roots of environmental education: How the past supports the future. Retrieved on 07 September, 2006 from www.eetap.org.

McMillan, E. E., Wright, T., & Beazley, K. (2004). Impact of University-level Environmental Studies Class on Students' Values. *J Environ Educ*, 35 (3), 19.

Meeraha, T.S.M., Halima, L., Nadeson, T. (2010). Environmental citizenship: What level of knowledge, attitude, skill and participation the students own? *Procedia Social and Behavioral Sciences* 2, 5715–5719. doi:10.1016/j.sbspro.2010.03.933.

Meinhold, J.L., & Malkus, A.J. (2005). Adolescent environmental behaviors: Can knowledge, attitudes and self-efficacy make a difference? *Environment and Behavior*, 37(4), 511-532.

Micheletti, M., & Stolle, D. (2006). "Concept of Political Consumerism", in Sherrod, L.R., Youth Activism: An International Encyclopedia. Westport: Greenwood.

Micheletti, M., & Stolle, D. (2012). Sustainable Citizenship and the New Politics of Consumption. *The Annals of the American Academy of Political and Social Science,* 644, 88-120.

Morgil, İ., Yilmaz, A., & Cingor, N. (2002). Study on Preparation of Environmental and Environmental Protection Project in Science Education. In: Proc. of the

5th National Science and Mathematics Education Congress. Middle East Technical University, Ankara, September 16–18.

Mundy, K., Manion, C., Masemann, V., & Haggerty, M. (2007). Charting Global Education in Canada's Elementary schools: Provincial, District and School level Perspectives. Toronto: UNICEF.

Namasasu, O. (2012). The Quality of Citizenship Education in Harare Primary Schools: An Evaluation of Curriculum Implementation, Phd Thesis, Department of Teacher Education.

Newhouse, N. (1990). Implication of attitude and behavior research for environmental conservation. *The Journal of Environmental Education*, 22(1), 26-32.

Pallett, H. (2017). Environmental citizenship. The International Encyclopedia of Geography: People, the Earth, Environment, and Technology. edited by Douglas Richardson, Noel Castree, Michael Goodchild, Audrey Kobayashi, and Weidong Liu and Dick Marston. Rteievd from https://www.researchgate.net/publication/310705795_Environmental_citizenship?enrichId=rgreq-bcc51a51e562ef423fe2d2658b5a7875-XXX&enrichSource=Y292ZXJQYWdlOzMxMDcwNTc5NTtBUzo0MzE1MzczOTgyNTk3MTJAMTQ3OTg5Nzk0MTExNg%3D%3D&el=1_x_3&_esc=publicationCoverPdf

Pianosi, M. (2017). Can environmental citizenship be enhanced through social media? A case study of engagement in a UK University. Phd thesis, Institute of Energy and Sustainable Development, De Montfort University.

Reid, I., & Sa'di, I. (1997). Joardian and British primary schoolchildren's attitudes toward environment. *Education Studies*, 23(3), 473-481.

Richardson, G. (2008). Within the liminal space: repositioning global citizenship education as politics of encounter, disruption and transcendence. In A. A. Abdi & R. Richardson (Eds.), Decolonizing democratic education: transdisciplinary dialogues. (pp. 127-138). Rotterdam, Netherlands: Sense Publishers.

Roth, C.E. (1992). Environmental literacy: Its roots, evolution and directions in the 1990s. (ERIC Reproduction service No. ED348 235).

Sato, M. (2006). Evolving environmental education and its relation to EPD and ESD: Overview of the conceptual development based on a series of international discussion on environmental education. A paper presented at the UNESCO Expert Meeting on Education for Sustainable Development (ESD): Reorienting Education to Address Sustainability, 1-3 May 2006 at Kanchanaburi, Thailand.

Schmieder, A.A. (1977). The nature and philosophy of environmental education: Goals and objectives. In UNESCO, Trends in environmental education (pp. 2334). Paris, France: UNESCO.

Scott, D., & Willits, F.K. (1994). Environmental attitudes and behavior: A Pennsylvania survey. Environment and Behavior, 26(2), 239-260.

Sia, A.P., Hungerford, H.R., & Tomera, A.N. (1985/86). Selected predictors of responsible environmental behavior: An analysis. *The Journal of Environmental Education*, 17(2), 3-40

Siim, B., & Squires, J. (2008). "Contesting Citizenship: Comparative Analyses", in Siim, B., & Squires, J., Contesting Citizenship, New York: Taylor and Francis. 1-14.

Sivek, D.J., & Hungerford, H. (1989/90). Predictors of responsible behavior in members of three Wisconsin conservation organizations. *The Journal of Environmental Education*, 21(2), 35-40.

Stapp, W. B. (1974). Historical setting of environmental education. In J. Swam and W. Stapp (Eds.) *Environmental Education* (pp. 42-49). New York: J Willey and Sons.

Stefano, G.D. (2018). Citizenship and Environmental Sustainability: A Survey Study on Swedish Lund University Students. Department of Political Science, Lund University.

Stern, P.C. (2000). Toward a Coherent Theory of Environmentally Significant Behavior. *Journal of Social Issues*, 56(3), pp.407–424.

Swan, M. (1984). Forerunners of environmental education. In N. McInniss and D. Albrecht (eds.), what makes education environmental? (pp. 4-20). Medford, NJ: Plexus Publishing Company.

Symeonidis, V. (2015). Towards Global Citizenship Education: A comparative case study of primary school policy and practice between Greece and Sweden. Master Thesis, Master Programme in International and Comparative Education, Institute of International Education.

Taniguchi, K., & Nakano, E. (2017). Citizenship Education for Sustainable Development: Theoretical and Practical Approaches for Project ESICS. *International Journal of Information and Education Technology,* Vol. 7, No. 10.

Thapa, B. (1999). Environmentalism: The relation of environmental attitudes and environmentally responsible behaviors among undergraduate students. *Bulletin of Science, Technology and Society,* 19(5), 426-438.

Tikka, P., Kuitunen, M., & Tynys, S. (2000). Effects of Educational Background on Students' Attitudes, Activity Levels, and Knowledge Concerning the Environment. *J Environ Educ,* 31, 12.

UNEP (2002). Annual Report of the International Environmental Technology Centre. At http://www.unep.op.jrc/ietc/Activity_Report/2002/13.asp

Varişli, T. (2009). Evaluating eighth grade students' environmental literacy: the role of socio-demographic variables. Master thesis, department of elementary science and mathematics education, Middle East Technical University.

APPENDIX

ENVIRONMENTAL LITERACY LEVEL AMONG PRIMARY EDUCATION STUDENTS

Assess ment form

Dear student,

This form contains four data -collection tools, aiming to specify your level of environmental knowledge, attitude and behavior. The first section asks for your "Personal Information". The second section is a test to assess "Environmental Knowledge Test (EKT)". The third section deals with "Environmental Attitude Scale (EAS)". "Environmental Citizenship Behaviour Scale" (ECBS)" is dealt with in the fourth section. Please read every question carefully so that we can reach the best findings. Your answers will be regarded confidential and will only be used as a source for this research. There will be no "WRONG" answers. Therefore, please do not hesitate to answer all the questions.

Your contribution will be appreciated. I thank you in advance.

HISHAM ALJADI

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University Cyprus

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SECTION I: PERSONAL INFORMATION

The questions in this section seek your personal information. Please mark your choice with (X). All the information will be regarded **STRICTLY CONFIDENTIAL.**

1. School (Please specify)
……

2. Grade: 4th grade ( ) 5th grade ( )

3. Gender: Female ( ) Male ( )

4. Lowest grade last semester (Please specify) …….

5. Father's educational status;
( ) Illiterate ( ) Can read and write ( )
Primary School ( ) Secondary school ( )
High school ( ) University
( ) Post-graduate (M.A, Ph .D)
( ) Other (*Please specify*)……

6. Mother's educational status;
( ) Illiterate ( ) Can read and write ( )
Primary school ( ) Secondary school ( )
High school ( ) University
( ) Post-graduate (M.A, Ph.D)
( ) Other (*Please specify*)
……

7. Family's monthly income;
( ) Less than 750 LYD ( ) 750-1500 LYD ( ) More than 1500 LYD

8. Are you a member of a local organization?
( ) Yes (*Please specify*) …….
( ) No

9. Do you take part in an educational branch/social club in your school?
( ) Yes (*Please specify*) …….
( ) No

SECTION II: AN ENVIRONMENTAL TEST FOR

PRIMARY EDUCATION STUDENTS

There are 20 multiple-choice questions in this section. Circle to mark your choice. Your answers

WILL NOT BE EVALUATED. Please answer **ALL THE QUESTIONS**.

1. Which of the following **SHOULD BE AVOIDED** in protecting the environment?
   a Using energy-efficient electric cars/equipment
   b Separating litter for recycling
   c Saving water
   d Reducing the number of wild animals

2. Which of the following is the basic cause of environmental pollution?
   a Global warming b) Industrialization
   c) People d) unplanned urbanization

3. Which of the following is negatively affected by environmental problems?
   a) People living in small countries
   b) People living in big countries
   c) All the living creatures in the world
   d) Endangered animals

4. Which of the following is the most crucial for life?
   a Petrol b. Wind c. Sunshine d. Plants

5. Which of the following **IS NOT** an environment-friendly behavior?
   a Saving water
   b Preferring recycled products
   c Using private cars instead of taking public transport
   d Using low energy consuming electric apparatus

6. Which of the following **IS NOT** a way to prevent environmental problems?
   a Reducing chemical use in agriculture
   b Controlling population growth
   c Using nuclear energy instead of natural gas
   d Increasing forestation attempts

7. Litter is a threat for residential areas. Which of the following **IS NOT** a negative effect of litter?
   a Erosion b. Soil pollution c. Water pollution d. Environmental pollution

8. Which of the following is true for lignite, coal, and petrol?
   a They are samples of energy resources
   b They are samples of ever-lasting energy resources

c They are samples of recycled energy resources
d They are samples of pure energy resources existing in every country

9. Which of the following degrades in soil in the shortest period?
a Glass bottle b. Newspaper c. Cans d. Plastic bags

10. Which of the following **IS NOT** the result of water pollution?
a Pollution of streams
b Holocaust of sea-life
c Pollution of drinking water
d Fog

11. Which of the following **DOES NOT** cause permanent pollution?
a Detergents b. Plastic bags c. Plastic bottles d. Dry leaves

12. Which of the following causes soil pollution?
a Litter and litter piles
b Growing forestry
c Growing vegetation
d Fog

13. Which of the following **IS NOT** the major cause of Ozone depletion?
a) Water vapour b) Carbon dioxide c) Sulphur dioxide d) Chlorocarbon

14. Which of the following **IS NOT** a method of preventing erosion?
a Preserving natural vegetation
b Afforestation wasteland
c Enriching soil
d Terracing slopes

15. Which of the following adds to environmental pollution?
a. Weather events
b. Indifferent human beings
c. Depletion of Ozone layer
d. Natural disasters

16. According to the Constitution, who is responsible for prevention and development of the environment?
a The State
b The State and the citizens
c Citizens
d The Ministry of Environment and Forestry

17. Which of the following **IS NOT** the reason for global warming?
    a Forest distraction
    b Excess population growth
    c Increase in people's consumption habits
    d Decrease in fossil fuel consumption

18. How can some waste be recycled?
    a By recycling it
    b By evaporating it
    c By burning it
    d By melting it

19. Where do we experience the least air pollution?
    a In forests
    b In towns
    c In city centres
    d In villages

20. Which of the following is the major cause of water pollution?
    a Waste from factories
    b Water from dams
    c Dishwater
    d. Spring rain

SECTION III: ENVİRONMENTAL ATTITUDE SCALE FOR PRIMARY EDUCATION STUDENTS

Instruction: Put an "X" to state your choice					
	Absolutely disagree	disagree	Not sure	Agree	Strongly agree
1. I can spare some of my pocket money	( )	( )	( )	( )	( )
2. I want to join a local organization	( )	( )	( )	( )	( )
3. I don't think environmental problems affect economy negatively	( )	( )	( )	( )	( )

4.	At home and at school I'm forced to exhibit environment-friendly friendly behaviour	( )	( )	( )	( )	( )
5.	I intend to contribute to protective organizations	( )	( )	( )	( )	( )
6.	I want to volunteer in environmental activities	( )	( )	( )	( )	( )
7.	I want to separate litter for recycling in future	( )	( )	( )	( )	( )
8.	Participating in activities to solve environmental problems does not help	( )	( )	( )	( )	( )
9.	I enjoy participating in activities for a better environment	( )	( )	( )	( )	( )
10.	I enjoy watching programs dealing with environmental problems	( )	( )	( )	( )	( )
11.	Although more expensive, I'd to buy environment-friendly products	( )	( )	( )	( )	( )
12.	Recyclable waste such as paper, plastic and glass shouldn't be disposed of together with other litter	( )	( )	( )	( )	( )
13.	I don't think noise pollution Is a	( )	( )	( )	( )	( )

threat to the environment					
14. Everybody should be responsible for protecting the environment	( )	( )	( )	( )	( )
15. I don't think public organizations contribute to protecting the environment	( )	( )	( )	( )	( )
16. I prefer having a picnic in the forest to shopping on holidays	( )	( )	( )	( )	( )
17. Environmental problems are one of the most crucial issues to be solved urgently	( )	( )	( )	( )	( )
18. Human beings are more harm to the environment than other living things	( )	( )	( )	( )	( )
19. Preserving the environment is over-dramatized	( )	( )	( )	( )	( )
20. It's my responsibility, as a citizen, to preserve the environment	( )	( )	( )	( )	( )
21. Switching off the light does not save much energy	( )	( )	( )	( )	( )
22. Unless measures are taken, air and water pollution may end in unwanted results	( )	( )	( )	( )	( )
23. I'm not interested in subjects In environmental	( )	( )	( )	( )	( )

problems and the environment					
24. I'm worried about endangered animals	( )	( )	( )	( )	( )
25. I don't mind a running tap as I wash my hands and brush my teeth	( )	( )	( )	( )	( )
26. I'm not interested in environmental problems on radio, TV, and in magazines	( )	( )	( )	( )	( )
27. Human beings over-use and consume natural resources	( )	( )	( )	( )	( )
28. In every building water and energy should be saved	( )	( )	( )	( )	( )
29. When necessary, people have to cut down trees to build houses or places for business	( )	( )	( )	( )	( )

SECTION IV: ENVIRONMENTAL CITIZENSHIP BEHAVIOUR SCALE FOR PRIMARY STUDENTS

Instruction: Put an "X" to state your choice					
	Never	**Rarely**	**Sometimes**	**Often**	**Always**
1. I write in newspapers and magazines about environmental problems	( )	( )	( )	( )	( )
2. I buy recyclable school material	( )	( )	( )	( )	( )
3. I write letters to politicians or the Involved about	( )	( )	( )	( )	( )

	environmental problems					
4.	I drop recyclable material (glass, paper, plastic) into recycling units at home, at school, in the street	( )	( )	( )	( )	( )
5.	I volunteer in conferences, meetings about environment and environmental problems	( )	( )	( )	( )	( )
6.	I ask my mom to separate recyclable materials at home	( )	( )	( )	( )	( )
7.	I volunteer in cleaning, arranging etc. the environment	( )	( )	( )	( )	( )
8.	I join or be a member of clubs, groups and organizations working for the environment	( )	( )	( )	( )	( )
9.	I discuss environmental Issues with my family	( )	( )	( )	( )	( )
10.	I give my hand-me-down clothes to the ones who are in need	( )	( )	( )	( )	( )
11.	I try to save water when washing my hands/brushing my teeth	( )	( )	( )	( )	( )
12.	I drop used batteries Into waste-battery collection boxes	( )	( )	( )	( )	( )
13.	I separate recyclable litter	( )	( )	( )	( )	( )
14.	I prefer programs about nature and animals	( )	( )	( )	( )	( )
15.	I read all the announcements on the	( )	( )	( )	( )	( )

notice-boards at school					
16. I prefer food sold in recyclable packets	( )	( )	( )	( )	( )
17. I use both sides of paper	( )	( )	( )	( )	( )
18. I warn polluters around	( )	( )	( )	( )	( )
19. I watch programs to do with environmental problems	( )	( )	( )	( )	( )
20. I pass on any environmental Problems to my teachers and Directors	( )	( )	( )	( )	( )
21. I discuss environmental problems and ways to settle them with my friends	( )	( )	( )	( )	( )
22. I participate in environmental discussions	( )	( )	( )	( )	( )
23. I close running/dripping taps at home/school	( )	( )	( )	( )	( )
24. I unplug all electrical appliances at home when they are not in use	( )	( )	( )	( )	( )
25. I urge people around to Join in environmental activities	( )	( )	( )	( )	( )
26. I warn my family not to harm the environment	( )	( )	( )	( )	( )
27. I search the internet or written documents for what I can do about environmental problems	( )	( )	( )	( )	( )

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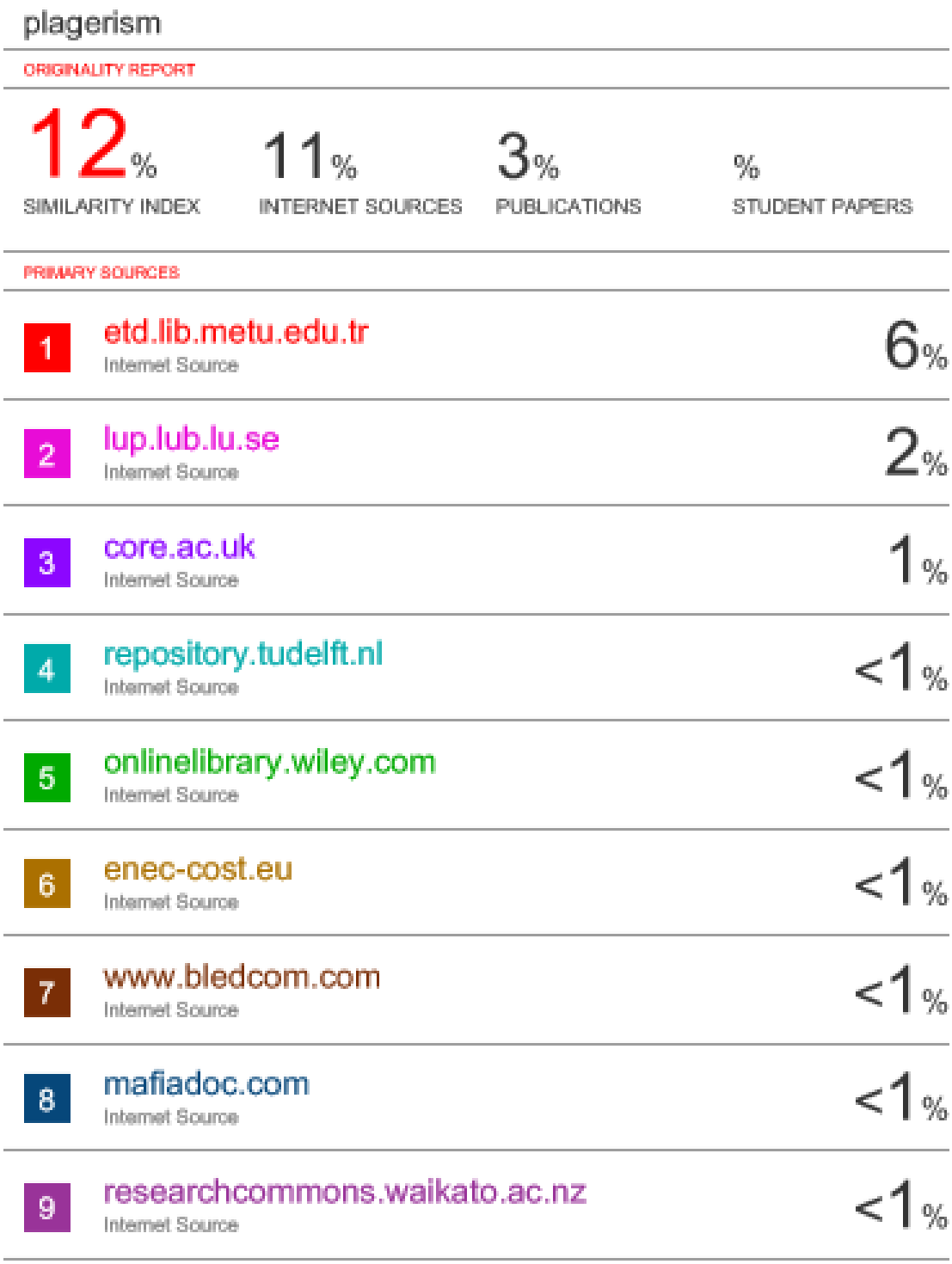

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