

International Explorations in Outdoor
and Environmental Education 14

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Environmental Awareness in Preschool Children's Drawings

A Global Perspective

 Springer

International Explorations in Outdoor and Environmental Education

Volume 14

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This series focuses on contemporary trends and issues in outdoor and environmental education, two key fields that are strongly associated with education for sustainability and its associated environmental, social and economic dimensions. It also has an international focus to encourage dialogue across cultures and perspectives. The scope of the series includes formal, non-formal and informal education and the need for different approaches to educational policy and action in the twenty-first century. Research is a particular focus of the volumes, reflecting a diversity of approaches to outdoor and environmental education research and their underlying epistemological and ontological positions through leading edge scholarship. The scope is also both global and local, with various volumes exploring the issues arising in different cultural, geographical and political contexts. As such, the series aims to counter the predominantly “white” Western character of current research in both fields and enable cross-cultural and transnational comparisons of educational policy, practice, project development and research. The purpose of the series is to give voice to leading researchers (and emerging leaders) in these fields from different cultural contexts to stimulate discussion and further research and scholarship to advance the fields through influencing policy and practices in educational settings. The volumes in the series are directed at active and potential researchers and policy makers in the fields. Book proposals for this series may be submitted to the Publishing Editor: Claudia Acuna (Claudia.Acuna@springer.com).

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We dedicate this book to all the children whose drawings have graciously allowed the editors and authors of this volume to illuminate their profound concerns and fears about the future of our planet. We extend our heartfelt gratitude to each mother and child in Morocco, Argentina, Iraq, Nigeria, and Indonesia. Your contributions are sincerely appreciated.

Editors and Authors

Series Editors' Foreword

Every child is an artist. The problem is how to remain an artist once we grow up.
—Pablo Picasso (as cited in Stedelijk Gallery, n.d.)

For centuries, the Arts (drawing, painting, sculpture, and, more recently, photography, media and installations) have been used to confront society and to raise people's consciousness about controversial issues. They have also provided people "with a vehicle for exploring their identities and developing the skills of creativity and flexibility that are required to address pressing and shifting local and global issues" (O'Gorman, 2014, p. 266).

Art making has also long been at the core of many early childhood education programs—incorporating activities that encourage young children's imagination, ingenuity, flexibility of thought and attraction to fiction, which is seen as being at its peak in early childhood.

Interest in children's environmental knowledge can be traced back to the early twentieth century, but it was only in the early 1990s that it became a focus for educational research (Davis & Elliott, 2014b). At this time Cohen and Horm-Wingerd (1993) argued that "our knowledge of preschool and early elementary school children's experience of, as well as awareness to issues of environmental concern is limited, and to a significant degree unexplored" (p. 105). They then proceeded to conduct a research project with preschool children in Rhode Island, USA, using researcher generated pictures. According to the researchers,

This study demonstrates that young children are aware of ecological events and appear to recognize the significance of such issues at a level commensurate with their exiting knowledge and concern. As demonstrated by the picture discrimination task, young children between 3 and 5 years of age show evidence of consistent judgements regarding the effects of pollution, litter, and natural resource management (Cohen and Horm-Wingerd, 1993, p. 116).

A more recent study investigating the extent of preschool children's understanding of environmental protection in Nicosia, Turkish Republic of Northern Cyprus (TRNC) (Kavaz et al., 2021), involved the children in making their own drawings.

The researchers concluded that the children had a perception of protecting the environment only from these aspects with the drawings that included reduce and respect but did not have a perception in the dimensions of reuse, rethink, reflect, recycle, and redistribute (or refuse).

However, research in the intersecting fields of early childhood education and sustainability remained marginal, or as Julie Davis (2009) described it, a research “hole.” There has been some important research reported in recent years, and collected into volumes such as Cutter-Mackenzie-Knowles et al (2019), Davis and Elliott (2014a), and Elliott, Arlemalm-Hagser, and Davis (2020), but there are still arguments for it to be more highly valued (Sanchis et al., 2022).

The importance of connecting children with nature has been a focus for early childhood educators since the early 1990s. However, over a half a century earlier, John Dewey wrote of the importance of experiences in nature:

Experience is of as well as in nature. It is not experience which is experienced, but nature—stones, plants, animals, diseases, health, temperature, electricity, and so on. Things interacting in certain ways are experience; they are what is experienced. Linked in certain other ways with another natural object—the human organism—they are how things are experienced as well. Experience thus reaches down into nature; it has depth. (1925/1981, pp. 12–13)

Although early childhood education was not mentioned in Agenda 21 (United Nations, 1993), the outcomes document from the 1992 United Nations Conference on Environment and Development, nor in the report from the 2002 United Nations World Summit on Sustainable Development (United Nations, 2002), pre-school education was mentioned in the United Nations Decade of Education for Sustainable Development (2005–2014): International Implementation Scheme (UNESCO, 2005):

Questioning, rethinking, and revising education from pre-school through university to include more principles, knowledge, skills, perspectives and values related to sustainability in each of the three realms—environment, society, and economy—is important to our current and future societies. (p. 29)

By this time, ECEfS was developing momentum and, particularly from 2003, with the support of UNESCO, its profile was expanding. UNESCO (2008a) published the first international publication, *The Contribution of Early Childhood Education to a Sustainable Society*, which documented the responses of 16 countries to matters at the intersection of early childhood education and education for sustainability. Additionally, a 2008 UNESCO meeting produced the *Gothenburg Recommendations on Education for Sustainable Development* that included specific recommendations for early childhood education and saw early childhood education as the place where education for sustainable development should start (Davis & Elliott, 2014a).

Julie Davis and Sue Elliott (2014a) present a chronology of the development of what has become the field of Early Childhood Education for Sustainability (ECEfS), but they admit that their work is limited to what they can access in English. This is the value of this volume—it presents stories of education for sustainability in early childhood contexts from countries that could be called the Global South, whose stories are not often told in English. As Mohamed Mliless, Mohammed Larouz, and Lamiae Azzouzi note in Chap. 1 of this volume,

We are not the first to study this issue. Nevertheless, by comparison to the amount of studies on children and preschool environmental drawings across the world, the study of Moroccan children's preschool drawings (MCPD) as a means to expressing their awareness has been relatively neglected in the local context.

Although the UNESCO (2020) roadmap for Education for Sustainable Development for 2030 only mentions early childhood education once, the importance of early childhood education in increasingly being recognized in other places. For example, early childhood development is included in the Sustainable Development Goals (SDGs) (United Nations, 2016), specifically, that "by 2030 ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education" (Target 4.2). As the recent UNESCO (2021) report on a new social contract for education noted,

Young children can possess an ability to bear witness to the world in ways that renew it. Few can see things afresh the way a child can. Children's attention to the experiences of others and the curiosity they exhibit towards a world that is unknown and pregnant with possibility provide an example to people of all ages. (p. 56)

This volume complements Jane Spiteri's (2022) recent contribution to this series on *Educating for Sustainability in a Small Island Nation: Voices from Early Childhood Education* as she also includes discussion of interviewing children about their drawings. As she notes, "In environmental research, children's drawings have long served as useful data collection tools, especially when children lacked the linguistic capacity to adequately present their understanding of the environment during a conversational interview" (p. 98).

This volume should make interesting reading for scholars interested in comparing children's environmental drawings from various countries and cultures, and how these drawings are interpreted locally. The authors have drawn on the social semiotic models of Kress and van Leeuwen and Halliday as well as those specific to children's drawings in their research, including arts-based education research which is a different approach to discussing the children's roles and paintings/drawings. Both the interpretation of the drawings and the analytic tools used in these research studies should provide stimulating food for thought and discussion and make a worthwhile contribution to the growing field of early childhood environmental education for sustainability.

Acknowledgments

We edit this series on the unceded lands of the Woi wurrung and Boon wurrung peoples of the Kulin Nations; we respectfully acknowledge their Elders, past, present, and emerging and what they have taught us about this land and sea.

Melbourne, VIC, Australia

Annette Gough
Noel Gough

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Preface

We begin this preface by very briefly restating what anyone reading this book already knows: our species is causing ecological devastation. The impact of this anthropogenic (human-made) destruction unjustly falls mostly heavily on those humans who do the least to cause it, not to mention those other animal species that have done nothing to cause it.

Back in the 1970s, as noted in the current book, the United Nations proposed six objectives for Environmental Education (EE): *Awareness, Understanding, Concern, Skill, Evaluation Ability*, and *Participation*. Here we contextualize these EE objectives almost 50 years after they were written.

- Awareness What is not needed is another book that raises awareness. The time for talk, for virtue signalling, for greenwashing was over before it started.
- Understanding Yes, companies and governments often use their monetary muscle and hired experts to try to sow confusion and divert attention from their ongoing roles in the devastation and the beliefs behind it.
- Concern Concern, not to mention anxiety, is rapidly rising due to the escalating scale of ruin caused by the stories we are fed about the need for growth, about the benevolence of human domination.
- Skill Yes, skills are needed, but surrendering the collective power of eight billion souls to a handful of high-tech billionaires cannot be right. We already have so many of the skills we need to slow the devastation. Let's jump in with both feet.
- Evaluation ability The authors of this book have done excellent work evaluating the actions and beliefs that have led us astray. Fortunately, they have also shown us how children can play an essential role in leading us on a new, ecocentric (nature-oriented) path.

Participation This is an academic book replete with the wisdom of scholars from many fields. The following is a short alphabetical list of these giants upon whose shoulders the authors of this book and this foreword stand: Andreatta, Anshelm, Bernstein, Bruner, Halliday, Kress, Lakoff, Stibbe, and van Leeuwen. However, too many academic books seem to intentionally confine themselves to ivory towers. They quarantine themselves there by their narrow interest in theory and analysis and their isolating use of unexplained jargon and concepts.

In an important contrast, the current volume, while deploying sophisticated analysis with a strong theoretical foundation, bestows upon readers myriad examples of how to engage in EE with preschool children to encourage their participation and that of their teachers and families, as well as academics, in action for the environment. Furthermore, to facilitate that participation, all jargon is explained.

Two other points enhance the value of this book. First, much in the EE literature places the Global South (those countries that have more enlightened environmental footprints) in the object/receiver position—borrowing terminology from the grammar concepts of subjects and objects, that is, doers and receivers. In other words, the countries where the research in this book took place—Argentina, Indonesia, Iraq, Morocco, and Nigeria—tend to be those that receive the ill-effects of the environmental crisis, rather than doing most of the damage. This book places people in the Global South in the agentive role of subject or doer, working to understand and implement EE, instead of waiting for solutions from the Global North.

Second, the book's focus on young children highlights the power this segment of the human population can deploy, not just in some distant future but in the present as well. These preschool children represent the cohorts who are likely to suffer the most from the devastation the Global North is causing. At the same time what has caused humans' misalignment with our fellow Earthlings has also caused a misalignment within our species. We splinter ourselves into categories, overlooking our massive similarities, finding ways to compete against and hate those perceived as different from us, locked in a race for possessions and prestige.

This intra-species misalignment must be healed if we are to heal the misalignment between species. The path ahead toward this healed world for today's children is indeed difficult, but it also promises to be exciting and life-affirming. The book presently before you lights that path.

Kuala Lumpur, Malaysia

George M. Jacobs
Meng Huat Chau

Biography of Preface Writers



Dr. George M. Jacobs is an educator from Singapore. His primary research interests are student-centered instruction, cooperative learning, humane education, environmental education, teacher education, and positive education. His two main roles are teaching student-centered approaches to in-service teachers in a variety of fields, and teaching in the non-formal education sector for nonprofit organizations. He is also active in professional associations, such as the Extensive Reading Foundation and the International Ecolinguistics Association. George has published more than 260 articles, book chapters, and books on topics related to this book. He regularly conducts workshops and courses for teachers on cooperative learning and other student-centered themes.



Dr. Meng Huat Chau teaches and mentors Master's and PhD students conducting research in applied linguistics at Universiti Malaya (UM). He holds/has held Visiting Scholar or Professor Positions at Jeonbuk National University in the Republic of Korea, the University of Cambridge in the UK, and Yogyakarta State University in Indonesia. Before joining UM in 2010, he spent over ten happy years working with students and teachers from primary and secondary schools, and from other institutions of higher education. Meng Huat is interested in such things as “How the study, teaching and use of language can help to make this world a better, more inclusive place for humans and fellow animals,” and “How students, teachers and researchers can play a more powerful role in creating and promoting an ecologically just, respectful and compassionate community, from our neighbourhood to our nation and planet.” Much of his current work focuses on these important considerations.

Acknowledgments

The initial idea to publish a contributed volume on the issue of *Environmental Awareness in Preschool Children's Drawings: A Global Perspective* stemmed from the need to examine environmental awareness among preschool children in different parts of the world, mainly countries occurring in the southern hemisphere of the globe. This work would not have been possible without the joint efforts of the prominent editors and authors.

I would like to express my gratitude to the editors of this book namely Dr. Mohamed Mliless and Dr. Mohammed Larouz (Morocco), Dr. Huda F. Halawachy (Iraq), Dr. Diego L. Forte (Argentina), Dr. Clara D.S. Vande-Guma (Nigeria), and Dr. H. Handoko (Indonesia). I would also like to underline the tremendous efforts made by the authors who contributed to the realization of this book; their chapters were carried out with indulgence and total commitment to scientific merits and ethics. I would like to thank them not only for their encouragement but also for the knowledge they have passed on to me during the preparation of this book.

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In addition to the achievement of the many authors, their active contribution and engagement, and on behalf of the editorial team, my thanks and recognition are extended to *Dr. David Stringer* (Indiana University of Bloomington) for proofreading the final manuscript and for the effort and time devoted to evaluating the book's manuscript and for his thoughtful comments and suggestions toward improving its

quality level. Finally, I would especially like to thank Professor *Dr. George M. Jacobs* and Professor *Dr. Meng Huat Chau* from Universiti Malaya, Kuala Lumpur, Malaysia, who wrote a preface for this book. In the same vein, I want to express my sincere gratitude for *Professor Emerita Annette Gough* from RMIT University and *Emeritus Professor Noel Gough* from La Trobe University for writing the foreword to our book. Your insights and contribution have significantly added value to the book.

Introduction

This book examines how preschool children express their attitudes and emotions toward nature through drawing, in a wide range of countries: Morocco, Indonesia, Iraq, Argentina, or Nigeria. Through a collection of vivid and thought-provoking illustrations, this book showcases the voices and perspectives of young children as they express their understanding and concerns about the world around them. This book is special because it provides a rare glimpse into the minds of our youngest generation and offers valuable insights into how we can nurture and support their growing awareness of environmental issues.

In the last few years, critical studies about nature, nonhuman animals, ecological discourse, sustainable technologies, and many other related subjects have grown both in quantity and quality. The COVID-19 pandemic, massive forest fires, and several situations that have their origins in the current agro-industrial and energy practices evidence the level of depletion the current paradigm has achieved and its impact on relationship between humans and the other species. In this context, the call for action on several fronts reveals new duties and new horizons, suggesting that change must involve all available resources.

In this sense, the search for new discourses and stories that allow us to establish new ways of communication poses the need for a close examination of the way we build knowledge about nature, living beings, and ourselves as species. Deconstructing the existing discourses and the stories people tell is no longer enough unless we propose viable alternatives. But in order to find new, ecologically efficient narratives, we need to analyze how they develop socially and individually. This means we should be able to trace conceptual genealogies of particular ideologies behind stories and also to acknowledge how they are introduced to individuals from childhood.

Whether we talk about climate change, sustainable development, ecosystems, or waste management, two fundamental notions frequently come up: awareness and responsibility. Although often mentioned, these two concepts are not always considered to their full extent. Awareness is usually considered as a state of affairs. But it also can be considered as a process, as something that must be developed. If we think of it as a process, awareness can be linked to the information available in our societies and the means by which it is made available. So to speak, as individuals,

we are conscious of something because we have enough information to acknowledge its existence. In this sense, awareness depends on the stories and discourses surrounding us. Responsibility, on the other hand, can be understood as how we act, having enough information about something. It involves our attitudes and behaviors toward the matter, in this case, other species. Therefore, so considered, awareness and responsibility can be the writing on two sides of the same coin, symbolizing the value of consciousness and action.

Awareness can be constructed by means of the systematic knowledge provided by school but also can be improved by the empathy developed from infancy. Kindergarten education focuses on the development of social capacities through practical activities, such as drawing. Pupils at preschool levels are therefore encouraged to think for themselves and to question their relationship with the environment through different communication modes. Like other means of communication, drawing is an activity through which preschool children learn and have fun. More than just a leisure activity, drawing is extremely beneficial for children's development in that it encourages them to discover the world around them and acquire the information related to concepts and values closely related to life in their particular region. Indeed, while some people see children's drawing as a fun and a calming way for pupils to take a break, others see it as a fundamental way of examining and delivering the deepest functions of their mind. In fact, drawing for a child represents a moment of expression and freedom. It is a practice that accelerates the development of fine motor skills. From the age of three to five, the age they spend in kindergarten, children are able to reproduce shapes and letters. Additionally, it helps children in their cognitive development and improves their understanding of the environment around them. When it comes to the environment, drawings are often about memories, feelings, and emotions. If the benefits of this activity are numerous for older children, they are even more so for preschool children. First of all, environmental drawing helps to improve coordination and dexterity with nature. They help children at an early age to mobilize their knowledge of the world in order to transcribe it onto a blank sheet of paper. Drawing about the environment not only encourages observation, understanding, and reproduction of the natural setting, but it also permits children to express themselves.

Preschool children's drawings about the environment are first and foremost a pleasure, but they also give us a fascinating insight into how they begin their life-long dialogue with the natural world around them. Young children's drawings are the result of a creative and imaginary activity about the environment; they are not intended to be exact representations of either the beauty or degradation of nature. Rather, they are uniquely valuable, naïve, and subjective representations of natural knowledge that warrant closer viewing to appreciation and appraisal. As we shall see, two questions permeate this volume, which readers should bear in mind throughout:

- Are preschool children aware of environmental destruction?
- What can we do with our educational system and teaching methods to alleviate their awareness?

The Book's Thematic Approach

This book offers a multifaceted focus on preschool children's drawings. The aim is to direct attention to different preschool systems of education and how the five countries involved (Morocco, Argentina, Iraq, Nigeria, and Indonesia) reinforce ideas and practices that might enhance environmental awareness among children before being formally introduced to environmental education pedagogy. Given the highly contested character of environmental issues among children, this collective book attempts to discuss the nuances between the environment and drawing. Having established that environmental drawing is worthy of study and that the theme is not homogeneous among countries, it would be wise to consider the book in terms of its major chapters.

This collective volume not only provides approaches and methods to examine preschool children's drawings in the five countries, but it is an opportunity to explore the early formation of children's perceptions and attitudes about the environment. Moreover, it is an occasion to sketch out the actual similarities and differences so that these drawings gathered from around the world may help us gain insights into universals in child perception of both nature and environmental dangers. Interestingly, this book introduces a very important issue that is often ignored, that is, how the environment is manifested in and through language. Of importance to this topic, the book also helps to understand the intertwinements between the environment and children imagination. As this book handles various aspects of this theme, the following is a summary to help the reader gain a preliminary picture of how the parts relate to the whole.

Chapter 1, authored by Mohamed Mliless, Mohammed Larouz, and Lamiae Azzouzi, is a theoretical discourse titled "Environmental Awareness as Part of Early Childhood Education for Sustainability." The chapter explores the incorporation of environmental consciousness into early childhood education in five countries: Morocco, Argentina, Iraq, Nigeria, and Indonesia. It underlines the significance of early childhood education for sustainability, which includes environmental awareness. The chapter makes use of scientific studies and reports to investigate existing initiatives that involve children in environmental awareness. The chapter starts with an examination of "Early Childhood Education (ECE)," setting the stage for the ensuing discussion by presenting this essential idea. The discussion then shifts to "Early Childhood Education for Sustainability (ECEfS)" to elaborate more on the concept by incorporating the vital aspect of sustainability. The chapter then probes the intersection of "Environmental Awareness and Early Childhood Education (EAECE)," having established a robust comprehension of both early childhood education and sustainability. This is succeeded by an in-depth analysis of "Environmental Education (EE)," providing a holistic view of this particular facet and its consequences. The second-to-last section focuses on "Early Childhood Environmental Education (ECEE)," amalgamating all the previously discussed ideas and centering on the implementation of environmental education within the context of early childhood in the five countries featured in this book. The chapter concludes with a

practical illustration of these theoretical concepts through “Children’s Drawings.” This concrete depiction of environmental awareness in early childhood education serves to anchor the preceding discussions in real-world instances, thereby accentuating the importance and applicability of the research’s outcomes. This logical progression from general concepts to specific applications not only enables a comprehensive understanding of the topic but also highlights the relevance and influence of early childhood education for sustainability.

Chapter 2, written by Mohamed Mliless, Mohammed Larouz, Fouad Akki, Abderrahim Khouch, Brahim Ait Laaguid, Douae Serraf, and Nasreddine El Guezar, is titled “Environmental Awareness in Moroccan Preschool Children’s Eco-drawings: A Socio-semiotic Approach.” The chapter discusses the issue of environmental awareness in Moroccan preschool children’s eco-drawings. The authors present this topic in the context of a surge of environmental education to develop a population that is aware of and concerned about the environment and its challenges in the face of our planetary crisis. The authors use drawing as a pedagogical method and skill to gauge children’s environmental awareness. The authors of this chapter admit that in preschool education, children need to be taught about the damages and the overexploitation that humans are inflicting on nature. Although this issue has been scientifically examined in different parts of the globe, studies on children’s environmental drawings are scarce in the Moroccan context. Through this chapter, the authors aim to explore the multiple perspectives of environmental meaning-making in Morocco and to unveil early traces of environmental awareness formation among preschool children’s drawings. To examine this issue, 91 drawings were gathered from three kindergartens in cities of Oujda, Meknes, and Tata. The chapter adopted the socio-semiotic approach (Kress & van Leeuwen, 2021) to account for the significance of environmental elements depicted in children’s preschool drawings. Particularly, the study uses a hybrid model that combines the principles of “information,” “contact,” “framing,” and “salience.” The results show that environmental awareness as such is weak among preschool children in Morocco. Still, the study assumes that the drawings were significant in terms of connections that bind children to the natural elements. In a naïve and innocent way, the study argues that the drawings reflected the idea that the environment (place of joy, play, and entertainment) should be preserved. Additionally, the results communicate that the drawings were constructed with many elements that pertain to the categories of environment, human, and objects. According to the socio-semiotic model, the results indicate that: (1) some elements were salient, (2) drawings were closer to reality, and (3) children demand care and preservation of natural settings. This study has many implications for educational officials, future research, and teachers. At an early age, children need to be informed and sensitized to the importance of the environment. More than that, educational materials and activities must be integrated at this level to improve preschool children’s awareness toward the preservation of the environment.

In Chap. 3, “Constructing Argentina: The Scaffolding System in Children’s Narratives About Nature,” Diego L. Forte provides an in-depth understanding of the pivotal role stories play in our everyday lives. According to Forte, stories enable

children to develop a reference framework to interpret their experiences and learn to negotiate cultural meanings. Forte's study demonstrates that educating children involves, among other things, a formal introduction to society's conceptual and belief systems (Raiter, 2003). The initial contact with societal meanings is through parents, family, and surrounding adults via the scaffolding system (Bruner, 1984). These interactions offer the first meanings that will later be refined and expanded at school. In Argentina, these meanings form part of a capitalist discourse characterized by carnism (Joy, 2011) and Industrial Fatalism (Anshelm and Hultman, 2016). The research aims to describe how adults collaborate in developing children's narratives about nonhuman animals and nature. The author adopts a qualitative approach to analyze three recorded interviews with parents and their three-and-a-half-year-old children. Activities included a questionnaire and the children creating a drawing related to the questions. The narrative analysis was conducted based on the methodological theoretical framework proposed by Lakoff (1987, 2002) for frame construction, while the drawings were analyzed following the approach of Kress and van Leeuwen (2021) for image analysis. Forte argues that during the interviews, the parents constructed frames of carnism and industrial fatalism that the children filled with meanings, as they also built logical relations to support those narratives.

Chapter 4, "Are You Aware Enough of Feeding Birds, Sweetie?" by Huda F. Halawachy and Ahmed J. Himmadi, discusses the natural disruptions that the globe is facing, such as climate change, pollution, deforestation, and the extinction of species. Since children are more susceptible to environmental harm, raising environmental awareness in children at an early age should be a compulsory part of the educational system. The chapter examines Iraqi preschool children's drawings about the environment and notes that the Iraqi preschool educational system for preschool children lacks any support for environmental awareness and sustainability. The chapter aims to describe and analyze the Iraqi kindergarteners' views on nature and the way(s) they are aware of protecting it in a war-torn area like Iraq. The chapter adopts Peircean semiotic categories, viz. icon, index, and symbol, to analyze the children's 28 drawings. The corpus was collected by the authors during a one-day visit to Al-Jawsaq Private Kindergarten, in Mosul, Nineveh Province, Iraq. The participants were 20 kindergarteners, aged 4–6 years, who were given 30 minutes to draw. This resulted in 20 drawings from the activity, and 8 further drawings were collected from the school walls. They were categorized into 21 "real drawings" and 7 "real and scribble drawings." For Halawachy and Himmadi, the results revealed that environmental elements (plants, water, sun, soil, and mountains) were iconically represented as part of a healthy environment. In the same line of analysis, colors (blue, green, brown, and red) symbolized beautiful, clean nature. The children were not able to communicate messages on how to keep "Mother Earth" safe as they are unaware of their imbalanced surroundings.

Chapter 5, titled "A Sociosemiotic Analysis of Projections of Environmental Awareness in Selected Nigerian Pre-primary School Children's Eco-drawings," examines the expressions of environmental awareness in the eco-drawings of pre-primary children from various locations within Benue State, North Central Nigeria.