



A Semiotic Analysis of Pictorial Topics about Environmental Awareness in Iraqi English Textbooks

Nawar Majeed Hamid 

English Department / College of Arts / University of Mosul/ Mosul-Iraq

Huda Al-Halawach 

English Department / College of Arts / University of Mosul/ Mosul- Iraq

Article Information

Article History:

Received August21, 2024

Revised August25 .2024

Accepted September 9, 2024

Available Online June1 , 2025

Keywords:

Environmental Awareness,
Environmental Education, Iraqi
English Foreign Language
Textbooks,
Pictorial topics.

Correspondence:

nawar.21arp45@student.uomosul.edu.iq

Abstract

Words and images are used to convey meaning in any language to address the various needs of society. Environmental awareness (EA) is a crucial global issue, and using pictorial representations in English textbooks can promote EA among students. This study analyses the pictorial topics in Iraqi English Foreign Language (IEFL) textbooks to demonstrate how authors utilized pictures to enhance EA among students. The semiotic analysis is based on Peirce's model (1931) that focuses on pictorial topics related to environmental issues to improve ecological awareness. The research examines the pictorial topics in the IEFL textbook entitled The Series of English for Iraq published by Garnet Publishing Ltd, which consists of 22 books, 12 textbooks and 10 activity books. The results revealed that 11 EA issues are represented in the pictorial topics, showcasing different ecological problems and their solutions, including both local and global issues.

DOI: [10.33899/radab.2024.153005.2218](https://doi.org/10.33899/radab.2024.153005.2218) ©Authors, 2023, College of Arts, University of Mosul.

This is an open access article under the CC BY 4.0 license (<http://creativecommons.org/licenses/by/4.0/>).

تحليل سيميائي للموضوعات التصويرية حول الوعي البيئي في الكتب المنهجية العراقية باللغة الانكليزية

نوار مجيد حميد * هدى الحلاوي **

المستخلص:

الكلمات والصور تستخدم لنقل المعنى بآية لغة لمعالجة احتياجات المجتمع المتنوعة . يعد الوعي البيئي قضية عالمية بالغة الأهمية ،ويمكن ان يساعد استخدام التمثيلات الصورية في كتب اللغة الإنكليزية في تعزيز الوعي البيئي بين الطلاب .الدراسة الحالية تحلل المواضيع الصورية في الكتب العراقية كلغة اجنبية لا براز كيفية استخدام مؤلفي الكتب لتعزيز الوعي البيئي بين الطلاب يعتمد التحليل السيميائي على نموذج بيرس 1931 والمواضيع الصورية المتعلقة بالقضايا البيئية لتحسين الوعي البيئي .يدرس البحث المواضيع الصورية في الكتب المنهجية العراقية الاجنبية في سلسلة اللغة الإنكليزية للعراق الذي نشرته شركة كارنيت المحدودة ،وتتكون السلسلة من(22) كتابا

* قسم اللغة الانكليزية / كلية الاداب / جامعة الموصل / الموصل – العراق
** قسم اللغة الانكليزية / كلية الاداب / جامعة الموصل/ الموصل – العراق

12، كتابا مدرسيا و10 كتب نشاط تكشف نتائج البحث عن وجود 11 قضية وعي بيئي في موضوعات صورية وتعرض مشاكل بيئية وحلولها بما فيها قضايا محلية وعالمية.

الكلمات المفتاحية : الوعي البيئي ،تعليم بيئي ،الكتب المدرسية العراقية في اللغة الانكليزية ،المواضيع المصورة

1. Introduction

As a complex system, any language consists of words, sense representation, and signs. Despite words and sense, still signs have a significant and influential role in communication and knowledge exchange (Marina, 2021, p. 63). The pictorial topics, as signs, grow up the students' knowledge in school curricula, in the sense that signs are psychological instruments to grow the pupils' and students' knowledge and skills as a visual representation of the targeted issue in the learning process. More notable, the pictorial representations reflect the facts and play a critical role in the daily lives that pupils or students have to learn. They produce memories based on visual information about the targeted subjects (Wammes, 2019, pp.1-2). Pictures represent meaning similarly to verbal language. Many scholars argued that some parts of speech can express meaning in language and pictures through colour, angle, tone, and framing can express grammatical structures. This produces communicative function that allows viewers to understand meaning (Purwaningtyas, 2020, p. 52). This is why pictorial topics, added to the verbal topics, are implemented to achieve the main learning goals broadly. In English textbooks, pictorial examples are used to explain their topics' meanings and ideas.

In EFLs textbooks, the pictorial illustrations are presented to explain meanings, convey message and clarify the ideas of their pertinent theme issues. The items in the syllabus of English textbooks, as a standard source of information for a formal study of a subject, embrace topics with many learning objectives. It is worth considering that some of the topics, like environmental awareness, may serve other goals than learning the four skills (Rezeki & Sagala, 202, p.122). It is one of the aspects of the sustainability which mentioned in all environmental conferences (Türkoğlu, 2019: 2).

Many studies dealt with environmental awareness in the English textbooks for EFLs. Most of them illustrated the verbal topics and examples. Triyono et al. (2023) inquired about the environmental education in Indonesian English textbooks are utilized in senior high schools. The authors adopted A Multimodal Eco-Critical Discourse Analysis. Zahoor et al (2020) [adapted Gaard's Eco-pedagogical Framework and Halliday's transitivity analysis model in order to present an Ecolinguistics and Eco-pedagogical assessment of the environmental texts in English textbooks those are utilized in Pakistani primary schools. Wang & Hemchua (2022) presented a semiotic analysis of potential semiotic resources such as texts, pictures, and other modes of communication and illustrated the core principles their implementation in images of the English language textbooks. These images can reveal the complexity of the texts and build a cultural and social awareness. The authors implemented Charles Peirce model to describe how the images as nonverbal elements can enhance the social and cultural awareness. Curdt-Christiansen (2020) proposed a model to analyze both elements and contents of the bilingual textbooks for Chinese primary schools associated with environmental literacy and environmental awareness. This model based on (Curdt-Christiansen and Sun, 2020) to identify the complex factors those effect on language skills development. Purwaningtyas presented a multimodal discourse analysis based on framework from Kress van Leeuwen to describe the extracted information from images of 12th grade Indonesian EFL textbook.

The current study covers the gap of the semiotic analysis of pictorial topics in the Iraqi EFL textbooks which are recently dependent and currently studied in the Iraqi schools. The study provides a semiotic analysis to show how pictures are associated with environmental awareness and how they are used as an important aspect in the environmental education.

2. Literature Review

This section includes the theoretical background about the following topics:

a) Environmental Awareness

Environmental awareness is a modern term that related to individual knowledge about the ecology systems and their problems and how to protect them. Environmental awareness “knows the impact of human behavior on the environment” (Ningrum & Herdiansyah, 2018, p.2). It also defined as “attending to an environmental issue and its respective action leading to realizing a good practice to achieve a sustainable environment” (Handayani et al., 2021, p. 170)[¹]. It can also define as “a conscious behavior towards the environment like the pro-environmental behavior” (Carmi, 2013, p. 9).

Environmental awareness is related to the psychological factors that figure out the people's responds to the pro-environmental attitudes, activities, and behaviors (Zhang, et al., 2014, p. 132). A person who has ecologically mindful or pro-environmental active rather engages environmental activities based on his/her certain attitudes and values. (Yeh et al., 2016, pp. 1205-1206). Environmental Education as an educational technique, is:

"a lifelong interdisciplinary approach that is conscious about the environment and environmental concerns, contributive about the available environmental problems, and has the purpose of developing a world population that has the preventive knowledge, skill, manner, incentive, personal and social mission and responsibilities against the new formations" (Karataş, 2013, pp. 32-33).

Thus, environmental education develops the environmental awareness.

b) Semiotic Analysis of Pictorial Topics

According to several linguists and semioticians , semiotics can be defined in various angles and viewpoints . The broad definition of semiotics is "the science of signs" (Fatemi, 2014, p. 1716). According to Eco's definition from a Theory of Semiotics (Eco 1979, p.7), which states that everything can be considered as a sign, meaning semiotics scrutinizes anything can be interpreted as a sign.

The study of signs was first explicitly introduced into philosophy by John Locke (1632–1704), named it semiotics. Then, until the late nineteenth century, when Ferdinand de Saussure and Charles S. Peirce opened the door to the knowledge of Semiotics and signs, this theory was utterly disregarded (Houser, 2020, p.141).

De Saussure and semioticians demonstrated that language is composed of signals (like words) that transmit meanings, and they anticipate that other things that communicate meanings may be explored in the same way as linguistic signs that use the same data analysis methods . The study of linguistic signs is one part of semiology, which is the study of signs in society as a whole and includes all applications of

sign systems that have significance for specific individuals. Both language and image-based media contain signs that have meanings; therefore, both can be discussed using the same semiotic approach. Semiotics uses language as the paradigm because it is the most essential and common kind of human communication. This way semiotics views language as the paradigm for all other forms of sign systems and other forms of communication (Bignell, 2002, pp.5-6).

Peircean Model, the triangle sign vehicle, is divided into *Representamen* (signifier), *Interpretant* (signified), and *Object* (referent) (Saragih, 2013). Firstly, a representamen is a tangible object that can be felt by the five human senses and refers to or represents something other than the sign itself. Symbols are arising from agreements; icons are signs arising from physical representatives. While index makes up the representamen signs that arise from a cause-effect relationship. Second, interpretant (signified) is the concept of interpreting, which specifies interpretation or significance concerning the thing referred to by a sign. The last aspect of the semiotics process is the way in which meaning arises from a sign while it is implemented to communicate. Third, the *object* (referent) is “the social context that constitutes the sign's reference or something that the sign refers to” (Rezeki & Sagala, 2021,p. 122). Figure 1 illustrates Peirce's triangle theory of visual analysis.

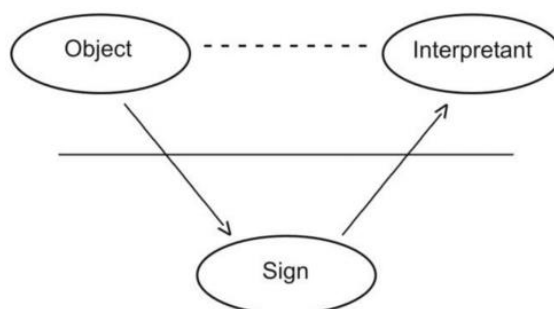


Figure 1 *Peircean Triangle adopted from (Nöth & Jungk, 2015, p. 666)*

c) EFL Textbooks in Iraq

The rapid expansion of global economic, cultural, social, and political ties underscores the necessity of acquiring proficiency in foreign languages. Therefore, there has been a notable surge in the desire to learn English as a foreign language in non-English speaking countries. (Razokovna et al., 2022, p.1).

English, as a foreign language, became an obligatory subject in the schools of many countries. The official regulation forces their student to study and learn English curriculum. English is still a challenge faced by many people because of the lack of vocabulary and differences in cultures (Zulfikar et al., 2019, p. 1).

In order to achieve the goals of English language learning, the English language textbooks contain the following components to achieve the goals of English learning. They are Listening Activities, Speaking, Reading Activities, Writing Tasks, Grammar-based activities and Vocabulary Development (Carter, 2001, pp. 42-43).

The Iraqi Educational system consists of three stages. Firstly, the primary school in which the student with six years old study for six stages (six years). Secondly, the intermediate school, in which the students with twelve years old study for three stages (Three years). Finally, the preparatory school in which the students with fifteen years old study for three stages (Three years). Each of these stages prepares the student for the next stage.

The Iraqi educational system is structured into three vital stages: Firstly, the elementary school, catering to six-year-old students, provides a comprehensive education over six stages, equivalent to six years. Secondly, the intermediate school, designed for twelve-year-old students, offers a three-year program spanning three stages. Lastly, the preparatory school, serving fifteen-year-old students, delivers a three-year curriculum across three stages. Each stage ensures the seamless progression of students to the next level, creating a strong foundation for their educational journey.

The English textbooks contain some images associated with environmental awareness. These images play a significant role in growing the pupils' and students' knowledge about environmental issues and how they can participate in maintaining their environment.

3) Methods

This section includes research approach, data source, procedure of data collection, and procedure of data analysis as follows:

a) Research Approach

The current study adopts a qualitative approach to analyze the semiotic process of pictorial topics of Iraqi EFL textbooks conveying a variety of environmental awareness messages.

b) Data Source

In this study, the primary data are obtained from Iraqi EFL textbooks entitled *The Series of English for Iraq*. This series consists of 22 books; 12 student's Book and 10 Activity Books

c) Procedure of Data Collection

The Data was collected from *The Series of English for Iraq* by focusing on the pictures that were gathered from the 22 books. The procedure followed is given below.

1. Every book is read repeatedly for three times attentively to come up with book author's goal of the pictures given in the 22 books.
2. The researcher identified the pictures with the environmental awareness messages.
3. To foster the analysis, all the selected pictures information was marked (Unit, Lesson, and Page).
4. Grasping the environmental awareness messages in each picture was supported by the illustrated information and instructions in the 12 Teacher's Books which guide the teachers during the teaching process of English language as they cover the contents of the 22 books(12 Textbooks) and (10 Activity Books) of the series.

d) Procedure of Data Analysis

As a first step, the pictorial data was diagnosed carefully as a first step to come up with the environmental issue that matches each single picture in 22 books. A second step is followed to classify the pictorial data into the groups in accordance with the environmental awareness issues based on their corresponding context in the texts. Finally, the researcher analyzed the data following Peircean semiotic triangle theory for each group.

4) Data Analysis

Data analysis includes the following aspects:

a) *Pictorial Environmental Awareness :Waste Disposing Issue*

Humans consume large amounts of resources that cause environmental pressure according to efficient factors like population growth, economic growth, rising incomes, and rapid urbanization. These factors, combined with the growing demand for goods and services, increase the production of various types of waste. The consequences of produced waste for urban metabolism significantly influence carbon emissions. Many countries worldwide have great interest in waste disposal and waste management programs following the Environment World conferences that determine waste disposal as an aspect of sustainability (Deus et al., 2020.p242).

In the picture (1), a group of pupils are sitting around the table in a classroom, discussing environmental issues with their teacher. The teacher is holding up a piece of paper with the word “in” on it, teaching pupils how to improve their classroom by putting the waste paper into the bin. The object “in” denotes the call for action of to put the waste into the bin. The teacher instructs her pupils to put waste paper in the correct place. In the picture (1), another important object is a book in the red bin. The red color of the bin might symbolize the students' wrong action of putting the book in the wrong place or in order to be recognized by the pupils. Furthermore, the white paper on the floor is an example of improper waste disposal. In response, the teacher educates the students on the importance of disposing of waste materials in the appropriate location, illustrated by using a transparent bin on the whiteboard. It is in the proper and suitable place, shown in a transparent bin on the whiteboard.



Picture 1 Waste Disposing

As a result, the picture serves as an educational lesson, focusing on the appropriate techniques for waste disposal, which are targeted at fostering a clean and healthy environment, a journey that begins in the confines of a tidy classroom and spreads throughout the whole community.

b) *Pictorial Environmental Awareness :Green Planet Issue*

The shadows of environmental problems cover many sides of the lives of human beings, animals, and plants. Their productions are harmful the health of the earth's planet. The green planet or healthy planet is a concept that had great interest from the participants in the world environment conferences. For years, governments have encouraged their citizens to plant more trees, flowers, grass, and other plants to recover the health of the planet Earth (Kanie et al., 2019, pp. 14-15).



Picture 2 Planting /Green Planet

Picture (2) depicts two children taking part in a flower planting activity. One student is holding a flower pot to demonstrate indoor planting. In her other hand, she is using a watering can to water a flower planted in the ground. The other student is displaying a seed sac to represent the origin and source of the flower. They illustrate the essential requirements for plant growth, which are indicated by banners. The banners are utilized to show the requirements of growing plant such as light that came from sun, flower as the result of planting, water as mean of life for the plant, and soil as the medium of planting.

c) Pictorial Environmental Awareness: Sustainability Issue

Industries consume natural resources and produce harmful and dangerous materials. For example, making a wooden door or making papers may require more cutting trees. The sustainability concept refers to fear utilization of natural resources to reduce the effect of the industrial production on natural resources as environmental elements and keep the balance of these elements. Sustainability is utilized through environmental education as a concept that pupils and student must be educated (Yadav et al., 2022, p. 415).



Picture 3 Sustainability Clean energy

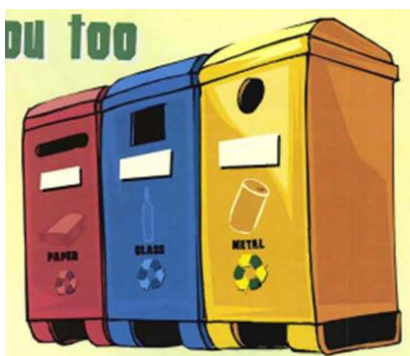
Picture (3) showcases the object of wind mill, which is considered a clean and natural energy resource. The purpose of the power mill is to produce clean energy in order to reduce reliance on fuel-based power. The picture aims to educate students about the importance of minimizing the use of hazardous materials that harm the environment and contribute to pollution. It is important for students to

learn about these alternative energy sources that are environmental friendly to reduce reliance on natural resources and transition to cleaner energy alternatives

d) Pictorial Environmental Awareness: Recycling Issue

The Environmental education aims to enhance the environmental awareness of the students and pupils towards one of the most important concepts of sustainability, which is recycling. This concept defined as the re-using of the waste productions in industries. This concept pushes toward reducing the produced waste and avoiding unfears consumption of raw material, cost, and power. Most countries educate their pupils and students to manage waste and isolated in recycling categories (Ahmad et al., 2016, p. 253).

In picture (4), there are three colored bins, the red one used for paper and it has symbols of paper, banner “Paper” and recycling symbol, the blue bin used for glass and it has symbols of glass bottle, banner “glass” and recycling symbol. The yellow bin used for metal and it has symbols of tin can, banner "Metal" and recycling symbol. The picture has iconic and symbolic signs. Each bin has a suitable hole for the expected material according to the types of waste; slim rectangle for the papers, wide rectangle for bottle and circle whole for cans.



Picture 4 Garbage Isolation and recycling

Picture(4) features three waste bins of different colors. The yellow bin is designated for "metal" waste, the blue bin for "glass" waste, and the red bin for "paper" waste. This picture signifies the importance of segregating various types of waste and emphasizes the need for students to learn about recycling and waste segregation to support the recycling process.

e) Pictorial Environmental Awareness :Endangered Animal Issue

Endangerment and extinction of the species have received great attention from countries all over the world. Therefore, their education programs include such issues as primary approaches during the learning process. Some species face global-scale threats that are gradually increasing. The educational programs focus on biodiversity to achieve balance among all living creatures. Such programs associated with some species those afford effects of the environmental problems according to the human reaction with their environment (Dikmenli & Cardak, 2017, pp. 75-76).

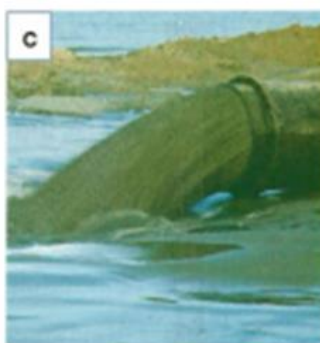


Picture 5 Endangerment of Elephant

Picture (5) represents a dead elephant in a desert. The sporadic dark clouds as an object signals that elephants are at risk of extinction. Elephants may die due to thirst, or they may be killed by hunters for economic benefits or other environmental reasons. The dry plants in the picture represent the dry lands and deserts. The overall message provided by picture (5) indicates the need to enhance the students' knowledge about the endangerment of animals and other living species and their causes. Additionally, finding proper solutions for preventing these precious animals from becoming extinct is crucial to maintaining the planet's balance.

f) Pictorial Environmental Awareness :Water Pollution Issue

Water pollution is one of the critical environmental problems. Massive amounts chemicals, industrial waste, agricultural productions, and domestic waste water flows to rivers and water bodies all over the world. This is the purpose of the incremental levels of metal in the water causing water pollution. Environmental awareness is one of the effective solutions to this problem. Many scholars suggested their approaches to enhance the environmental awareness among people and pupils to be capable of addressing the water problems and their consequences and then to actively participate to avoid them (Noorhosseini et al., 2017, p. 2021).



Picture 6 Water Pollution

In picture (6), a pipe is shown pumping waste into a river. The waste falls into the river's clear, blue water. The pipe represents human activities in the area, such as factories or domestic waste. The continuous flow of waste into the river changes its color and results in water pollution, leading to an environmental problem. The picture serves as a reminder for individuals, private entities, and the

government to take responsibility for preserving the most essential source of life: water. Furthermore, picture (6) highlights the importance of instilling awareness in the new generation, particularly children, so they can take action to sustain water sources in the future.

g) Pictorial Environmental Awareness: Deforestation

The forest cover represents the lungs of the ecosystems that include many species. The trees of the forest consume the CO₂ and produce the O₂ in nutrition process. The forests are an active partner in reducing the emissions of CO₂. The continuous deforestation and its annual increasing rate form unbalanced ecosystem conditions. Less oxygen with more CO₂ is one of the severe problems in many countries, especially the developed countries. Therefore, and for this reason, many govern

ments took giant steps toward forestation of large areas to overcome this problem. Environmental awareness as a means is utilized to reduce deforestation and encourage forestation via several programs including the learning Curricula. Their textbooks contain some topics about this environmental issue (Khan, 2016, p. 12).



Picture 7 Deforestation

Picture (7) showcases an ample space where the woods are deforested. Deforestation is the action of cutting down trees and using them for different material purposes. The object of empty spaces in the woods, a prominent example of deforestation signifies that the land is turning into a desert, despite the loss of greenery and source of oxygen behind cutting trees, many species will die either because of the unbalanced elements of the ecosystem.

Generally, the picture stimulates students to be aware of this deforestation which is fatal environmental loss. Moreover, the authors are encouraging students to participate in reforestation and prevent deforestation in the future.

h) Pictorial Environmental Awareness: Air Pollution

Air pollution is a concept that describes the condition of the surrounding air contaminated with harmful gases. The most important sources of these gases are the industrial activities and organic fuel consumption. The effects of these gases have two dimensions: firstly, direct local damage for the neighboring areas, and secondly, indirect damage by increasing temperatures all over the world. Air pollution is one of the important environmental issues. Thus, many countries utilized their schools

curricula to teach pupils and students about it and its consequences and solutions (Dabin & Isaac, 2022, p. 1286).



Picture 8 Air Pollution

In picture (8), three massive chimneys are expelling a substantial amount of smoke into the environment, causing the sky to lose its natural blue and white hues. These chimneys are part of industrial facilities and release harmful gases. Air pollution is a significant environmental concern, with detrimental effects on humans and other living beings. Furthermore, it has far-reaching indirect impacts that extend beyond borders. Students and individuals must refrain from burning household waste and reduce their use of organic fuels.

i)Pictorial Environmental Awareness :Noise Pollution

Noise is a term referring to unwanted sounds considered unpleasant, loud, or disruptive to hearing. There are many sources of noise that differ in their degrees, such as noise produced by electrical home appliances, audio, video equipment, and musical instruments, and noise heard in apartment buildings, crowds and stadiums. Another degree of noise represented by the noise of construction machinery and activities, engine and honks sounds of motor vehicles, the movement of airplanes, trains, and helicopters (transportation) , and industrial and commercial activities. Even though it may be simple, it annoys human ears and the health of both humans and animals. The noise is considered one of the causes and factors for some symptoms of mental disturbances and organic diseases. In fact, sudden noise may cause death by heart stroke (Gupta et al., 2016, pp. 50-51). Many countries developed their Curricula to educate their pupils and students about noise and its consequences. They must keep silent if there are sleeping ill persons or in the schools and libraries. They must keep away from loud noise in industrial and commercial places (Iqbal & Lohar, 2023, p. 7). The noise is an effect can be recognized by ears (hearing) and it is not a visual effect to be represented on pictures. Thus, in semiotic the noise as a loud sound can be represented by symbols (Bulunuz et al., 2022, p.380).



Picture 9 Noise of Markets

Picture (9) depicts a crowd of people in a bazaar. The markets are situated in an enclosed area. One can imagine the tremendous amount of noise in such a place, arising from the crowd's conversations and shouts. Additionally, the sounds of machines, passing vehicles, and wagons contribute to the overall noise level. For instance, in some shopping areas, the din of electricity generators can be particularly unpleasant as it is illustrated in the object of the tangled power wires in the picture to represent generators and power sources.

The accumulation of noise from various sources contributes significantly to noise pollution, creating a high level of disturbance for anyone passing through. This disturbance can have a negative impact on the well-being of individuals, particularly those who are unwell and suffering from psychological and mental health issues. Therefore, the author's intention is to raise awareness in society about not creating excessive crowds that disturb people.

j) Pictorial Environmental Awareness: Desertification Issue

Desertification is a term that refers to green areas becoming deserts. It is a global threat that occurs in many environments in different countries, caused by economic and political issues. Iraq and many other countries are facing desertification in the last two decades. Deforestation, less vegetation cover, overgrazing, wars, and poor irrigation are the common causes of desertification. Fighting desertification requires cooperative efforts of the governments and the people (Al-Obaidi et al., 2022, p. 440).



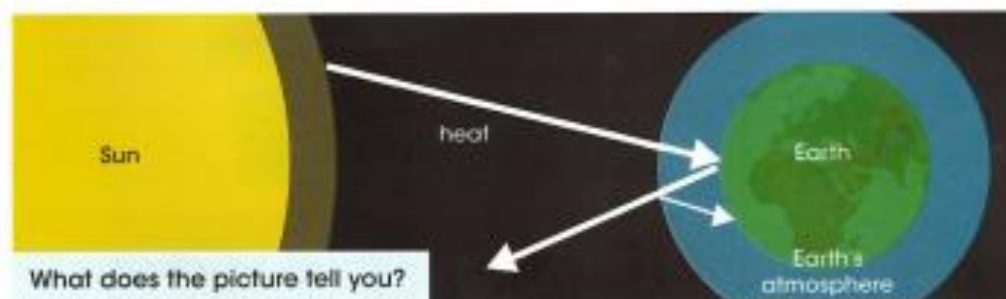
Picture 10 Desertification

Picture (10) depicts a deserted landscape that once was a thriving farm. The land now lies barren, devoid of life, with only sand, stones, and remnants of dry trees. This desertification has rendered the

land unsuitable for agriculture. The underlying message of the picture urges students and society to prioritize preserving green, healthy, and sustainable environments by caring for plants and trees.

K) Pictorial Environmental Awareness: Global Warming Issue

Global warming is one of the most interesting issues that most governments and organizations seek for successful solutions to decrease the temperature of the earth's surface. Global warming is environmental damage that has occurred for decades because of the increased emitted gases (like CO₂, CH₄ and Water vapor) that can store the heat that comes from sun in addition to the effects of other gases on the atmosphere that reflect the undesired heat on the outer space. In fact, most of the mentioned ecological problems cause global warming, then the global warming causes climate change in different areas of the world (Harvey, 2018: pp.38-42).



Picture 11 Global Warming

Picture (11) vividly illustrates the dynamic interaction between solar radiation and Earth, encapsulating the notion of global warming through its visual representation. The luminous yellow hue assigned to the sun symbolizes the extreme temperatures and the consequent transmission of thermal energy to Earth. This illustration not only showcases the physical impact of solar heat but also metaphorically highlights the gradual loss of Earth's verdancy, signaling a diminution in its once abundant green cover. The depiction serves as an important reminder of the escalating issue of global warming, characterized by a steady rise in the planet's average temperature due to various anthropogenic and natural factors.

As depicted, our planet is on a trajectory towards increased warmth, which portends the melting of polar ice caps, elevation of sea levels, and eventual submersion of certain lands. These phenomena are not merely hypothetical but are tangible impacts that will invariably lead to alterations in climatic patterns. The illustration implicitly critiques human contributions to global warming, such as the usage of fossil fuels (coal, gas, oil) alongside the widespread use of cars. Each of these activities plays a significant role in trapping the concentration of greenhouse gases within the atmosphere, thereby enhancing the greenhouse effect and contributing to the Earth's warming.

The educational value of this picture lies in its ability to convey the concepts of heat transfer and the ensuing climatic imbalances in a manner that is accessible to students. By engaging with this visual representation, learners are equipped to understand the mechanics behind the movement of heat and the resultant climatic changes, gaining insights into the role of greenhouse gases and the broader implications of their increase on global temperatures. This initiates a foundational understanding of environmental science and climatology, promoting awareness of the critical issues stemming from human impacts on Earth's temperature regulation mechanisms.

5) Findings and Discussions

This study comes up with following findings:

- a) The pictorial data magnify that IEFL textbooks include (11) environmental awareness topics. These topics are spread across the curriculum, except for the first and second grades. Additionally, these topics are presented in students' and pupils' books and activity books. Most of the environmental awareness topics included in the pictures in the primary stage are in the 3rd and 6th grades. Waste disposal, green plants, recycling, and sustainability are the described issues of the environmental awareness. Table 1 showcases a collection of pictures from the pupils' books and activity books of the primary stage.

Primary school books utilize environmental awareness issues seven fold as pictorial topics. Most of their utilization is the concept of green planet, especially in the 3rd grade. In addition to waste disposal, these issues are recognized by the pupils in this grade. Gradually, recycling and sustainability are more advanced according to the pupils' skills and knowledge in 6th grade.

Table 1: Pictorial Environmental Awareness Issues in English Textbooks for Iraqi English Foreign Language Learners (Primary Stage)

Image No.	Grade	Book title	Unit No.	Lesson No.	Page No.	Environmental issue
1.	3 rd primary	PB	One	Three	10	Waste disposing
2.	3 rd primary	PB	Six	Seven	86-87	Waste disposing
3.	3 rd primary	PB	Six	Five	82	Green plant
4.	3 rd primary	PB	Six	Five	83	Green plant
5.	3 rd primary	PB	Six	Six	84	Green plant
6.	6 th primary	AB	Two	Eight	32	Recycling
7.	6 th primary	AB	Two	Eight	32	Sustainability

These findings indicate that IEFL textbooks in the primary grade focus on the environmental awareness issues including various environmental awareness topics. In addition, through using these pictorial topics, IEFL textbooks teach and guide pupils to take care and preserve the environment. Moreover, the 1st and 2nd do not include environmental awareness issues because they focus on the foundational skills such as literacy, numeracy and basic social understanding. In addition, including environmental awareness issues in the other stages other than 1st and 2nd grade indicate that the syllabus designers take the cognitive abilities into consideration in presenting the pictures environmental awareness issues.

b) Most environmental awareness topics in the intermediate stage are in the 1st and 2nd grades. *Green plants, recycling, sustainability, waste disposal, endangered animals, water and air pollution, deforestation, desertification, and noise pollution* are the described issues of the environmental awareness issues described. Table 2 shows the collected pictures from the intermediate-stage students' books and activity books.

The issue of environmental awareness is used 23 times in intermediate-level books as a pictorial topic. Most samples concentrate on a green planet, specifically in 1st grade. In 2nd grade, the topics are related to different types of pollution. Students in this grade are familiar with these issues according to their knowledge and skills.

Table 2: Pictorial Environmental Awareness Issues in English Textbooks for Iraqi English Foreign Language Learners (Intermediate Stage)

Image No.	Grade	Book title	Unit No.	Lesson No.	Page No.	Environmental awareness issue
1.	1 st intermediate	SB	Three	One	26	Green plant
2.	1 st intermediate	SB	Three	Two	27	Green plant
3.	1 st intermediate	SB	Three	One	26	Green plant
4.	1 st intermediate	SB	Seven	One	64	Green plant
5.	1 st intermediate	AB	Three	Four	46	Global warming
6.	1 st intermediate	SB	Three	One	26	Sustainability
7.	2 nd intermediate	SB	Seven	One	71	Waste disposing
8.	2 nd intermediate	SB	Seven	seven	77	Waste disposing
9.	2 nd intermediate	SB	project	4	82	Recycling
10.	2 nd intermediate	SB	project	4	83	Recycling
11.	2 nd intermediate	SB	project	4	84	Recycling
12.	2 nd intermediate	SB	project	4	85	Recycling
13.	2 nd intermediate	SB	Seven	One	71	Endangered animal
14.	2 nd intermediate	SB	Seven	Three	73	Endangered animal
15.	2 nd intermediate	SB	seven	Four	74	Endangered animal
16.	2 nd intermediate	SB	Seven	One	71	Water pollution
17.	2 nd intermediate	SB	Seven	Five	75	Water pollution
18.	2 nd intermediate	AB	Seven	Five	110	Water pollution
19.	2 nd intermediate	SB	Seven	One	71	Air pollution
20.	2 nd intermediate	SB	Seven	One	71	Noise pollution
21.	2 nd intermediate	SB	Seven	Six	76	Global warming

22.	2 nd intermediate	SB	Seven	One	71	Desertification
23.	2 nd intermediate	SB	Seven	Six	78	Desertification

These findings also show that IEFL textbooks in the intermediate grade focus on the environmental awareness issues extensively and broadly including various environmental awareness topics to teach and guide students to take care and preserve the environment. Increasing the pictures of environmental awareness issues indicate that English textbooks authors take into consideration the knowledge and skills of students in this stage.

c) In the preparatory stage, most of the environmental awareness topics are distributed on all grades. Sustainability, recycling, endangered animal, water and air pollution, and deforestation are the described issues of the environmental awareness. The environmental awareness issues are utilized 16 times in the books of preparatory stage as pictorial topics. Most of their utilization is the concept of *endangered animal* especially at the 5th grade. While the topics that are associated with other issues are distributed in both 4th and 6th grades. Although these issues are more complex but they can be recognized by the students at this grade.

The collected pictures from the textbooks and activity books of preparatory stage are shown in Table 3.

Table 3: Pictorial Environmental Awareness Issues in English Textbooks for Iraqi English Foreign Language Learners (Preparatory Stage)

Image No.	Grade	Book title	Unit No.	Lesson No.	Page No.	Environmental awareness issue
1.	4 th preparatory	SB	Seven	Two	77	Sustainability
2.	5 th preparatory	SB	Three	Four	36	Recycling
3.	5 th preparatory	SB	Three	Four	36	Recycling
4.	5 th preparatory	SB	Three	Five	37	Recycling
5.	5 th preparatory	AB	Three	Five	60	Recycling
6.	5 th preparatory	SB	Three	One	34	Endangered animal
7.	5 th preparatory	SB	Three	Two	35	Endangered animal
8.	5 th preparatory	SB	Three	Ten	42	Endangered animal
9.	5 th preparatory	AB	Three	Ten	66	Endangered animal
10.	5 th preparatory	SB	Three	Four	36	Water pollution

11.	5 th preparatory	SB	Six	Seven	76	Water pollution
12.	5 th preparatory	SB	Three	Six	38	Air pollution
13.	6 th preparatory	SB	Eight	One	74	Sustainability
14.	6 th preparatory	SB	Eight	Three	76	Sustainability
15.	6 th preparatory	SB	Eight	Two	75	Recycling
16.	6 th preparatory	SB	Eight	One	74	Deforestation

These findings show that IEFL textbooks in the preparatory grade focus on the environmental awareness issues including different environmental awareness topics to teach and guide students to take care and preserve the environment. However, the pictures of environmental awareness issues in the preparatory grade are less than intermediate grade, indicating that English textbooks authors concentrate on the written and textual tools more than pictures as students in this grade are cognitively developed and able to understand the textual tools.

The IEFL textbooks for all the stages include eleven different issues of environmental awareness. *Sustainability*, *Recycling*, and *Endangered animal* are the most frequent issues of environmental awareness. These issues are illustrated in Table 4.

Table 4 Environmental Awareness Issues in Iraqi English Foreign Language Learners Textbooks

No.	Environmental issue	Grade	Book title	Unit No.	Lesson No.	Page No.
1.	Waste disposing	3 rd primary	PB	One	Three	10
		3 rd primary	PB	Six	seven	86-87
		2 nd intermediate	SB	Seven	One	71
		2 nd intermediate	PB	Seven	seven	77
2.	Green plant	3 rd primary	PB	Six	Five	82
		3 rd primary	PB	Six	Five	83
		3 rd primary	PB	Six	Six	84
		1 st intermediate	SB	Three	One	26
		1 st intermediate	SB	Three	One	26
		1 st intermediate	SB	Three	Two	27
		1 st intermediate	SB	Seven	One	64
3.	Recycling	6 th primary	PB	Two	Eight	32
		2 nd intermediate	SB	Project	4	82
		2 nd intermediate	SB	Project	4	83
		2 nd intermediate	SB	Project	4	84

		2 nd intermediate	SB	Project	4	85
		5 th preparatory	SB	Three	Four	36
		5 th preparatory	SB	Three	Four	36
		5 th preparatory	SB	Three	Five	37
		5 th preparatory	AB	Three	Five	60
		6 th preparatory	SB	Eight	Two	75
4.	Sustainability	6 th primary	AB	Two	Eight	32
		1 st intermediate	SB	Three	One	26
		4 th preparatory	SB	Seven	Two	77
		6 th preparatory	SB	Eight	One	74
		6 th preparatory	SB	Eight	Three	76
5.	Endangered animal	2 nd intermediate	SB	Seven	One	71
		2 nd intermediate	SB	Seven	Three	73
		2 nd intermediate	SB	Seven	Four	74
		5 th preparatory	SB	Three	One	34
		5 th preparatory	SB	Three	Two	35
		5 th preparatory	SB	Three	Ten	42
		5 th preparatory	AB	Three	Ten	66
6.	Water pollution	2 nd intermediate	SB	Seven	One	71
		2 nd intermediate	SB	Seven	Five	75
		2 nd intermediate	AB	Seven	Five	110
		5 th preparatory	SB	Three	Four	36
		5 th preparatory	SB	Six	Seven	76
7.	Deforestation	6th preparatory	SB	Eight	One	74
8.	Air pollution	2 nd intermediate	SB	Seven	One	71
		5 th preparatory	SB	Three	Six	38
9.	Noise pollution	2ndintermediate	SB	Seven	One	71
10.	Desertification	2 nd intermediate	SB	Seven	Six	78
		2ndintermediate	SB	Seven	One	71
11.	Global Warming	2 nd intermediate	SB	Seven	Six	75

There are eleven environmental issues where are distributed on the textbooks of all the stages. *Sustainability*, *global warming* and *endangered animal* are the most frequent issues in the pictorial topics.

6) Conclusions

1. The semiotic analysis of the pictorial content reveals a noteworthy emphasis on promoting environmental awareness in EFL textbooks.
2. The pictorial topics are distributed across all stages, except the 1st and 2nd primary levels.
3. The EFL textbook *English for Iraq* comprehensively addresses 11 significant environmental awareness issues.

4. The pictorial depictions vividly illustrate the environmental issues in IEFL.

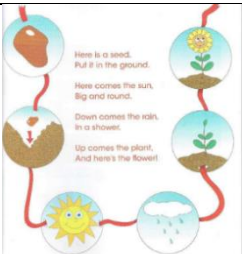
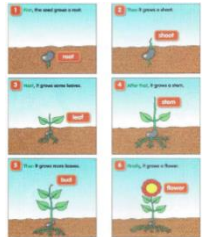
References

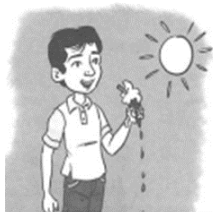
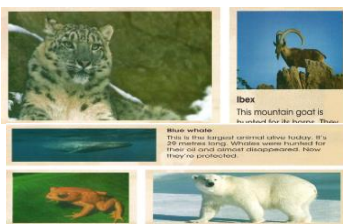
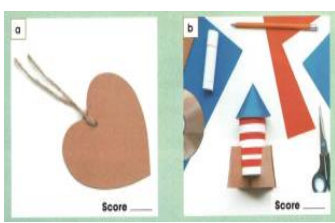
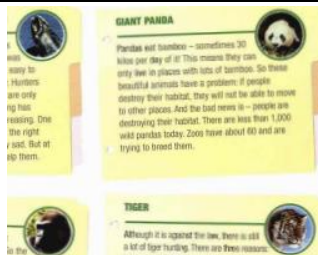
8. Ahmad, M. S., Bazmi, A. A., Bhutto, A. W., Shahzadi, K., & Bukhari, N. (2016). Students' responses to improve environmental sustainability through recycling: quantitatively improving qualitative model. *Applied Research in Quality of Life*, 11, 253-270.
9. Ajayi, V. O. (2017). Primary sources of data and secondary sources of data. *Benue State University*, 1(1), 1-6.
10. Al-Obaidi, J. R., Yahya Allawi, M., Salim Al-Taie, B., Alobaidi, K. H., Al-Khayri, J. M., Abdullah, S., & Ahmad-Kamil, E. I. (2022). The environmental, economic, and social development impact of desertification in Iraq: a review on desertification control measures and mitigation strategies. *Environmental Monitoring and Assessment*, 194(6), 440.
11. Baiardi, D., & Morana, C. (2021). Climate change awareness: Empirical evidence for the European Union. *Energy Economics*, 96, 105163.
12. Bulunuz, M., Bekiroglu, D., Tantan, M., & Bulunuz, N. (2022). "A School Polluted by Noise": A Semiotic Analysis of Children's Pictures. *Online Submission*, 7(4), 380-394.
13. Carmi, N. (2013). Caring about tomorrow: Future orientation, environmental attitudes and behaviors. *Environmental Education Research*, 19(4), 430-444.
14. Carter R. (2001): Vocabulary. In: Carter R. & Numan D.(2001): The Cambridge guide to teaching English to speakers of other languages, *Cambridge University Press*.
15. Curdt-Christiansen, X. L. (2021). Environmental literacy: raising awareness through Chinese primary education textbooks. *Language, culture and curriculum*, 34(2), 147-162.
16. Curdt-Christiansen, X. L., & Sun, B. (2020). Nurturing bilingual learners: Challenges and concerns in Singapore. In *21st Century Pre-school Bilingual Education (pp. 87-103)*. Routledge.
17. Dabin, K., & Isaac, L. (2022). THE COMPARATIVE ANALYSIS OF TREATMENT OF ENVIRONMENTAL ISSUES IN THREE PRIMARY SCHOOL TEXTBOOKS FOR ETHNIC KOREANS RESIDING IN CHINA: KOREAN LANGUAGE, MORALITY AND RULE OF LAW, CHARACTER AND SOCIETY. *Журнал Сибирского федерального университета. Гуманитарные науки*, 15(9), 1279-1295.
18. Deus, R. M., Mele, F. D., Bezerra, B. S., & Battistelle, R. A. G. (2020). A municipal solid waste indicator for environmental impact: Assessment and identification of best management practices. *Journal of Cleaner Production*, 242, 118433.
19. Dikmenli, M., & Cardak, O. (2017). High school students' ideas about endangered animals. *Journal of Education and Practice*, 8(25), 75-77.
20. Eco, U. (1979). *A theory of semiotics* (Vol. 217). Indiana University Press.
21. Fatemi, S.M. (2014). Semiotics, Overview. In: Teo, T. (eds) *Encyclopedia of Critical Psychology*. Springer, New York, NY. https://doi.org/10.1007/978-1-4614-5583-7_396
22. Gupta, A., Gupta, A., Jain, K., & Gupta, S. (2018). Noise pollution and impact on children health. *The Indian Journal of Pediatrics*, 85(4), 300-306.
23. Handayani, W., Ariescy, R. R., Cahya, F. A., Yusnindi, S. I., & Sulisty, D. A. (2021). Literature review: environmental awareness and pro-environmental behavior. *Nusantara Science and Technology Proceedings*, 170-173.
24. Harvey, L. D. (2018). *Global warming*. Routledge.
25. Houser, N. (2020). Semiotics and philosophy. *The American Journal of Semiotics*, 36(1/2), 135-164.
<https://doi.org/10.5840/ajs202082764>
26. Iqbal, S., & Lohar, S. A. (2023). ECOLOGICAL DISCOURSE ANALYSIS OF GREEN CONTENT IN ENGLISH LANGUAGE TEXTBOOKS IN PAKISTAN. *JOURNAL OF LANGUAGE AND LINGUISTICS*, 6(3), 1-8.

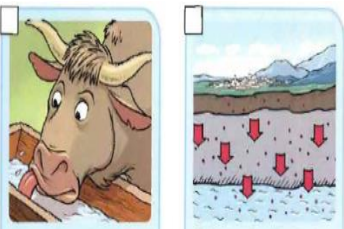
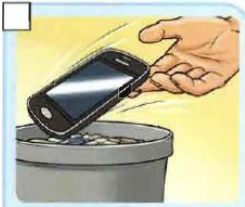
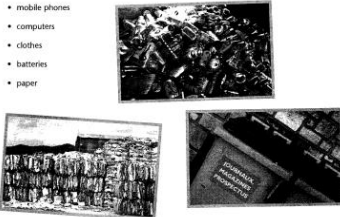
27. Kanie, N., Haas, P. M., Andresen, S., Auld, G., Cashore, B., Chasek, P. S., ... & Iguchi, M. (2019). Green pluralism: lessons for improved environmental governance in the 21st century. In *Green Planet Blues* (pp. 147-164). Routledge.
28. Karataş, A. (2013). The Importance of Environmental Education in The Adoption of A Sustainable Life Style in A Society. *International Journal of Global Education (IJGE)* ISSN: 2146-9296, 2(2).
29. Khan, S. M. M. H. (2016). Environmental education and awareness. Bangladesh National Conservation Strategy, Ministry of Environment and Forest, Bangladesh.
30. Marina, P. (2021). THE FUNCTIONAL APPROACH, SEMIOTICS AND PROFESSIONAL DISCOURSE. *Training, Language and Culture*, 5(2), 62-72.
31. Ningrum, Z. B., & Herdiansyah, H. (2018). Environmental awareness and behavior of college students in regards to the environment in urban area. In *E3S Web of Conferences* (Vol. 74, p. 10004). EDP Sciences.
32. Noorhosseini, S. A., Allahyari, M. S., Damalas, C. A., & Moghaddam, S. S. (2017). RETRACTED: Public environmental awareness of water pollution from urban growth: The case of Zarjub and Goharrud rivers in Rasht, Iran.
33. Nöth, W., & Jungk, I. (2015). Peircean visual semiotics: Potentials to be explored. *Semiotica*, 2015(207), 657-673.
34. Purwaningtyas, T. (2020). Didactic symbol of visual images in efl textbook: multi-modal critical discourse analysis. *Pedagogy: Journal of English Language Teaching*, 8(1), 51-63..
35. Razokovna, O. M., Ganiyevna, H. N., Oripovna, S. N., Raxmatullayevna, F. K., & Islomovna, M. M. (2022). English Learning And Vocabulary Growing Methods. *Journal of Positive School Psychology*, 10628-10632.
36. Saragih, A. (2013). Semiotik bahasa: tanda, penanda dan petanda dalam bahasa. Universitas Negeri Medan: Program Pascasarjana.
37. TRIYONO, S., SAHAYU, W., & FATH, S. N. (2023). Ecological Discourse and Environmental Education in English Textbooks: A Multimodal Eco-critical Discourse Analysis. *3L: Language, Linguistics, Literature*, 29(3).
38. Türkoğlu, B. (2019). Opinions of preschool teachers and pre-service teachers on environmental education and environmental awareness for sustainable development in the preschool period. *Sustainability*, 11(18), 4925.
39. Wammes, J. D., Jonker, T. R., & Fernandes, M. A. (2019). Drawing improves memory: The importance of multimodal encoding context. *Cognition*, 191, 103955.
40. Wang, Y., & Hemchua, S. (2022). Can We Learn about Culture by EFL Textbook Images? A Semiotic Approach Perspective. *Language Related Research*, 13(3), 479-499.
41. Yadav, S. K., Banerjee, A., Jhariya, M. K., Meena, R. S., Raj, A., Khan, N., ... & Sheoran, S. (2022). Environmental education for sustainable development. In *Natural Resources Conservation and Advances for Sustainability* (pp. 415-431). Elsevier.
42. Yeh, S. S., Ma, T., & Huan, T. C. (2016). Building social entrepreneurship for the hotel industry by promoting environmental education. *International Journal of Contemporary Hospitality Management*, 28(6), 1204-1224.
43. Z Zahoor, M., & Janjua, F. (2020). Green contents in English language textbooks in Pakistan: An ecolinguistic and ecopedagogical appraisal. *British Educational Research Journal*, 46(2), 321-338.
44. Zhang, Y., Zhang, H. L., Zhang, J., & Cheng, S. (2014). Predicting residents' pro-environmental behaviors at tourist sites: The role of awareness of disaster's consequences, values, and place attachment. *Journal of Environmental Psychology*, 40, 131-146.
45. Zulfikar, T., Dahliana, S., & Sari, R. A. (2019). An Exploration of English Students' Attitude towards English Learning. *English Language Teaching Educational Journal*, 2(1), 1-12.

Appendix

Pictorial Sample of Environmental Issues

No	Issue	Ref.	Picture	No	Issue	Ref.	Picture
1.	Green Planet	3 rd primary, PB, U6, L5, p83.		2.	Green Planet	3 rd Primary, PB, U6, L6, p84	
3.	Waste Disposing	3 rd primary, PB, U7, L7, p86-87.		4.	Recycling	6 th primary, AB, U2, L8, p32.	
5.	Sustainability	6 th primary, AB, U2, L8, p32.		6.	Green Planet	1 st Intermediate, SB, U3, L1, p26.	
7.	Sustainability	1 st Intermediate, SB, U3, L1, p26		8.	Green Planet	1 st Intermediate, SB, U3, L1, p26.	
9.	Green Planet	1 st Intermediate, SB, U3< L2, p27		10.	Green Planet	1 st Intermediate, SB, U7, L1, p64.	

No	Issue	Ref.	Picture	No	Issue	Ref.	Picture
11.	Global Warming	Intermediate, AB, U3, L4,		12.	Waste Disposing	2nd Intermediate, SB, U7, L1, p71.	
13.	Endangered Animal	2nd Intermediate, SR U7 L3 P73		14.	Endangered Animal	2nd Intermediate, SB, U7, L4, P74.	
15.	Water Pollution	2nd Intermediate, SB, U7, L5,		16.	Waste disposing	2nd Intermediate, SR U7 L7 P77	
17.	Recycling	2nd Intermediate, SB, project 4, p82.		18.	Recycling	2nd Intermediate, SB, project 4, p85.	
19.	Recycling	2nd Intermediate, SB, project 4, p82.		20.	Recycling	2nd Intermediate, SB, project 4, p84.	
21.	Water Pollution	2nd Intermediate, AB, U7, L5, P110.		22.	Endangered Animal	5th Preparatory, SB, U3, L2, p35.	

No	Issue	Ref.	Picture	No	Issue	Ref.	Picture
23.	Endangered Animal	5th Preparatory, SB, U3, L1, p34.		24.	Water Pollution	5th Preparatory, SB, U3, L4, p36.	
25.	Recycling	Preparatory, SB, U3, L4,		26.	Recycling	Preparatory, SB, U3, L5,	
27.	Air Pollution	5th Preparatory, SB, U3, L6, p38.		28.	Endangered Animal	5th Preparatory, SB, U3, L10, p42.	
29.	Recycling	5th Preparatory, AB, U3, L5, p60.	• mobile phones • computers • clothes • batteries • paper 	30.	Endangered Animal	5th Preparatory, AB, U3, L10, p66	 People used to hunt tigers
31.	Water Pollution	5th Preparatory, SB, U6, L7, p76.		32.	Deforestation	6th Preparatory, SB, U8, L1, p74.	
33.	Sustainability	6th Preparatory, SB, U8, L1, p74		34.	Recycling	6th Preparatory, SB, U8, L2, p75.	

No	Issue	Ref.	Picture	No	Issue	Ref.	Picture
35.	Sustainability	Preparatory, SB, U8, L3,					