

Research Article

Cite this article: Al Karasneh, S., Qassrawi, R., Al-Barakat, A., Alakashee, B., Alsalhi, N., & Alqatawneh, S. (2025). Educating for a Greener Future: Sustainability Thinking in International English Language Textbooks. *Educational Process: International Journal*, 14, e2025022.  
<https://doi.org/10.22521/edupij.2025.14.22>

Received December 04, 2024

Accepted January 08, 2025

Published Online January 13, 2025

Keywords:

sustainability thinking, green education, English textbooks

Author for correspondence:

Rania Qassrawi

 [rqassrawi@birzeit.edu](mailto:rqassrawi@birzeit.edu)

 Birzeit University



OPEN ACCESS

© The Author(s), 2025. This is an Open Access article, distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>), which permits unrestricted re-use, distribution, and reproduction, provided the original article is properly cited.

## Educating for a Greener Future: Sustainability Thinking in International English Language Textbooks

Samih Al Karasneh , Rania Qassrawi , Ali Al-Barakat ,  
Bushra Alakashee , Najeh Alsalhi , Sami Alqatawneh 

### Abstract

**Background/purpose.** Education is crucial for fostering sustainability awareness and thinking among university students in a world increasingly defined by mounting environmental crises. Textbooks, as fundamental learning resources, have the potential to shape the minds of global citizens by offering insights into contemporary environmental challenges. This study aimed to investigate the promotion of sustainable thinking in international English language textbooks by incorporating Green Education elements throughout various aspects of the Unlock English series.

**Materials/methods.** In light of the research objectives, a series of textbooks (A1, A2, B1, and B2 levels) from the Unlock series has been analyzed using content analysis and criteria developed by the researchers, which covered various dimensions of Green Education.

**Results.** The findings revealed that the textbooks moderately included Green Education components, primarily focusing on increasing students' environmental awareness. However, there was a noticeable lack of content aimed at developing personal environmental values, critical thinking skills, and active participation in action-oriented activities. In contrast, the textbooks were found to have the potential to enhance sustainability thinking among university students.

**Conclusion.** The study concluded that there is a need for a more balanced inclusion of Green Education components across textbooks of various language proficiency levels to promote holistic, sustainable thinking.

## 1. Introduction

Education is vital in promoting sustainability thinking among citizens in an era marked by a significant rise in environmental disasters and challenges. Through curriculum and learning resources, such as textbooks, education holds immense power to shape learners' perspectives as global citizens by deepening their understanding of the environmental crises the world is currently facing (Huckle & Wals, 2015; Parr et al., 2022). The urgency of preparing future generations to tackle environmental threats and the depletion of natural resources has never been more pressing (Parr et al., 2022; Purcell et al., 2019). This responsibility was emphasized during the 2015 United Nations Summit, where educational systems worldwide were urged to adopt the 2030 Agenda for Sustainable Development Goals (SDGs) (United Nations, 2015). These 17 SDGs serve as a global call for action, encouraging both developed and developing nations to work collaboratively to ensure the well-being of people and the planet (United Nations, 2023a).

In response to the global imperative to promote sustainability thinking, Green Education has emerged as a strategy to address environmental challenges (Chakraborty et al., 2018; Parr et al., 2022; Purcell et al., 2019; United Nations, 2015). Also known as environmental and sustainable education, Green Education embodies a holistic pedagogical approach aimed at fostering ecological awareness, deepening the understanding of environmental issues, and encouraging sustainable practices (Parr et al., 2022; United Nations, 2015). Its main goal is to equip future generations with the knowledge and skills necessary to confront escalating environmental crises, such as climate change, biodiversity loss, pollution, renewable energy, and conservation (Aithal & Aithal, 2016).

Green or environmental education comprises several key components and elements. Central to these components is the development of critical thinking and problem-solving skills, enabling learners to analyze and address environmental issues based on scientific principles. Additionally, it emphasizes the cultivation of active citizenship, encouraging individuals to become global citizens who are not only aware of local environmental challenges but also actively engaged in addressing them (UNESCO, 2023; Yarbrow, 2022). Green Education also extends beyond traditional classroom settings, advocating for hands-on learning experiences and real-world applications (Aithal & Aithal, 2016; Rao, 2019).

According to the United Nations Environment Programme (2003), the objectives of Green Education are categorized into six primary targets: promoting environmental awareness, knowledge, attitudes, skills, evaluation abilities, and participation. Furthermore, Yarbrow (2022) classified green educational skills into four categories: Sustainable Knowledge and Topics, Personal Skills, Social Skills, and Ways of Thinking. Acquiring these green skills empowers future generations to contribute to the preservation of ecosystems, particularly in higher education (Parr et al., 2022; Purcell et al., 2019; UNESCO, 2023).

Higher education institutions are pivotal in promoting Green Education, given their unique intersection with the green economy (Lozano et al., 2017; Strietska-Illina et al., 2021). This responsibility extends beyond curriculum development, encompassing sustainable infrastructure, environmentally friendly facilities, innovative teaching practices, and the integration of green technologies (Aithal & Aithal, 2016). Higher education is charged with preparing a generation of pioneers who possess a profound sense of environmental responsibility and awareness. By embedding sustainability thinking and environmental consciousness into curricula, graduate students can be equipped with the necessary tools to engage with and contribute to the growth and transformation of the green economy. As a result, these students can collaborate across disciplines to advance green technologies, sustainable business practices, and environmental policies (UNESCO, 2023). Incorporating Green Education into curricula can also facilitate a shift towards learner-centered approaches and interdisciplinary learning, influencing teaching methods, curriculum design, and the development of educational materials, particularly textbooks (Louw, 2013; Parr et al., 2022).

As essential educational resources, textbooks offer students learning experiences that shape their perceptions, attitudes, and actions (Tevdovska, 2018). They are a fundamental component of the teaching-learning process, creating opportunities for social interaction among learners and teachers and stimulating critical thinking (Kazemi et al., 2017). Textbooks encompass a variety of learning activities and resources that contribute to achieving educational objectives within structured content, following a systematic approach. The development of textbooks is typically guided by objectives and standards aligned with curriculum goals, ensuring a structured and consistent learning experience (Köroğlu & Elban, 2020; Priyanti, 2019; Tevdovska, 2018). In the context of advancing green practices in higher education, textbooks have been increasingly influenced by the principles of this holistic pedagogical approach across disciplines, including the teaching of English using international English language textbooks (Zahoor & Janjua, 2018).

Learning English as a foreign language has become widespread globally due to its status as the language of science and research (Rao, 2019). International English language textbooks, designed for learners worldwide, incorporate an intercultural approach often called International Culture Textbooks (Awayed-Bishara, 2015; Kazemi et al., 2017; McKay, 2000). Integrating Green Education into these textbooks is particularly significant, as they are used globally and can serve as a powerful tool for raising awareness about environmental issues among international learners (Zahoor & Janjua, 2018). By embedding green skills in these textbooks, students can simultaneously develop their language skills and acquire environmental literacy, fostering a sense of shared responsibility as global citizens (Liondos, 2022; Şeker, 2023).

The inclusion of Green Education elements in international English language textbooks, such as the Unlock series is, therefore, both justified and valuable (Aithal & Aithal, 2016). Published by Cambridge University Press in 2014, the Unlock textbook Series is aligned with the Common European Framework of Reference for Languages (CEFR). The language activities in this series are categorized into four skills, distributed across two separate books: Reading/Writing and Listening/Speaking for each level. The Unlock series covers four proficiency levels: A1 (Beginner), A2 (Intermediate), B1 (Upper Intermediate), B2 (Advanced), and C1 (Upper-Advanced).

A close examination of previous studies on incorporating Green Education aspects into international English language textbooks, such as the Unlock series, reveals a focus on analyzing Sustainable Development (SD) concepts in English language textbooks (Alqiawi, 2016; García-González et al., 2021; Liondos, 2022; Mohammadnia & Moghadam, 2019; Şeker, 2023; Ullah et al., 2017; Zahoor & Janjua, 2018). However, this study has been distinguished as one of the few that has analyzed the promotion of sustainable thinking by integrating Green Education skills into textbooks used in higher educational institutions globally. Most of the reviewed studies concentrated on the inclusion of environmental education representations in school-level English textbooks designed to reflect learners' native cultures—commonly referred to as "Source of Culture Textbooks" (McKay, 2000). In contrast, this study specifically targeted international English language textbooks used in universities and other higher educational institutions worldwide. Moreover, the analytical framework employed in this research was developed by the researchers based on previous literature (e.g., United Nations Environment Programme, 2003; Yarbrow, 2022). The analysis criteria were particularly relevant to fostering sustainable thinking among college students, giving this study its distinctive contribution (see Appendix A).

Given the growing interest in promoting sustainable thinking by incorporating green skills into international English language textbooks, it has become crucial to conduct content analyses to evaluate the presence of Green Education elements in the Unlock series. Research on including such components in these textbooks, particularly within higher education, remains limited. The significance of this study lies in the global use of these textbooks, which have the potential to raise environmental awareness among adult learners and empower them to actively address global

sustainability challenges. Therefore, this study aimed to investigate the presence of Green Education components that promote sustainability thinking in the Unlock English Language Textbook series (A1, A2, B1, B2), focusing on their distribution across different proficiency levels. In light of the main objective of this research, this study was guided by the following research questions:

RQ1: To what extent do the Unlock English language textbooks foster sustainable thinking by incorporating Green Education elements?

RQ2: How are the identified Green Education components distributed across various aspects of the Unlock English language textbooks, including topics, questions, texts, illustrations, and videos?

## 2. Method

### 2.1. The Context of the Study

The current study investigates how sustainability thinking was promoted in International English Language Textbooks by including Green Education components in such textbooks. The representation of Green Education categories was content-analyzed in the Unlock English language textbook series used in universities worldwide as well as in Palestine and Jordan. It is worth noting that these types of textbooks are prepared by international textbook publishers to be utilized in English-non-speaking countries worldwide.

### 2.2. Textbook Selection (Sampling)

The Unlock English textbook series was designed based on the Common European Framework of Reference for Languages (CEFR). Thus, learning content and activities are divided into four skills and organized in two separate books: Reading/Writing and Listening/Speaking for each level. This series also comprises five proficiency levels: A1 (Beginners), A2 (intermediate), B1 (upper intermediate), and B2 (Advanced). In the current study, investigating the inclusion of Green Education components in four proficiency levels of the Unlock English Textbook series (A1, A2, B1, and B2 for Reading and writing only) was undertaken as these are the common courses/levels BZU students are enrolled in, as displayed in Table 1. below.

**Table 1.** Unlock English Textbook series (A1, A2, B1, B2) Content-analyzed in the Current Study

Textbook	Level
Unlock Reading, Writing and Critical Thinking 1	A1- Basic/for beginners
Unlock Reading, Writing and Critical Thinking 2	A2- Intermediate
Unlock Reading, Writing and Critical Thinking 3	B1- Intermediate
Unlock Reading, Writing and Critical Thinking 4	B2- Advanced

As shown in Table 1, four proficiency levels of the Unlock English Textbook series (A1, A2, B1, B2) were content-analyzed. This range of textbooks was included to cover the learning content that most university students may have been exposed to concerning the Green Education categories.

### 2.3. Textbook Analysis

Content analysis is a method used to analyze the manifest or latent content of any communication material by categorizing, formulating, and evaluating the content using coding and inducting themes. This method of analysis can be trusted to make inferences and conclusions about the meaning, use, and effect of certain communication texts. One of the pillars of content analysis is the determination of the analysis unit, which specifies the elements from the content-analyzed text (written, spoken, visual .. etc.) used by the analysts while breaking down any content into features and themes to keep the process focused and organized. Specifying the criteria of analysis is also an essential element in analyzing any content. These criteria can be pre-determined, which means they were specified before the analysis (Krippendorff, 2018). In the context of the current study, the unit of analysis, in addition to the criteria applied, were displayed as follows:

### 2.3.1. Unit of Analysis

The unit of analysis used in analyzing Unlock English language textbooks were topics, questions, texts, illustrations, and videos in the four textbook-series (A1, A2, B1, B2) (see Appendix A).

### 2.3.2. Criteria for Analysis

The researchers established the criteria of analysis utilized in the current study in light of the paradigms of analysis defined in the previous literature (United Nations Environment Programme, 2003; Yarbrow, 2022). The main domains of analysis were (a) Awareness of the Environmental Topics and Challenges, (b) Environmental Personal Values, (c) Environmental Thinking Skills, and (d) Participation and Engagement in Solving Environmental Challenges. It is worth noting that each domain comprised sub-categories and specific indicators prepared parallel with using a checklist for each unit of analysis (i.e., topics, questions, texts, illustrations, and videos) (See Appendix A). A sample of the criteria implemented along the analysis is exhibited in Table 2 below.

**Table 2.** A Sample of the Criteria and Indicators Utilized in Content-Analyzing Unlock English Textbooks

Categories of Green Education	Indicators
1. Awareness of the Environmental Topics and Challenges	<p><b>a. Scope of Environmental Topics:</b> Under this category, the content (topics, text, illustrations, questions, and videos) is expected to cover environmental topics, including:</p> <ul style="list-style-type: none"> <li>Climate change, biodiversity, conservation, renewable energy, pollution, sustainable development, pollution, natural resources depletion, global warming, population growth, pollution, recycles, protecting and preserving the environment, eco-system, renewable and non-renewable natural resources.</li> </ul> <p><b>b. Inclusion of Diverse Perspectives:</b> Under this category, the content (topics, text, illustrations, questions, and videos) is expected to:</p> <ul style="list-style-type: none"> <li>Acknowledge diverse perspectives on environmental topics, including cultural, social, and economic viewpoints.</li> <li>Environmental challenges faced by different communities.</li> </ul> <p><b>c. Precise and Recent Information:</b> Under this category, the content (topics, text, illustrations, questions, and videos) is expected to:</p> <ul style="list-style-type: none"> <li>Present recent environmental challenges.</li> <li>Offer up-to-date environmental information supported by reputable scientific sources.</li> <li>Include the dynamic nature of environmental issues incorporating the latest findings.</li> </ul> <p><b>d. Global and Local Context:</b></p>

---

Under this category, the content (topics, text, illustrations, questions, and videos) is expected to:

- Include both global and local environmental topics and challenges.
  - Highlight the overlap between global and local environmental topics.
  - Include both global and local environmental events.
- 

As shown in Table 2, the criteria for analysis encompassed one of the main domains of Green Education components: “the Awareness of the Environmental Topics and Challenges.” This domain involved four sub-categories and indicators generated in harmony with the components of Green Education (for the other criteria and indicators used in the current study, see Appendix A).

#### **2.4. Validity and Reliability**

Concerning the validity of the obtained data, the pre-determined criteria used in this analysis were validated by eight experts specialized in different fields, such as social studies education, curriculum and instruction, and curriculum and instruction of English as a foreign language. Some remarks and suggestions were presented by the jury of experts, such as deleting and merging some sub-categories, which were considered.

The reliability of the obtained data and results was achieved by conducting inter and intra-coding techniques. The inter-reliability was performed by involving two analysts. The researchers compared the percentage of agreement between the two coders’ checklists of analysis. After this comparison, the reliability indicator was high, and it reached 90% of agreement.

### **3. Results**

The present study aimed to examine whether and how sustainability thinking was promoted in the Unlock English language textbooks (A1, A2, B1, B2 )(Reading/Writing). It also aimed at identifying the distribution of these components across topics, questions, texts, illustrations, and videos.

The results pertaining to the first research question regarding the enhancement of sustainability thinking through including Green Education components in the Unlock English language textbooks (A1, A2, B1, B2 (Reading/ Writing) are presented in Table.

**Table 3.** Results Pertaining to The Enhancement of Sustainability Thinking by Including Green Education Components in Unlock English Language Textbooks ((A1, A2, B1, B2 / Reading, Writing and Critical Thinking)

Textbook Categories of Green Education	A1					A2					B1					B2					Total I	Prec.
	Tp	Tx	Qs	I	V	Tps	Tx	Qs	I	V	Tp	Tx	Qs	I	V	T p	Tx	Qs	I	V		
<b>1. Awareness of the Environmental topics and challenges</b>																						
b- Scope of Environmental Topics	2	1	3	5	1	1	2	2	2	1	3	5	10	5	2	2	5	6	8	4	70	<b>63.6%</b>
c- Inclusion of Diverse Perspectives																						
d- Precise and Recent Information:																						
e- Global and Local Context																						
<b>2. Environmental Personal Values</b>																						
a. Promotion of Environmental Empathy.	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	3	1	0	9	<b>8.1%</b>
b. Environmental Ethical Considerations																						
<b>3. Environmental Thinking Skills</b>																						
a-Resource Efficiency Skills																						
b-Experiential Learning skills (learning by doing) and Real-World Applications.	0	0	0	0	0	1	0	2	0	1	0	0	9	0	1	0	1	16	0	0	31	<b>28.1%</b>
c-Critical Thinking and Problem-Solving Exercises																						
d-Future Orientation																						
<b>4. Participation and Engagement in Solving Environmental Challenges</b>																						
a. Active Engagement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	<b>0%</b>
b. Action-Oriented Content																						
c. Innovation and Adaptation																						
d. Collaboration and Partnerships																						
<b>Total</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>5</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>5</b>	<b>22</b>	<b>7</b>	<b>3</b>	<b>2</b>	<b>6</b>	<b>25</b>	<b>9</b>	<b>4</b>	<b>110</b>	<b>100%</b>



As displayed in Table 3, Green Education components identified in the Unlock English language textbooks (A1, A2, B1, B2) were mainly categorized under promoting students' awareness (63%).

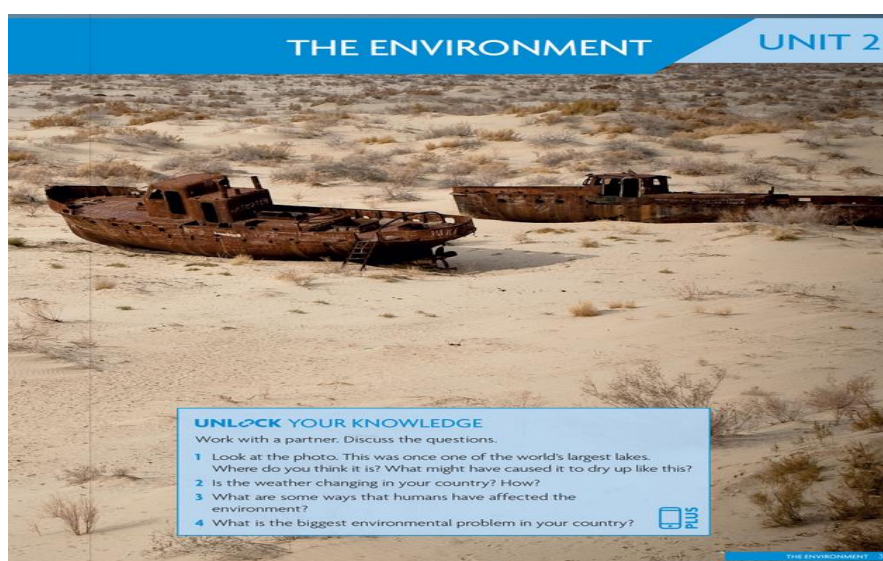
However, 28% of such components were only for triggering students' environmental thinking skills. As for promoting the components concerning enhancing personal values, they were less (8%). No components related to promoting active participation and engagement in action-oriented activities were listed. As for the inclusion of Green Education components across language proficiency levels, it is apparent that most of these components were included in B1 and B2 levels, respectively, whereas few were integrated in A1 and A2 levels.

Results regarding the distribution of these components in the Unlock English language textbooks across topics, questions, texts, illustrations, and videos are presented in Table 4.

**Table 4.** The Distribution of Green Education Components in Unlock English Language Textbooks Across Topics, Questions, Texts, Illustrations and Videos

Textbook Units of Analysis	A1, A2, B1, B2				
	Topics	Texts	Questions	Illustrations	Videos
<b>Total</b>	9	14	54	23	10
<b>Percentages</b>	8.1%	12.7%	49%	21%	9%

As shown in Table 4, the majority of Green Education components included in the Unlock English language textbooks (A1, A2, B1, and B2) were categorized under "Questions" (49%). (21%) of these components were pictures and images. As for the topics and videos, the four content-analyzed textbooks include (9) topics and (10) videos that represent Green Education aspects and target sustainability thinking. Some examples of topics, texts, questions, and illustrations were presented in Pictures 1, 2, and 3 below.




**Figure 1.** An Example of the Topics and Questions That Represent the Components of Green Education in the Unlock English Language Textbooks B1 (RW)



**THE CAUSES AND EFFECTS OF DEFORESTATION**

- 1 Forests, which cover almost one-third of the surface of the Earth, produce oxygen and provide homes to plants, animals and humans. These days, many of the world's great forests are threatened by **deforestation** – the process of removing trees from large areas of land. The **destruction** of forests occurs for several reasons; trees are used as fuel or for **construction**, and cleared land is used as pasture<sup>1</sup> for animals or fields for planting food. The main harmful **effects** of deforestation are climate change and damage to animal habitats.
- 2 The main causes of deforestation are commercial **farming** by big business and farming by local people. Huge commercial farms have taken over large areas of forest in many countries. In Indonesia, for example, industrial **logging** is carried out to clear huge areas for the production of palm oil, while in Brazil, large areas of the Amazon **rainforest** are cleared to grow soy and vegetable oil. In contrast, local farmers may cut down and burn trees to clear an area just big enough to graze cattle or grow crops. However, after two or three years, the land can no longer be used, so the farmer moves to another piece of land. Normally, it takes around ten years for cleared land to recover, but in populated areas the land is never allowed to recover. This constant reuse of land leads to heavy **erosion**<sup>2</sup> – the loss of the top layer of soil which protects the ground. Erosion, in turn, can cause flooding in heavy rain.
- 3 One serious effect of deforestation is climate change. Normally tropical rainforests help control the Earth's temperature by **absorbing** carbon dioxide. As an example, the vast rainforest of the Amazon covers an area around 25 times the size of the UK and absorbs an estimated 1.36 billion tonnes of carbon dioxide annually. However, in areas where deforestation has taken place, the carbon dioxide goes into the atmosphere and traps heat in a process called the **greenhouse effect**. The result is global warming. Increasing global temperatures result in less rain. This causes the rainforests to dry out and leads to fires – which cause more emissions of carbon dioxide. In this way, the rainforests actually contribute to global warming instead of helping to solve it.
- 4 Forest destruction also has an effect on biodiversity<sup>3</sup>. Deforestation causes the loss of habitats and damage to land where plants and animal species live, leading to the extinction of many species. A decrease in biodiversity threatens entire ecosystems and destroys future sources of food and medicine.
- 5 In conclusion, damage to the world's forests is leading to changes in the natural environment and causing global warming. Looking to the future, governments should act to plant more trees which will absorb carbon dioxide and protect forests from illegal logging. Otherwise, deforestation on such a large scale is sure to have terrible effects on the environment.

<sup>1</sup>pasture (n) an area of land with grass for animals to eat  
<sup>2</sup>erosion (n) the gradual damage or removal of stone, soil, etc. by wind, rain or waves  
<sup>3</sup>biodiversity (n) the variety of different animals and plants in an area



READING 2 45

**Figure 2.** An Example of the Texts and Illustrations That Represent the Components of Green Education in Unlock English Language Textbooks, B1 (RW)

**Endangered species**

- 1 An **endangered species** is a group of animals or plants which could soon become extinct. Extinction happens when the last animal of the species has died out and there will be no more. Many species are nearly extinct and could disappear from the Earth very soon if we don't do anything to save them. There are many reasons why species become endangered, but most harm to species is **due to** human activities such as habitat destruction, hunting and overfishing.
- 2 Habitat destruction is the main reason why animals become endangered. This happens in two ways. First, when humans move into a new area, they cut down trees to build houses and farms. This **destroys** the animals' habitat – the **natural** environment where plants or animals usually live – and leaves them without food. Animal habitats are also destroyed because of pollution. Dirty water from factories, which contains **chemicals**, ends up in rivers, and poisons used on farmland may even kill animals which live in the area.

**Figure 3.** An Example of the Texts That Represent the Components of Green Education in the Unlock English Language Textbooks, B1 (RW)

Figures 1, 2, and 3 display samples of questions, texts, and pictures embedded in B1 level form Unlock textbooks, which represent the green elements in such textbooks for sustainability thinking.

#### 4. Discussion

The findings of this study focused on whether and how sustainability thinking was fostered in the Unlock English language textbooks through the inclusion of Green Education components, spanning different proficiency levels and learning resources (i.e., topics, questions, texts, illustrations, and videos). The analysis revealed that the Green Education components in the Unlock textbooks were primarily aimed at promoting students' environmental awareness, comprising 63% of the identified components. This suggests that the primary goal of these components is to provide a foundational understanding of environmental challenges, which serves as the basis for fostering students' sustainability thinking. By raising awareness, these textbooks may be an entry point for advancing sustainable thinking, as building knowledge and comprehension is the first step toward higher cognitive levels of thinking (Krathwohl, 2002; Rentawati et al., 2018).

With regard to fostering students' environmental thinking skills, only 28% of the identified components were dedicated to developing such skills. These included promoting resource efficiency, experiential learning, critical thinking, and problem-solving skills. Although raising environmental awareness is essential, the textbooks moderately addressed the development of higher-order thinking skills, such as critical thinking related to sustainability issues. This finding suggests the need for greater alignment with the Sustainable Development Goals (SDGs) (United Nations, 2023b), emphasizing the importance of equipping learners with the skills necessary to tackle and resolve environmental problems.

Additionally, the findings revealed a gap in including Green Education components related to promoting personal values, with only 8% of the identified components falling into this category. This indicates that the textbooks may not strongly emphasize fostering values and attitudes that encourage sustainable behaviors and decision-making. However, values and attitudes play a crucial role in motivating actions (Oroujlou & Vahedi, 2011). Therefore, placing greater emphasis on this aspect could significantly contribute to promoting sustainability thinking. As attitudes, values, and motivation fall within the affective domain, which is closely linked to teaching practices, it may be essential to assess students' environmental values and attitudes through surveys or other measures after they have studied using the Unlock textbooks.

Furthermore, the Unlock textbook series showed the absence of green components concerning active participation and engagement in action-oriented activities. Students' active involvement in sustainability initiatives can guide positive steps towards change. The ignorance of such components in textbooks may limit students' opportunities to apply the knowledge and skills that they have been acquainted with in real-world projects (Badea et al., 2020). It is worth noting that students' involvement in actual green practices and projects can be shared by different disciplines, so it might be of value to measure the active participation in green projects and practices based on educators' and students' perspectives.

Regarding the inclusion of Green Education components across different textbook levels (A1, A2, B1, and B2), the results indicated that most of these components were concentrated in the B1 and B2 textbooks. This suggests that promoting sustainable thinking is linked to students' language proficiency. However, the limited inclusion of these components in the A1 and A2 levels highlights the importance of introducing these concepts earlier in foreign language teaching to maximize their impact. Regarding the distribution of Green Education components across learning resources (texts, illustrations, topics, videos, and questions), the findings revealed that most of the components were derived from the questions in the Unlock textbook series. This suggests that the Unlock textbooks emphasize using questions to engage students in sustainability thinking, as questions effectively stimulate critical thinking and creativity (Henny et al., 2022). Additionally, illustrations and videos were incorporated as essential elements in the Unlock textbooks, helping to convey various

environmental topics in a meaningful way. The use of visual aids can enhance students' understanding of environmental issues by providing real-world examples and imagery (Shabiralyani et al., 2015).

Overall, it was found that the Unlock English language textbooks primarily include Green Education components that promote environmental awareness. However, there is a notable deficiency in components that foster environmental thinking, personal values, and active participation. Moreover, the distribution of Green Education components across proficiency levels, as well as across questions, visuals, topics, and videos, was found to be imbalanced.

## 5. Conclusion and Implications

This study provided a thorough analysis of the incorporation of Green Education elements in the Unlock textbook series, which is widely used by university students as international English language textbooks. The inclusion of these elements was examined in the context of fostering and shaping sustainable thinking among students, preparing them as global citizens who will play a key role in addressing the environmental challenges of the present day. Based on the results, several conclusions can be drawn:

- Although some Green Education components were incorporated into the Unlock English language textbooks, this inclusion needs to be more balanced and comprehensive. Since the majority of the components focused on raising students' awareness of environmental issues, there is a need to further emphasize the development of critical thinking skills, personal values, and attitudes toward sustainability throughout the entire series.
- The lack of components that promote active participation in action-oriented activities highlights a gap in empowering students as change agents. Encouraging students to engage in real-world sustainability efforts could better equip them to contribute meaningfully to global environmental challenges.
- The distribution of Green Education components across proficiency levels was uneven, with most components identified in the higher proficiency levels (B1 and B2). Introducing these components at the beginning levels (A1 and A2) could better enhance students' sustainability thinking as they progress through the series.

The following suggestions can be made for future researchers:

- Future research should explore the teaching practices employed by instructors when using the Unlock textbooks to promote sustainable thinking among learners. Understanding how educators implement these components can shed light on best practices and potential areas for improvement.
- Additionally, it is important to consider students' perspectives on how effectively the textbooks support their understanding and engagement with sustainability issues. Conducting surveys or interviews with students could provide valuable insights into their experiences and the textbooks' impact on their environmental awareness and attitudes.
- Further studies could also investigate how integrating Green Education elements earlier in the language learning process (e.g., at the A1 and A2 levels) influences students' overall development of sustainability thinking and whether early exposure leads to deeper engagement in later stages.

The practical implications of the current findings for textbook authors, educators, and policymakers can be listed as follows:

- There is a need to increase the balance and comprehensiveness of Green Education elements across all textbooks and proficiency levels, ensuring early exposure to foster sustainable thinking from the beginning.
- It is recommended to incorporate more action-oriented activities to empower students as proactive agents of environmental change rather than passive recipients of information.
- It is essential to encourage project-based learning or community engagement activities to support the application of sustainability concepts in real-life contexts.
- Curricula developers need to develop curriculum standards that emphasize sustainability education across all textbooks, in addition to providing guidelines for including environmental education components in ELT materials, aligning with global educational goals like the UN's Sustainable Development Goals (SDGs).
- Teachers can play a pivotal role in bridging the gaps identified by supplementing textbook content with discussions and projects focused on sustainability.
- Professional development programs should be provided to train teachers and educators on effectively integrating sustainability themes in teaching.

Overall, this research calls upon educators, curriculum developers, and textbook publishers to collaboratively enhance sustainability education in language learning materials. By promoting greater participation and empowerment, students can be better prepared to take on their roles as active global citizens.

### Declarations

**Acknowledgments.** This article has been written originally by the authors. One of the AI tools was used to enhance the readability of some parts only.

### References

- Aithal, S., & Aithal, S. (2016). Opportunities and challenges for green technology in the 21st century. *Srinivas Institute of Management Studies, Pandeshwar, Mangalore, India, Department of Chemistry, Srinivas School of Engineering, Mukka, Mangalore, India.*
- Alqiawi, D. A. (2016). Content analysis of the English language textbooks based on education for sustainable development. *Education for Sustainable Development*, 5(1). ISSN 2250-1991.
- Awayed-Bishara, M. (2015). Analyzing the cultural content of materials used for teaching English to high school speakers of Arabic in Israel. *Discourse & Society*, 26(5), 517–542. <https://doi.org/10.1177/0957926515581154>
- Badea, L., Șerban-Oprescu, G. L., Dedu, S., & Piroșcă, G. I. (2020). The impact of education for sustainable development on Romanian economics and business students' behavior. *Sustainability*, 12, 8169. <https://doi.org/10.3390/su12198169>
- Chakraborty, A., Singh, M. P., & Roy, M. (2018). A study of goal frames shaping pro-environmental behavior in university students. *International Journal of Sustainability in Higher Education*, 18(7), pp. 1291-1310. <https://doi.org/10.1108/ijsh-10-2016-0185>
- Charoensil, De., Thiengkamol, N., Kurukodt, J. & Thiengkamo, Ch. (2012). Development of Environmental Education Characteristics. *The Social Sciences*. 7. 496-501. <http://dx.doi.org/10.3923/sscience.2012.496.501>
- García-González, A., García Palencia, S., & Sánchez Ondoño, I. (2021). Characterization of environmental education in Spanish geography textbooks. *Sustainability*, 13(3), 1159. <http://dx.doi.org/10.3390/su13031159>



- Henny, I., Tambusai, A., & Hasibuan, A. L. (2022). The effect of questioning technique and critical thinking on students' reading comprehension. *International Journal of Educational Research Excellence (IJERE)*, 01(01), 159. e-ISSN: 2830-7933. <https://doi.org/10.55299/ijere.v1i1.44>
- Huckle, J., & Wals, A. (2015). The UN decade of education for sustainable development: business as usual in the end. *Environmental Education Research*, 21(3), 491–505, <https://doi.org/10.1080/13504622.2015.1011084>
- Kazemi, A., Aidinlou, A., & Asl, D. (2017). Manifestations of globalization and linguistic imperialism in English language teaching and materials preparation: Ideology in the international ELT textbooks. *Research in English Language Pedagogy*, 5(2), 223-246.
- Köroğlu, Z., & Elban, M. (2020). National and global identity perspectives of textbooks: Towards a Sense of Global Identity. *Advances in Language and Literary Studies*, 11, 55-65.
- Krathwohl, D. R. (2002). A revision of bloom's taxonomy: An overview. *Theory into Practice*, 41(4), 212-219. [https://doi.org/10.1207/s15430421tip4104\\_2](https://doi.org/10.1207/s15430421tip4104_2)
- Krippendorff, K. (2018). *Content analysis: An introduction to its methodology*. Sage publications.
- Liondos, V. (2022). Sustainability in the English School Textbooks: The Case of English Language Textbooks taught in the Greek Primary School. *Sprin Journal of Arts, Humanities and Social Sciences*, 1(09), 12–23. <https://doi.org/10.55559/sjahss.v1i09.49>
- Louw, P. (2013). Green Curriculum: Sustainable learning at a higher education institution. *The International Review of Research in Open and Distributed Learning*, 14(1), 1–15. <https://doi.org/10.19173/irrodl.v14i1.1310>
- Lozano, R., Merrill, M. Y., Sammalisto, K., Ceulemans, K., & Lozano, F. J. 2017. Connecting competences and pedagogical approaches for sustainable development in higher education: A literature review and framework proposal. *Sustainability*, 9(10), 1889.
- McKay, S. L. (2000). Teaching English as an international language: implications for cultural materials in the classroom. *TESOL Journal*, 9(4), 7–11. <https://doi.org/10.1002/j.1949-3533.2000.tb00276.x>
- Mohammadnia, Z., & Moghadam, F. D. (2019). Textbooks as resources for education for sustainable development: A content analysis. *Journal of Teacher Education for Sustainability*, 21(1), 103-114. DOI: 10.2478/jtes-2019-0008.
- Oroujlou, N., & Vahedi, M. (2011). Motivation, attitude, and language learning. In International conference on education and educational psychology (ICEEPSY 2011) (pp. 994-1000). *Procedia - Social and Behavioral Sciences*, 29, 994-1000. <https://doi.org/10.1016/j.sbspro.2011.11.333>
- Parr, A., Binagwaho, A., Stirling, A., Davies, A., Mbow, C., Hessen, D. O., Bonciani Nader, H., Salmi, J., Brown Burkins, M., Ramakrishna, S., Serrano, S., Schmelkes, S., Tong, S., & McCowan, T. (2022). *Knowledge-driven Actions: Transforming Higher Education for Global Sustainability*. UNESCO Global Independent Expert Group on the Universities and the 2030 Agenda, <https://unesdoc.unesco.org/ark:/48223/pf0000380519>
- Priyanti, N. (2019). The effects of an EFL textbook on learners' identity construction. *Polyglot: Jurnal Ilmiah*, 15(2), 187 - 202. <http://dx.doi.org/10.19166/pji.v15i2.1661>
- Purcell, W. M., Henriksen, H. and Spengler, J.D. (2019). "Universities as the engine of transformational sustainability toward delivering the sustainable development goals: "Living labs" for sustainability," *International Journal of Sustainability in Higher Education*, Vol. 20 No. 8, pp. 1343–1357. <https://doi.org/10.1108/IJSHE-02-2019-0103>
- Rao, S. (2019). The role of English as a global language. *Research Journal Of English (RJOE)*, 4(1), 65.
- Rentawati, H., Djidu, H., Apino, K., & Anazifa, R., (2018). Teachers' Knowledge About Higher-Order Thinking Skills and Its Learning Strategy. *Problems of Education in 21st Century*, 76 (2), 215-230. <https://doi.org/10.33225/pec/18.76.215>
- Şeker, M. A study on how environmental issues are discussed in social studies textbooks. *Environ Dev Sustain* 26, 21325–21352 (2024). <https://doi.org/10.1007/s10668-023-03532-2>

- Shabiralyani, G., Hasan, K. S., Hamad, N., & Iqbal, N. (2015). impact of visual aids in enhancing the learning process: Case research in district Dera Ghazi Khan. *Journal of Education and Practice*, 6(19), 226. ISSN 2222-1735 (Paper) ISSN 2222-288X (Online).
- Strietska-Illina, O., Hofmann, C., Durán Haro, M., & Jeon, S. (2021). *Skills for Green Jobs: A Global View - Synthesis Report Based on 21 Country Studies*. International Labour Office, Geneva.
- Tevdovska, E. (2018). Authentic materials vs. textbooks in ESP (English for specific purposes). *Journal of Languages for Specific Purposes*. 5( 1), 57-66(10).
- Ullah, R., Khalil, M., & Zahoor-ul-Haq, D. (2017). Inclusion of pro-environmental education in textbooks at the elementary and secondary level: A review of Khyber Pakhtunkhwa Textbook Board, Pakistan. *Aussie-Sino Studies*, 3(3), September.
- UNESCO, (2023). *Empowering Youth for Sustainable Development: The Role of Media and Information Literacy in Promoting Green Skills*. Retrieved on October 2023, From: <https://www.unesco.org/en/articles/empowering-youth-sustainable-development>
- United Nations (2003). United Nations Environment Programme: Report of the Governing Council Twenty-second session (3-7 February 2003). New York. [file:///Users/bayan/Downloads/A\\_58\\_25-EN.pdf](file:///Users/bayan/Downloads/A_58_25-EN.pdf)
- United Nations. (2015). *Sustainable Development Goals*. United Nations Sustainable Development Summit 2015. Retrieved from: <https://sustainabledevelopment.un.org/post2015/summit>
- United Nations, (2023a). *Global Sustainable Development Report (GSDR)*. Department of Economic and Social Affairs Sustainable Development. Retrieved in September 2023 from: <https://sdgs.un.org/gsdrgsd2023>.
- United Nations (2023b). *The 17 Goals*. Department of Economic and Social Affairs Sustainable Development (2023). New York. Retrieved in October 2023 from: <https://sdgs.un.org/goals>
- Yarbro, J. (2022). Green skills: Preparing learners for the green economy. *REMOTE: The Connected Faculty Summit*. Arizona State University.
- Zahoor, M., & Janjua, F. (2018). Green contents in English language textbooks in Pakistan: An Eco linguistic and eco-pedagogical appraisal. *British Educational Research Journal*. 46(2), 321-338. <https://doi.org/10.1002/berj.3579>.

## Appendix A.

Criteria Utilized in Identifying (Content-analyzing) Green Education Components in Unlock Textbooks Series

Categories of Green Education	Indicators
<b>1. Awareness of the environmental topics and challenges</b>	<p><b>a- Scope of Environmental Topics:</b> Under this category, the content (topics, text, illustrations, questions, and videos) is expected to cover environmental topics, including:</p> <ul style="list-style-type: none"> <li>- Climate change, biodiversity, conservation, renewable energy, pollution, sustainable development, pollution, natural resources depletion, global warming, population growth, pollution, recycles, protecting and preserving the environment, eco-system, renewable and non-renewable natural resources.</li> </ul> <p><b>b- Inclusion of Diverse Perspectives:</b> Under this category, the content (topics, text, illustrations, questions, and videos) is expected to:</p> <ul style="list-style-type: none"> <li>- Acknowledge diverse perspectives on environmental topics, including cultural, social, and economic viewpoints.</li> <li>- Environmental challenges faced by different communities.</li> </ul>



**c- Precise and Recent Information:**

Under this category, the content (topics, text, illustrations, questions, and videos) is expected to:

- Present recent environmental challenges.
- Offer up-to-date environmental information supported by reputable scientific sources.
- Include the dynamic nature of environmental issues incorporating the latest findings.

**d- Global and Local Context:**

Under this category, the content (topics, text, illustrations, questions, and videos) is expected to:

- Include both global and local environmental topics and challenges.
- Highlight the overlap between global and local environmental topics.
- Include both global and local environmental events.

---

## 2. Environmental, personal values

**a- Promotion of Environmental Empathy:**

Under this category, the content (topics, text, illustrations, questions, and videos) is expected to:

- Foster environmental empathy towards the natural world.
- Encourage a sense of responsibility.
- Encourage caring/ looking after the environment.

**b- Environmental Ethical Considerations:**

Under this category, the content (topics, text, illustrations, questions, and videos) is expected to:

- Address ethical considerations related to the environment, including environmental justice, fair distribution of resources, and the impact of human actions on future generations.
- Promote environmental responsibility, social equity, and respect for diversity.
- Appreciate the efforts and initiatives of individuals and institutions in protecting the environment.

---

## 3. Environmental thinking skills

**a- Resource Efficiency Skills:**

Under this category, the content (topics, text, illustrations, questions, and videos) is expected to:

- Efficient natural resource usage and reduction of waste to minimize ecological footprint.

**b- Experiential Learning skills (learning by doing) and Real-World Applications:**

Under this category, the content (topics, text, illustrations, questions, and videos) is expected to:

- Provide activities, examples, or case studies that provide experiential learning opportunities related to the environment.
- Offer real-world scenarios, showcasing practical applications illustrating environmental challenges and successful sustainability initiatives.

**c- Critical Thinking and Problem-Solving Exercises:**

Under this category, the content (topics, text, illustrations, questions, and videos) is expected to:

- Include exercises and activities that promote critical thinking and problem-solving skills.
  - Encourage students to analyze environmental issues and propose sustainable solutions.
-

- Prompt critical reflection on personal behaviors and societal practices.

**d- Future Orientation:**

Under this category, the content (topics, text, illustrations, questions, and videos) is expected to:

- Offer/ promote long-term solutions for tackling environmental issues and consequences.

**4. Participation and engagement in solving environmental challenges**

**a- Active Engagement:**

Under this category, the content (topics, text, illustrations, questions, and videos) is expected to:

- Encourage active participation, engagement, and empowerment of individuals and communities to address environmental challenges collaboratively.
- Examine students' active participation, problem-solving, and engagement in sustainability issues.

**b- Action-Oriented Content:**

Under this category, the content (topics, text, illustrations, questions, and videos) is expected to:

- Assess whether the textbook includes actionable steps and practical tips for individuals and communities to contribute to environmental conservation and sustainable living.

**c- Innovation and Adaptation:**

Under this category, the content (topics, text, illustrations, questions, and videos) is expected to:

- Identify and discuss innovative suggestions and solutions and adaptive strategies.

**d- Collaboration and Partnerships:**

Under this category, the content (topics, text, illustrations, questions, and videos) is expected to:

- Encourage collaboration among individuals, governments, businesses, academia, and communities to achieve common sustainability goals.

## Appendix B.

### Definitions of Terms

*Sustainability Thinking:* It refers to the reasoning behind Sustainable Development Goals (SDGs) to address environmental challenges through educational policies and frameworks that include teaching strategies and curriculum. In the current study, Sustainability Thinking refers to the (four) components of Green Education used in the checklist of analysis.

*Green Education:* It overlaps with environmental education and refers to a comprehensive pedagogical approach encompassing skills for fostering ecological awareness, promoting understanding of environmental issues, and adopting sustainable practices. Operationally, this type of education represented four main domains of skills, sub-skills, and indicators used in the analysis. The four main domains were: a) Awareness of the Environmental Topics and Challenges, (b) Environmental Personal Values, (c) Environmental Thinking Skills, and (d) Participation and Engagement in Solving Environmental Challenges. These domains were extracted based on the United Nations Environment Programme (2003), which can be regarded as the theoretical paradigm of the current study.

*International English Language Textbooks*: These textbooks are a type of educational resource designed by publishers from native English-speaking countries for global students, incorporating an intercultural approach known as International Culture Textbooks to be used in countries worldwide. In this study, the Unlock Textbook Series, a series of textbooks published by Cambridge University Press in 2014, was analyzed as a sample of these textbooks.

### About the Contributor(s)

**Prof. Samih Al Karasneh**, University of Sharjah / Yarmouk University  
Email: [skarasneh@sharjah.ac.ae](mailto:skarasneh@sharjah.ac.ae)

**Dr. Rania Qassrawi**, Birzeit University  
Email: [rqassrawi@birzeit.edu](mailto:rqassrawi@birzeit.edu)

**Prof. Ali Al-Barakat**, University of Sharjah / Yarmouk University  
Email: [aalbarakat@sharjah.ac.ae](mailto:aalbarakat@sharjah.ac.ae)

**Prof. Bushra Alakashee**, University of Sharjah  
Email: [balakashee@sharjah.ac.ae](mailto:balakashee@sharjah.ac.ae)

**Dr. Najeh Alsalhi**, University of Sharjah  
Email: [nalsalhi@sharjah.ac.ae](mailto:nalsalhi@sharjah.ac.ae)

**Dr. Sami Alqatawneh**, University of Sharjah  
Email: [salqatawneh@sharjah.ac.ae](mailto:salqatawneh@sharjah.ac.ae)

---

**Note:** *The opinions, statements, and data presented in all publications are solely those of the individual author(s) and contributors and do not reflect the views of Universitepark, EDUPIJ, and/or the editor(s). Universitepark, the Journal, and/or the editor(s) accept no responsibility for any harm or damage to persons or property arising from the use of ideas, methods, instructions, or products mentioned in the content.*

---