

## Sustainability Education in Pakistan: Qualitative Content Analysis of English Textbook Grade X

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**Keywords:** Sustainability Education, Qualitative Content Analysis, English Textbook

**DOI No:**  
<https://doi.org/10.56976/jsom.v3i2.57>

*The purpose of this study is to explore how sustainability is represented in the Grade X English textbook. The textbook was selected using purposive sampling, and the data were analyzed through qualitative content analysis by using NVivo 12. Analysis of the Grade 10 English textbook reflects on the significant focus on social, cultural, and moral values of sustainable development with minor domination on environmental, economic, and institutional dimensions. Justice, equality, cultural diversity, and ethics have been well addressed throughout the textbook with fewer explanations and discussions on issues that deal with environment, climate change, responsible economic growth, and institutional frameworks. Such limited exposure is a huge deficiency in giving a holistic understanding of sustainability challenges and opportunities to learners. Future publications of the textbook need to include separate topics on the environment, economic sustainability principles, and governance and institutions so that learners can be further enlightened on these sustainability threads that strengthen the tertiary block of the sustainability triangle. The inclusion of key stakeholders from diverse sectors in the designing of the next versions of the textbook can give a participatory and all-inclusive curriculum that is in line with the learner's expected knowledge and formulation of what makes a textbook relevant.*

## 1. Introduction

The integration of sustainability concepts and principles into educational curricula has become a pressing need as the world grapples with the challenges posed by climate change, environmental degradation, social inequalities, and economic disparities. It aims to instruct young people on the knowledge, skills, and expertise, necessary to face the challenges of the twenty-first century (Amin et al., 2023; Mohammadnia & Moghadam, 2019). The United Nations' Sustainable Development Goals (SDGs) underscore the crucial role of education in promoting sustainable development and empowering individuals to make informed decisions and take responsible actions (UN, 2015). As a result, sustainability education has gained significant importance in recent years.

The English language textbooks have been observed to be the instrumental source in promoting sustainability education. Since English is the medium of instruction in most of the schools in Pakistan English text can reach a large audience in the country and this can enormously impact the knowledge, attitudes, and behaviors of the students towards sustainability education (Toppo & Rahman, 2020). Because textbooks not only help to build knowledge, skills, attitudes, and critical thinking but also change the behaviors of the learner or the reader. Textbooks have been used as an educational tool to reflect the curriculum, with a key role in knowledge acquisition of the students that is useful for sustainability (Silva et al., 2021). Therefore, it is necessary to know to what extent the sustainability concepts have been integrated into the English language textbooks and how the sustainability concepts are being reflected in the English textbooks by the teachers which are developed based on the definition of sustainability education.

Tavanti (2010) sustainability framework is an all-encompassing lens for assessing the integration of sustainability within educational materials. The framework consists of six dimensions, including environmental, social, economic, institutional, cultural, and values. These dimensions encompass a wide array of sustainability, allowing for a complete understanding of the interconnections between environmental, social, and economic concerns (Tavanti, 2010; Tavanti & Wilp, 2021). There have been conducted different studies using sustainability framework in different aspects of education like teacher education (Bertschy et al., 2013); higher education (Filho et al., 2018), and corporate sustainability reporting (Baumgartner & Ebner, 2010).

Another approach to support this claim is to explain how researchers have proposed the integration of sustainability principles into educational programs and materials. For example, Kalsoom and Khanam (2017) study explores the representation of environmental education within Pakistan's national curriculum by revealing that Pakistan's national curriculum has incorporated environmental themes, however, these themes are not adequately integrated into every subject. In another study, the concept of sustainability has been described in the Pakistani context. It is proposed to focus on sustainable development (Jamil et al., 2024; Khan et al., 2013)

The integration of sustainability into the English Language teaching curriculum has always been established as a phenomenon that is considered of utmost importance however, it remained an unattended discourse. The main reason for this is the research on this area especially in Pakistan

specifically on the integration of sustainability concepts into English language textbooks was inadequate. The present research is an attempt to find out this missing link. To conduct this research, the textbook for Grade X English was considered through purposive sampling because it is one of the most critical stages in students' educational journey accordingly it has influenced the students' knowledge about and engagement with sustainability-related issues.

Findings from this study will give insights into the extent to which sustainability concepts are integrated into the Grade X English textbook in Pakistan. By analyzing the textbook using the Sustainability Framework, the study intends to identify the strengths, gaps, and opportunities for enhancing sustainability education within the English curriculum of Pakistan.

The following are the objectives of the study:

- To examine the extent and nature of sustainability integration in the English textbook for Grade X.
- To identify the strengths, gaps, and opportunities for enhancing sustainability education in Pakistan's English textbook for Grade X.

## **2. Literature Review**

Sustainability education has arisen as a new yet burgeoning field of research and practice around the world in recent years, with the advent of pressing environmental, societal, and economic problems. Recognized widely as a crucial strategy for the promotion of sustainable development and for building the capacity of individuals to make informed, responsible decisions, the incorporation of sustainability concepts into educational curricula has been advocated for over a decade (UNESCO, 2017). This literature review endeavors to address the current research about sustainability education, specifically highlighting the integration of sustainability concepts in textbooks, as well as the use of qualitative content analysis as a research approach.

Sustainability education can involve the environment, social justice, the economy, and maybe all of these and more (Wals & Benavot, 2017). This means that there is not a standard curriculum for sustainability education. According to the definition that the UN gave the word sustainability the main goal of sustainability is to achieve sustainable development and by definition sustainability education is the teaching of sustainability as well as understanding the goals of sustainability so that future generations will not have to face the consequences that we are going to have to face (UN, 2015).

There has been a lot of research regarding the integration of sustainability concepts into educational curricula. In a review of sustainability curricula in higher education, Lozano et al. (2013) found that there have been more sustainability-related courses and programs. However, he also states that a more holistic and interdisciplinary approach to sustainability education is needed. Tilbury (2011), also agrees, arguing that sustainability education should be transformative which enables students to develop critical thinking, problem-solving, and a propensity for action-oriented. Critical thinking has been focus of different studies in the Pakistani context related to

document analysis, teachers' perspective etc. (Hamna Naseer & Jamil, 2021; Jamil, Anwar, & Ali, 2024; Jamil, Aslam, et al., 2024; Jamil, Hafeez, et al., 2024; Jamil & Muhammad, 2019; Jamil et al., 2020; Jamil et al., 2021).

Textbooks play a significant role in shaping students' perceptions of sustainability and fostering sustainability practices among them (UNESCO, 2017). The integration of sustainability concepts in textbooks will enable students to understand the interconnections between the environmental, social, and economic issues impacting them, thereby empowering them to engage in proactive change (Jóhannesson et al., 2011). This suggests that textbooks possess the power to significantly influence the way future generations will frame and engage with sustainability (Jóhannesson et al., 2011; UNESCO, 2017).

There are different studies about sustainability development in the academic field at various levels. For instance, Bandh et al. (2021) analyze global climate change through multi-dimensions. Furthermore, in another study by Tahtalioglu and Kulac (2019) in the context of Turkey, the role of education in realizing sustainability was explored. It was found that there were no activities regarding the environment not included in sustainable development.

Another example is the research performed by Bromley et al. (2011) to determine the coverage of sustainability topics in US-based textbooks on social studies. The study draws a conclusion stating that while topics concerning sustainability had been embedded into these textbooks on social studies, however, these topics were generally treated in a compartmentalized manner.

In English language textbooks there is very little literature on the integration of sustainability. Nkwetisama (2011) conducted a study in Cameroon that examined the environmental content in English language textbooks, the study found that the environmental issues were perceived to be significantly underrepresented and lacked any meaningful context. This therefore further highlights the need for more investigation into the inclusion of sustainability concepts into English language textbooks, particularly in the developing context of Pakistan.

Tavanti (2010) has proposed the Sustainability Framework which provides a comprehensive lens through which you can analyze the integration of sustainability in educational materials. This framework contains six dimensions: Environmental, Social, Economic, Institutional, Cultural, and Values, which represent the various facets of sustainability and thus, allow for a holistic takeaway of the relationships among environmental, social, and economic issues (Tavanti, 2010).

One use of the sustainability framework is to examine the extent of sustainability integration across various education contexts. For example, Zhu and Liu (2020) utilized the framework to examine high school geography textbooks in China and the extent to which sustainability issues were discussed. Results indicated environmental and economic dimensions of sustainability were discussed frequently; however, social, cultural, and values dimensions were noted to be insufficiently addressed.

There are several sustainability-related studies in the Pakistani context. The education system of Pakistan plays a vital role in addressing these challenges and promoting sustainable development (Mirza, 2020). The National Curriculum 2006 - the guiding framework in education in Pakistan recognizes the importance of integrating sustainability concepts in different subjects including English language education (Ministry of Education, 2006). However, research shows that sustainability integration in Pakistani curricula and textbooks is limited and fragmentary (Kalsoom & Khanam, 2017). Research on sustainability integration in the context of English language education in Pakistan is scarce. Hinduja et al. (2023) conducted a systematic review of sustainability in higher education institutions in Pakistan. The concept of sustainable development in Pakistan was explored in a study (Khan et al., 2013). Khalil et al. (2023) conducted a study regarding the application of sustainable development for the BS English program. It was found that the BS English curriculum should be reviewed according to SDG4 targets to include sustainable development and 21<sup>st</sup> century skills among students. A recent study has been conducted by Jamil, Anwar and Sohail (2024) regarding sustainability education in Pakistan through analysis of English textbook grade IX keeping in view Tavanti (2010) framework for sustainability. The limited and lacked integration of different dimensions of sustainability aspects was found. Economic, social, cultural, and values dimensions were discussed partially while institutional and environmental dimensions were about non-existent.

### **3. Research Methodology**

This study applied a qualitative content analysis. The selection of this approach was appropriate because it complies with the aim of the study to identify the underlying meanings as well as themes within the text data (Hsieh & Shannon, 2005). The textbook sample was obtained through purposive sampling. Qualitative content analysis was a suitable technique for analyzing the data, as it is a method for the systematic examination of the large corpus of textual data to identify the meaning itself (Kyngäs, 2020), and has been used widely in textbooks. This purpose was chosen because it is a compulsory subject, and its objective is to: establish the national identity, maintain social cohesion, and promote the development of a responsible citizen. On the construction and execution of the qualitative analysis applied using NVivo 12, which is a computer software package for powering your data analysis on the textual data assistance in coding, sorting, and sifting through all of your text data, – including by helping you to code up your data, creating data categories depending on the selected source-, therefore, in certain circumstances needing to double back to your concepts and categories, continually comparing and contrasting the findings with little difficulty, facilitating in constructing the theory, and organizing and managing analytic tasks. –. The data were analyzed by using the sustainability framework proposed by Tavanti (2010) as an umbrella under which sustainability is analyzed on six different dimensions including the environmental dimension, social dimension, economic dimension, institutional dimension, cultural dimension, and value dimension. The coding structure for this study was elaborated based on extracting the themes and indicators identifying the sustainability in each dimension.

### **4. Findings of the Study**

Keeping in view the English textbook grade X analysis for sustainability, the following findings have been drawn:

#### 4.1 Environmental Dimension

The textbook lacks a direct focus on environmental sustainability. However, the following are the indirect references:

In the poem "The Rain" (Unit-5, pages 55-56), the poet appreciates the beauty of nature:

*I hear leaves drinking rain; I hear rich leaves on top,*

*Giving the poor beneath, Drop after drop;*

*'Tis a sweet noise to hear, These green leaves drinking near.*

In the poem "Peace" (Unit-8, page 91), the wind is personified as a "roaring, smashing monster of destruction". It has been described in the following words:

*"The wind is now a roaring, smashing monster of destruction, raking all man's work from the valleys, from the vales, and sends them spinning, broken flying."*

#### 4.2 Social Dimension

The textbook contains several instances where social issues and values are highlighted. Following are a few examples:

In the lesson "Hazrat Muhammad (S.A.W) an Embodiment of Justice" (Unit-1, pages 3-11), the life and teachings of the Prophet Muhammad (S.A.W) are presented as a model for promoting justice, equality, and moral values in society. For example, on page 6, it is mentioned: *"He (S.A.W) decided every case brought to him, by friend or foe with justice, without fear or favour."*

In the lesson "Faithfulness" (Unit-13, pages 149-160) the emphasis is on the importance of honesty, trust, and keeping promises, which are essential for social cohesion and stability. For example, on page 157, the villager says: *"Sir, when you agreed to stand as a surety for a stranger, it would be against all rules of manliness and chivalry to endanger your life to save mine."*

Another example is from the lesson "Great Expectations" (Unit-11, page 133), in which the importance of hard work and perseverance in achieving success is indirectly mentioned: *"So, he had a successful career as a result of his own efforts and not because of the fortune that he had been promised."*

#### 4.3 Economic Dimension

The textbook does not state its views on the economy or its role in sustainability. However, the book does have a few mentions of it throughout. For example, in the lesson "Little by Little One Walks Far!" (Unit-7, page 81), the importance of summer jobs in preparing students for financial independence is highlighted as: *"In order to gain an understanding of independence and responsibility, I held several summer jobs in the preceding two years. I also worked to help myself financially in a boarding school."*

In the lesson "Selecting the Right Career" (Unit-9, pages 106-127), the text discusses various career options and the importance of choosing the right profession based on market

demand and scope. For example, on page 109, it is mentioned: *"The significance of a full-time career-counseling department at the school level. The job of this department should be to determine the personalities of students, to observe and analyze their interests and to suggest suitable careers according to their aptitude."*

#### 4.4 Institutional Dimension

The institutional dimension of sustainability is not directly addressed in the textbook. However, there are a few examples where the role of institutions and governance is indirectly mentioned:

In the lesson "Faithfulness" (Unit-13, pages 149-160), the role of the court and the caliph in dispensing justice and upholding the law is portrayed. For example, on page 151, it is mentioned: *"The Caliph accepted him as the surety. Both the accusers also agreed to it, and the criminal was allowed to leave."*

In the same way, the lesson "Great Expectations" (Unit-11, page 134) describes the legal system and the role of the government in handling criminal cases that are briefly mentioned: *"At his trial in court, he was sentenced to death by the judge. Before he could be hanged, he died in prison. By law, all his money belonged to the government."*

#### 4.5 Cultural Dimension

The textbook contains several instances where cultural values and traditions are highlighted:

In the lesson "Chinese New Year" (Unit-2, pages 13-22), the cultural traditions and celebrations associated with the Chinese New Year festival are described in detail. For example, on page 15, it mentions: *"Doing this is said to clear out any bad luck from the previous year and to make the house ready to accept good luck for the coming year."*

Similarly, in the lesson "Hazrat Muhammad (S.A.W) an Embodiment of Justice" (Unit-1, pages 3-11), the cultural and religious context of the Prophet Muhammad's (S.A.W) life and teachings is emphasized. *"Hazrat Muhammad's (S.A.W) life is a perfect model and example for the people who want to attain goodness, piety and success in their individual as well as social life."*

#### 4.6 Values Dimension

The textbook places a significant emphasis on moral values and character development which can be seen in the following examples:

The lesson "Hazrat Muhammad (S.A.W) an Embodiment of Justice" (Unit-1, pages 3-11) highlights the values of justice, equality, and moral conduct. For example, on page 7, it is stated: *"Hazrat Muhammad (S.A.W) practically proved that no one could be more just and equitable than the Rasool of Allah Almighty."*

Another lesson in the textbook, "Faithfulness" (Unit-13, pages 149-160) emphasizes the importance of honesty, trust, and keeping promises, which are fundamental moral values. For example, on page 157, the villager says: *"As you see I am right in time, do not delay the execution."*

The same dimension can be seen in the poem "Try Again" (Unit 3, pages 27-34) which promotes the values of perseverance, hard work, and determination. For example, the first stanza reads: *"'Tis a lesson you should heed - Try again; If at first you don't succeed, Try again."*

The textbook includes various moral lessons and quotes that encourage students to develop positive character traits and values. For example, on page 9, it is stated: *"He had very strictly followed the Commandment of Allah: 'If they come to you, either judge between them, or decline to interfere. If you decline, they cannot hurt you in the least. If you judge, Judge in equity between them. For Allah loves those who judge in equity."*

#### 4.7 Discussion

The Grade 10 English textbook does a good job showcasing the values of sustainability however it only reaches some dimensions of the concept. Although the Grade 10 English textbook does emphasize three of the dimensions of sustainability (social, cultural, and morality); environmental, economic, and institutional the weakness of the topic was not as extensively covered. Overall, the Grade 10 English textbook does satisfactorily emphasize the values of sustainability known as social, cultural, and morality but it does not greatly elaborate on the values of sustainability like environment, economic, and institutional (Sachs, 2015; UN, 2015)

One of the notable strengths of the textbook is that it emphasizes social sustainability. By endorsing pedagogical approaches such as "Hazrat Muhammad (S.A.W) an Embodiment of Justice" and "Faithfulness," students will be able to see the importance of justice, equality, honesty, and moral conduct that are significant elements in constituting a just and sustainable society. These are the kinds of values that will be inculcated in the students that will serve as a foundation-style approach required to nurture social sustainability. Social sustainability is a broad range of exemplified approaches with values that encompass social justice, equitable resource allocation, and ensuring access to essential services for the members of society, in particular, the marginalized and vulnerable groups (Vallance et al., 2011).

The textbook highlights cultural diversity and its expression is aligned with the cultural aspect of sustainability (UNESCO, 2017). The "Chinese New Year" lesson does not only celebrate the bright cultural traditions around the festival but promotes an appreciation for cultural diversity. This is significant in the present-day globalized world where preservation and respect of cultural identities and practices are essential for sustainable development (Soini & Birkeland, 2014).

Another strength of the textbook is its emphasis on moral values and character development. The book's lessons and literary selections consistently urge students to embrace such virtues as perseverance, hard work, honesty, and ethical conduct. Such values are vital to a society that values sustainability and responsibility, both individually and collectively (Leiserowitz et al., 2006). Ethics training is also vital in developing a society that prioritizes long-term well-being over immediate gratification. The textbook's focus on those virtues readies learners to make thoughtful choices that support the public's best interest. Character building is a great draw to the traditional textbook since it shapes an ethical, active citizen.

The textbook does not leave any room for environmental sustainability. However, if you interpret the reading, you can see that nature is often presented indirectly in select human literature through comments about beautiful mountain scenery or the beautiful power of natural things. It is just not directly mentioned in the textbook, referring to it as environmental sustainability, climate change, conserving natural resources, etc. (Kopnina, 2014). Environmental sustainability is something that is crucial to societies and the planet in the long run, unfortunately, it does lack presence in the textbook, regardless that nature can be indirectly represented in some human literature from comments about the beauty of the mountain may be implied, references to the natural elements.

The textbook is quiet about the economic dimensions of sustainability. There is an acknowledgment that career choices and summer jobs would help prepare students for financial independence, but a comprehensive exploration of the interplay between economic development, social progress, and environmental protection is absent—the three integrity pillars of sustainable development (Purvis et al., 2019). This ignorance dismisses an opportunity to gird students with a holistic understanding of the multifaceted challenges and trade-offs that underpin the attainment of sustainable economic growth (Dhahri & Omri, 2020).

While the textbook does cover the institutional dimension of sustainability, it does not go to great lengths to do so. The book does touch upon the role of institutions in maintaining justice and the rule of law, but it does not go in-depth on the institutional capacity, governance mechanisms, and policy frameworks required to drive sustainable development across a range of domains (Biermann et al., 2017). It is important because strong institutional structures and effective governance are critical for translating sustainable development goals into tangible action and outcomes.

## **5. Conclusion**

The English textbook of grade 10 particularly gives high emphasis on social, cultural, and value dimensions of sustainability when compared to economic and environmental dimensions. The social dimension is highly addressed as the textbook builds lessons on the essential role of justice, equality, honesty, being responsible morals in building a stable and united society. The text indirectly addresses some of the poverty issues with messages of hard work and persistence in school. The cultural dimension is highly addressed, for example, one of the lessons is based on Chinese New Year; the text also contains various literary works that focus mostly on the cultural aspect.

The value dimension of sustainability is highly emphasized as the text has lessons that actively develop good behaviors, attitudes, and moral values. The environmental dimension of sustainability on the other hand is slightly not addressed as the text lacks explicit discussions on issues of environmental conservation, climate change, or even responsible use of resources. Similarly, the economic dimension of sustainability is not emphasized as trivial attention is given to the economic dimension. Not any single lesson explores the relationship between economic

development, social development, and environmental conservation. The institutional dimension of sustainability is partially addressed as students are exposed to the legal system and the role of institutions in the protection of law and justice but do not go deeper to address the legal frameworks, institutional capacity, and governance mechanisms necessary to push for sustainable development efforts.

### 5.1 Recommendations

The following recommendations are given based on the findings of the study.

1. Incorporate dedicated lessons or sections that explicitly address environmental topics such as climate change, biodiversity loss, responsible consumption, and the role of sustainable practices in various sectors of the economy
2. Expand the coverage of economic sustainability by including discussions on the principles of green and inclusive growth, sustainable business practices, and the role of innovation and technology in promoting sustainable economic development.
3. Integrate discussions on the institutional and governance frameworks necessary for achieving sustainable development goals.
4. Adopt a participatory and inclusive approach to curriculum development, involving subject matter experts, educators, curriculum developers, and policymakers.
5. Incorporate activities, projects, and assignments that encourage students to actively engage with sustainability concepts and apply their knowledge to real-world scenarios.

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