




UNLOCKING THE SUSTAINABILITY: EVALUATING THE SUSTAINABILITY EDUCATION IN ENGLISH TEXTBOOK GRADE IX

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| KEYWORDS | ABSTRACT |
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| Sustainability Education, Textbook Analysis, Qualitative Content Analysis, Nvivo, Pakistan | The study analyzed the sustainability dimensions integrated in the textbook of English (Grade IX) for Punjab, Pakistan using sustainability framework proposed by Tavanti (2010). For this purpose, the English textbook for Grade IX was purposively sampled and analyzed through the qualitative content analysis processed on NVivo 12 software. The analysis results show that the English textbook for grade 9 covers the environmental, social, institutional, cultural sustainability & value-based sustainability. Moreover, the values have been included like the moral stories for patriotism, national unity, and ethical conduct. The English textbook (grade 9) does not cover economic sustainability adequately. The study concludes that the textbook of English Grade 9 has boundaries to make indifferent students' responsible citizens as claimed by liberal educational policy of Punjab Curriculum and Textbook Board. However, curriculum may be further improved by adding explicit mentions of the sustainable practices, green technologies, inclusive growth, poverty, hunger, responsible consumption, and production. Findings further suggest holistic approach to include education for sustainable development in the textbooks. |
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INTRODUCTION

The idea of sustainability education is becoming increasingly more important in the qualifications today. It intends to teach young people the skills, expertise, and knowledge necessary to engage in pressing social, environmental, and economic challenges of the time (Zhila & Farzane, 2019; Amin, Zaman & Evren, 2023). According to UNESCO (2017), the education for sustainable development empowers students to make informed decisions and take responsible actions for the environmental

integrity, economic viability, and a just society, for present and future generations, while respecting cultural diversity. ESD is transdisciplinary and transformative education, which focuses on syllabus, assessments, teaching, learning methodology, and learning environment (Ahmad, Toro, Tait, Reedy, Dale, Tasler & Inzolia, 2023). Education has a profound impact on students' attitudes, behavior, and worldviews and can impact their future decisions and actions (Laurie, Tarumi, Mckeown & Hopkins, 2016). The education for sustainable development has been recognized as playing a critical role in modern curricula in higher education by equipping students with the values, knowledge, and skills required to operate together in searching for solutions to growing social-economic & environmental hindrances in 21st century.

Education for sustainable development is described by UNESCO as "education that encourages the alteration of values, behavior, and means to meet presently foreseen & unsuspected environmental and societal complications (UNESCO, 2017). It fosters the ability to discriminate and make informed judgments; an awareness of sustainable development issues; a sense of construction, justice, equity, and ethical responsibility; critical knowledge of concept of sustainable development; competence to envision alternate futures; capacity to work cooperatively with others; skills to participate in the decision-making processes of empowerment and positive change." It is well-known that the role of education in shaping attitudes, behaviors, and worldviews of students, thus, becoming central to their actions, behavior, and decision-making in future (Laurie et al., 2016; Ortega, Alonso & Corbí, 2020). In this linking, textbooks are widely used educational tools that reflect the content of the curriculum, serving as a primary source of information, thus playing the key role in the students' knowledge acquisition; among other roles in them as it relates towards sustainability (Silva, Gomes, Carvalho & Gerales, 2021). They are one of the major means by which students benefit from the teaching and learning experiences by providing the knowledge, information, illustrations and even exercises in most cases.

Additionally, textbooks have implications for student comprehension of the subject matter under consideration sustainability (Sahin & Mete, 2016) while their contents and representations are thus influential to the students' attitudes and behaviors towards concept of sustainable development. Assessing the integration of ESD in textbook content is of utmost importance for developing the holistic picture of the students' learning concerning sustainability principles and practices. As a developing country, Pakistan has been confronting frequent sustainability challenges like poverty, inequality, environmental degradation, and the climate change (Government of Pakistan, 2017). To tackle these challenges, the Government of Pakistan has shown its commitment to integrating ESD into national curriculum (Government of Pakistan, 2017). It implies the significance of education in addressing sustainability issues in Pakistan. Having assumed the fact, that the English language has been playing a pivotal role in context of both medium as well as compulsory subject of instruction at the different levels of Pakistan's education system. Consequently, English textbooks could be influential in grappling with understanding of sustainability concepts and practices to the students concerned at large.

The sustainability framework, which was proposed by Tavanti (2010) is thorough and well-rounded evaluation of the sustainability education criteria included in textbooks. It includes six criteria,

each with its dimensions. These include environmental, social, economic, institutional, cultural, and values-based sustainability. This is a very strict and comprehensive evaluation of the sustainability education in texts. It considers whether sustainability education is integrated across disciplines and helps towards the connections made between sustainability and different subjects. Previous studies have used the sustainability framework in various fields to assess sustainability education in; higher education (Filho, Raath, Vargas, Quelhas, Haddad, Klavins & Orlovic, 2018), the teacher education (Bertschy, Künzli & Lehmann, 2013), corporate sustainability reporting (Baumgartner & Ebner, 2010). However, research on the applicability of sustainability framework, particularly in context of the evaluation of sustainability education in textbooks, still falls short, especially in the Pakistani context. In light of above context, current study aims to fill this gap and applies the Sustainability Framework to assess the integration of sustainability dimensions in Grade 9 English textbook in the Punjab, Pakistan.

The Grade 9 English textbook, which is the core material for all public and private schools across the Punjab province is published by Punjab Curriculum and Textbook Board (PCTB). The book is mandatory to use at all government and private schools in Punjab. The book is designed to develop language skills in students and to introduce them to variety of social, cultural, and environmental issues. The Book has various units and areas of discussion that help to elaborate upon different issues like pollution, issues of women, dangers of drug addiction, our cultural heritage, and the importance of national values. The main object is to analyze the incorporation of sustainability dimensions in Grade 9 English textbook. The research results will provide insights into strengths and weaknesses of sustainability education within curriculum of Pakistan. The findings presented carry particular implications for those responsible for curriculum development, policy & education in Pakistan and beyond. Identifying sustainability education strengths and weaknesses in English textbook will assist in efforts to revise and improve curriculum to align closely with the ESD principles. The study offers a framework for evaluating textbooks' sustainability education, contributing to the broader literature in this field.

Objectives of Study

1. To evaluate the integration of sustainability dimensions in the English textbook for Grade 9 in Punjab, Pakistan.
2. To identify strengths and weaknesses of English textbook for Grade-9 in Punjab, Pakistan, in addressing sustainability education.

LITERATURE REVIEW

The systematic review of the literature by Silva, Gomes, Carvalho and Geraledes (2021) found that many studies have looked into incorporating sustainability concepts into textbooks in various academic disciplines and across different educational levels. However, the majority of this research tended to only focus on environmental sustainability and topics related to it, such as climate change and pollution, and overlooked to a great extent the social or economic dimensions of sustainability. The review ended by concluding that a more comprehensive and integrative approach is needed to teach all aspects of sustainable development over textbooks. Gursoy and Saglam (2011) studied presence of environmental education in English language coursebooks used in Turkey and found

that tourism and travel had been given extensive coverage, though focus of the Turkish coursebooks limited the environmental education coverage. They suggested that ELT materials should be given environment-based updates to make people have good environmental literacy must be designed. Zygmunt (2016) found presence sustainability in English language textbooks in Poland. according to the results, main focus was environmental sustainability with lack of addressing important social and economic dimensions.

Moreover, Zygmunt (2016) suggested the coverage of all prominent areas regarding ELT materials for sustainable development. The use of sustainability framework has been demonstrated in various studies to analyze the sustainability education in differing areas. For instance, Filho et al. (2018) used Sustainability Framework to establish profile of sustainability responsiveness in higher education institutions worldwide. The main outcome indicated that far beyond any other dimension, these institutions notably identified with environmental dimensions with social, economic, and cultural responsibilities significantly missing. Thus, it is recommended that higher education institutions strike a balance between the dimensions of Sustainability Framework as conflicted in the sample. Bertschy, Künzli and Lehmann (2013) used Sustainability Framework to find out the sustainability integration in teacher education programs in Switzerland. Environmental and social dimensions of sustainability were found the most focused on. On other hand, economic and cultural dimensions were given less attention. To equip future teachers for the Education for Sustainable Development (ESD), the study suggested a more even representation of sustainability dimensions across teacher education programs.

There are different levels on which academic work has so far been conducted on the Sustainability development, for instance, Bandh, Shafi, Peerzada, Rehman, Wani and Dar (2021) naked an analysis of global climate change through multi-dimensional approach. Similarly, in the Turkish Context, Tahtalioglu and Kulac (2019) investigated education for sustainability, as a major instrument, and found a lack of activities regarding the environment globally within sustainability development. In case of Bromley, Meyer and Ramirez (2011) researched sustainability topics coverage in social studies in the US: lessons from subject's textbooks in USA and discovered that sustainability topics are harmonically incorporated into the textbooks but in container of modules. English Language Textbooks cover little on the sustainability since, in Buzzwords of the United Nations Report (2010), Nkwetisama (2011) studied increased learners' awareness on environmental issues through English language textbook and found that environmental issues which are statistically significant but not predominantly contextual from empirical analysis in her research study involving Camerooni girls. It shows that sustainability be explored in English language textbooks in the developing countries context like Pakistan.

Using Sustainability Framework, Baumgartner and Ebner (2010) analyzed corporate sustainability reporting practices. Their findings demonstrated a concentration on environmental and economic sustainability, while the social, institutional, and cultural dimensions received less attention. As a result, the authors recommended applying a more holistic approach to sustainability reporting, contemplating all dimensions of the framework. There is some research related to sustainability in the Pakistani context. The education system plays a vital role in encountering these challenges in

higher education and promoting sustainable development in country (Mirza, 2020). The National Curriculum 2006 envisages that sustainability needs to be diffused into subject across curriculum, including English language education (Ministry of Education, 2006). However, research studies have revealed that the curriculum and textbooks of Pakistan are not adequate and fragmented to integrate sustainability (Kalsoom & Khanam, 2017). Very few research studies have been found in the context of sustainability integration in English language education. Thus, Hinduja, Mohammad, Siddiqui, Noor and Hussain (2023) researched sustainability in the higher education institutions in Pakistan systematically.

Kalsoom and Khanam, A. (2017) studied the sustainable development in Pakistan. Khalil, Baig and Javed (2023) studied the application of sustainable development in the syllabus of BS English and mentioned a review of existing syllabus to incorporate sustainable development and 21st-century skills. The literature review shows that researchers are interested in sustainability education and sustainability awareness in textbooks. Although there seems some interest in it, however, no work is carried out regarding the integration of sustainability dimensions in English Language textbooks in Pakistani context. It helps in assessing that whether textbooks inspire the critical thinking and problem-solving skills. Hence, current economies of scale are focused on integrating sustainability dimensions in English Language textbooks, over using SFA. The paper backs to existing economics of the scale by assessing integration of sustainability education in the wide-scale utilized textbooks and their appropriateness and adequacy to address all the dimensions of sustainability regarding textbook's content. The finding of paper seems effective in revising and improving the curriculum according to ESD approach to make the curriculum less disparity and aim to produce less disparity in educated persons.

RESEARCH METHODOLOGY

This study employed the qualitative content analysis approach. This method of inquiry was chosen because it allowed the researchers to uncover underpinning meanings and themes within the text data (Hsieh & Shannon, 2005). The textbook of English grade IX was purposively sampled. The qualitative content analysis was the suitable technique for the data because it is a method of the systematic analysis of large bodies of the textual data to discern meaning (Kynge, 2020), and was frequently used within textbook research. The qualitative analysis was built and conducted NVivo 12 computer software package, which facilitates the analysis of textual data. The NVivo helps in coding, sorting, and sifting through text. This helped to create the data categories based upon the sources that were chosen. This process involved revisiting concepts and categories, comparing and contrasting the findings in a manageable manner and helping in building theory and facilitating the analytical tasks.

FINDINGS OF STUDY

The following aspects are discussed in detail about findings of study in order to reach the conclusion in systematic manner.

Environmental Dimension

This aspect has been described in the textbook in different places. Unit 11 "Noise in the Environment" extensively covers the topic of noise pollution. It defines noise pollution as "any form of noise that

disrupts the normal functioning of life" (PG-112). The unit identifies major causes of noise pollution, including "traffic on roads, construction sites, careless use of electronic appliances, and loud speech patterns" (PG-112). It also discusses the harmful effects of noise on human health, such as aggression, hypertension, high stress levels, hearing loss, restlessness, depression and insomnia (PG-113). The unit suggests solutions like government regulations on permissible noise levels, use of noise barriers, and public awareness (PG-117). By devoting an entire unit to environmental issue, textbook promotes an understanding of importance of environmental sustainability. Unit 11 "Noise in Environment" (PG-112-122) discusses the causes, effects, and solutions to noise pollution. It highlights how uncontrolled noise levels can negatively impact environment and human health. This promotes awareness about environmental sustainability.

Social Dimension

The social dimension has also been explored in the textbook. Unit 13 "women's rights" advocates for gender equality as fundamental human right. It states that "Islam lectures sympathy, resistance and sensitivity for all, regardless of gender, caste or belief" (PG-141). The unit emphasizes the critical role of women in family and society, stating that "Women are the vital part of the family. They not only play their role to create it but also make it sustainable" (PG-139). It further asserts that "Men and women should have equal opportunities in every field of life" (PG-140). Unit identifies education as a key enabler, noting that "Education is one of the most important means of empowering women with the knowledge, skills and self-confidence necessary to participate fully in the development process" (PG-140). By advocating for the women's rights and empowerment, this unit promotes the social dimension of the sustainability. The unit identifies risk factors like "bad peer influence and troubled domestic background" (PG-105). It emphasizes importance of rehabilitation, stating that "Complete medical support and guidance is provided to these people in these centers" (PG-105). The unit advocates for continued counseling "because of dangers of a relapse" (PG-106). By suggesting measures to alleviate drug addiction, the unit supports social sustainability by uplifting vulnerable members of society.

Economic Dimension

Economic sustainability is not explicitly covered in textbook. The focus is more on social, cultural & environmental dimensions.

Institutional Dimension

Institutional sustainability has been explored in the textbook. Unit 11 "Noise in Environment" refers to the role of institutional mechanisms in implementing environmental sustainability. It states, "The government must gear up & utilize various means to control unwarranted noise levels. For example, Punjab Environment Protection Agency indorses around 55 decibels of noise level in residential colonies & 75 decibels in commercial areas. These figures must be strictly enforced by government" (PG-113). "Rehabilitation centers are best places for the recovery process of addicts. This highlights how institutions like environmental protection agencies set, enforce standard to regulate pollution. In same way, unit 10 "Drug Addiction" addresses a major social issue affecting youth. It defines drug addiction as "absolute dependence" on drugs, leading to "permanent mental and physical sickness"

(PG-105). It calls upon government to take active role in controlling noise pollution over measures like better traffic management, use of noise barriers, and rapid completion of construction projects (PG-113). These examples demonstrate standing of institutional action in achieving environmental sustainability goals.

Cultural Dimension

Cultural dimensions are explored in different places of textbook that are described in the following paragraphs. Unit 4 on life of Hazrat Asma Bint Abu Bakr (R.A), prominent female figure in early Islamic history, narrates her courage and steadfastness in the face of adversity. The unit describes her contribution to helping Prophet Muhammad (S.A.W) during his migration to Madinah, noting that "This grand task was nicely undertaken by Hazrat Asma (R.A), daughter of Hazrat Abu Bakr Siddique (R.A). Every night, with the pack of food, she would quietly venture towards the rugged mountains in which lay cave of Thawr" (PG-33). It also recounts her bravery in face of confrontation, stating that "Abu Jehl slapped Hazrat Asma's (R.A) face so hard that her ear-ring fell off but she remained steadfast and did not reveal the secret" (PG-34). The unit ends by asserting that "Hazrat Asma (R.A) will always be remembered for her courage, generosity and wisdom. Her life would always be a beacon of light for all of us" (PG-35). By accent the exemplary character of a prominent woman in Islamic history, unit draws upon cultural heritage to impart values of courage, integrity & generosity to students.

Preserving and learning from cultural role models is an important aspect of cultural sustainability. Unit 6 "The Quaid Vision and Pakistan" talks about guiding principles of Pakistan founder, Quaid-e-Azam Muhammad Ali Jinnah. It quotes his advice to the nation to "work, work and work" in order to "make our nation strong" (PG-64). The unit also cites Quaid-e-Azam's emphasis on "Faith, Unity and Discipline" as a golden motto to overcome challenges (PG-64). His vision for a unified nation is evident in his quote: "We are nation, with our own distinctive culture and civilization, language and literature, art and architecture, names and nomenclature, sense of values and proportion, legal laws and moral codes, customs and calendar, history and traditions, aptitude and ambitions, in short, we have our distinctive outlook of life" (PG-63). It helps in evaluating representation of diverse cultural & global perspectives on sustainability as cultural contexts & native knowledge systems included in the strategy. By invoking Father of Nation's ideals and values, unit seeks to inculcate a sense of national pride & unity among students. Preserving national identity and shared values is critical for cultural sustainability.

Unit 7 "Sultan Ahmad Masjid" describes grandeur and historical significance of an iconic mosque in Turkey. The unit provides details of the mosque's construction during the reign of Sultan Ahmad I in the early 17th century (PG-74). It depicts the mosque's architectural splendor, noting its "hand-made ceramic tiles in more than 50 different tulip designs," "more than 200 stained glass windows with intricate designs," and a "richly decorated pulpit" (PG-75). The unit also mentions the mosque's continued cultural value, stating that "Though much has been lost of Blue Mosque over the years yet it has not lost the love of its visitors. The mosque is still one of the most visited monuments of the world" (PG-75). Are there mechanisms for feedback and adaptation based on evolving research, best practices, feedback from students, teachers, and stakeholders. By systematically evaluating

these aspects, educators can assess efficacy of sustainability education in English textbooks identify areas for improvement to better prepare students for sustainable future. By appreciating artistic, historical & cultural value of this monument, unit promote cultural sustainability over preservation of heritage sites.

Values Dimension

The unit 1 "The Saviour of Mankind" focuses on life and teachings of Prophet Muhammad (S.A.W). It describes his mission "to destroy the nexus of superstition, ignorance, and disbelief, and set up noble conception of life and lead mankind to the light of faith and divine bliss" (PG-3). The unit narrates incidents from the Prophet's life that demonstrate his strong faith, love for humanity, and nobility of character (PG-4-5). It ends with the Quranic verse describing him as "a witness, and as a bearer of good news and as a warner, and as the one inviting to Allah by His permission, and as a light-giving torch" (PG-4). By invoking Father of Nation's ideals and values, unit seeks to inculcate a sense of national pride & unity among students. By dedicating the first unit to the exemplary character of Prophet Muhammad (S.A.W), textbook lays an ethical foundation rooted in the Islamic values of compassion, justice and righteousness. Consequently, unit 2 "Patriotism" deals with values of loyalty and service to one's nation.

It defines a patriot as one who "loves his country and is willing to sacrifice when the need arises" (PG-13). Unit narrates Pakistan's history of patriotic struggle, noting how "Quaid-e-Azam Muhammad Ali Jinnah was a nation builder and a great patriot. He wanted to protect the values, culture, and traditions of the Muslims of subcontinent" (PG-13). It mentions sacrifices rendered by brave soldiers who "laid down their lives for Defence of the country" (PG-13). The unit ends with Quaid-e-Azam's exhortation that "we are bound to succeed" if we "work, work and work" (PG-14). It helps in assessing whether sustainability topics are aligned with standards and learning objectives as textbooks cover relevant sustainability concepts at appropriate grade levels. Thus, by eulogizing national heroes & stressing values of courage, honor, and industriousness, unit aims to inculcate a spirit of patriotism and national service among students. Love for one's land and culture are important building block of sustainability.

DISCUSSION

The main findings of the study are that the Grade-9 English textbook covers various aspects of the environmental, social, institutional, cultural, and values-based sustainability but lacks economic sustainability. It has critical implications for curriculum change, teacher training & sustainability education, in Pakistan and beyond. These findings are discussed in terms of the implications of these findings for curriculum expansion, teacher education, and education for sustainability, in Pakistan, and more broadly. Textbook's emphasis on environmental sustainability is admirable, particularly through unit on noise pollution. By devoting an entire unit to this topic, textbook raises awareness of a considerable effect on environment. Nobody ever really speaks about what causes noise or how to stop it so having a unit on its diverse people attention. Textbook is in line with growing gratitude of the importance of environmental education in promoting sustainable development (UNESCO, 2017). Still, textbook could strengthen its coverage of environmental sustainability by including more content related to other pressing environmental issues, like climate change, deforestation, and

biodiversity loss, and practical guidance to students on how they back to environment preservation efforts in their daily lives.

One of the strengths of this textbook's coverage of the social and sustainability domain of Quality Texas Foundation's CASES approach is seen in the textbook through the units on women's rights and drug addiction. These units draw attention to some of the major social problems and they also try to inculcate values of equality, empathy, and social responsibility in students. For example, the units on women's rights highlight the importance of women's empowerment and the role of education in promoting gender equality which aligns with two of Sustainable Development Goals (SDGs) which are gender equality and quality education (UN, 2015). However, the textbook's coverage of social and sustainability domain could be strengthened if it also explores chronic and widespread social problems like poverty, inequality, and social exclusion more rigorously. In this connection, another way in which the textbook's coverage of social domain could be developed further is by providing more opportunities for students to critically reflect and dialogue on these social issues so that they are better prepared to become agents of the social change. In this linking, the textbook effectively emphasizes the institutional sustainability, especially within the unit on environmental protection agencies & organizations.

This section highlights the role of institutions in creating and enforcing environmental standards and regulations, which are necessary for promoting sustainable development (UNESCO, 2017). The textbook could be improved, however, by including more material that examines the role of other institutions, such as governments, businesses, and civil society, in fostering sustainable development. Similarly, the textbook could offer additional examples of successful institutional initiatives and partnerships for the sustainability, which would encourage students to become involved in driving institutional change. The key commandment in textbook is development of cultural sustainability via a focus and in-depth look in the unit 7 then 13/14. This involves Islamic historical figures and architectural heritage that promotes cultural awareness respect for diversity and appreciation the cultural heritage which is important for sustainable development (UNESCO, 2017). But as per our feeling, the unit could concentrate more on the cultural influence in Pakistan or more broadly and include more than us Pakistanis in Islamic historical figures. Maybe students could have done some work on intercultural dialogue/collaboration to promote them as global citizens. The coverage of textbook on values-based sustainability is a strong point, especially over units on national heroes and religious teachings.

These units of emphasis promote values for essential sustainability, e.g. integrity, compassion, and social responsibility (UNESCO, 2017). To make this point even stronger, however, textbook could include more on other equally important values, e.g., respect for human rights, democracy, and rule of law. Also, the textbook could provide many more opportunities for students to undertake values clarification and ethical decision-making, which is necessary for the students to become morally responsible citizens. Thus, a weaker area of the textbook is that it does not focus a lot on economic sustainability. In this linking, this is a necessary part of sustainable development because it centers on economically using resources to satisfy human needs and promote social well-being. There are a few ways textbook could address this. First, it could go more in-depth into sustainable economics.

Some ideas include sustainable production and consumption, corporate social responsibility, and green entrepreneurship. Also, the textbook could try to incorporate the project-based learning or design thinking on how people can be innovative and become responsible economic participants. In this regard, the results of this study are important for the curriculum development and teacher training in Pakistan.

The textbook's strengths in terms of addressing environmental, social, institutional, cultural, and values-based sustainability provide a strong foundation for sustainability education. However, the weakness found in this study, particularly in lacking emphasis on the economic sustainability and limited coverage of certain sustainability issues indicate areas to be improved. The findings in this study can be used by curriculum developers to revise and enrich the content of the textbook in such a way as to acquire more comprehensive and balanced coverage of all sustainability dimensions. In addition, the recommendations can help teacher training programs provide teachers with required knowledge, skills, and pedagogical strategies to effectively deliver sustainability education. The results bear implications for sustainability education outside the present context. The framework of sustainability employed in this study represents a profound and integrated approach to appraising sustainability education in different educational materials: as such, concerned researchers and educators in various countries would also be able to vary this to their specific educational contexts and observe integration of sustainability dimensions. This could potentially advance curriculum and pedagogic development as the observations could identify the strengths and weaknesses of sustainability education.

CONCLUSION

The qualitative content analysis, facilitated by NVivo 12 software, revealed that textbook covers various aspects of sustainability, with the notable emphasis on environmental, social, institutional, cultural, and values-based dimensions. The textbook coverage of the environmental sustainability, particularly through the unit on the noise pollution, raises awareness about the causes, effects, and solutions to a significant environmental issue. The textbook's attention to the social sustainability, especially through the units upon women's rights and drug addiction, promotes values of equality, empathy, and social responsibility. The textbook's focus on institution sustainability is exemplified through the unit covering environmental protection agencies, which highlights role of institutions in characterizing and enforcing environmental standards and infractions. The textbook has several examples of cultural sustainability such as the units in the book upon the NHP highlighting faunas and Islamic Historical figures the sections of the text align with my answer by saying that on the next page is so on and so forth. The textbook also has a few examples of values-based sustainability such as the units in the book on the NHP highlighting an Islamic Historical figure and the units on architectural heritage.

Adding content on sustainable economic practices, like sustainable production and consumption, green entrepreneurship, and corporate social responsibility, would improve textbook. In addition, the textbook could provide more opportunities for students to engage in problem-based learning and design thinking, which would help foster their ability to become innovative and responsible economic actors. The findings from the study have notable implications for curriculum developers

and teacher trainers in Pakistan. The strengths of the textbook to cover the given dimensions of sustainability could be taken as a base, whereas the weaknesses identified in this study suggest areas that need further improvement. It is suggested that the results can be shared with those who develop curricula so they can revise existing curriculum and textbook, and make it more balanced by including all dimensions of sustainability more thoroughly. Likewise, the findings of this study can be shared with teacher training departments to arrange effective training programs and other related activities incorporating the results of this study. Consequently, this will help equip the teachers with knowledge, skills, and pedagogical strategies necessary to be effective in teaching sustainability education.

Recommendations

1. Curriculum developers should try to revise and make the English textbook for Grade 9 in Punjab, Pakistan, covering the sustainability dimensions more comprehensive and balanced, particularly the economic sustainability aspect.
2. The teacher training programs in Pakistan should include the findings of this study so that teachers can acquire knowledge, skills, and pedagogical strategies to teach sustainability education effectively.
3. Researchers or educators in other countries can also use the Sustainability Framework used in this study to analyze the integration of the sustainability dimensions in their educational different system.
4. Further, in future, more research can be carried out to see how the sustainability dimensions are integrated into other textbooks or other educational materials of the schools in Pakistan as well as in other countries.
5. The research can also be done using other data collection techniques such as interviews with teachers and students to make findings more reliable, authentic and consistent in order to attain desired outcomes.

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