

An Ecolinguistic Analysis of English Text Books to Evaluate the Integration of United Nations' 17 Sustainable Development Goals

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ABSTRACT

Depending upon the ecolinguistic analysis the present study investigates the frequency of occurrence of 17SDGs along with eco-beneficial, eco-destructive and eco- ambivalent properties in the text of the English books taught in the schools of Punjab province of Pakistan. A theoretical model presented by He, Wei (2021) has been be utilised to evaluate content. The results show the UN's 17 SDGs have been integrated more in social dimension while less attention has been paid to environmental and economic dimensions. The same is the case with the results of 5 Pillars of (5Ps) of 17 SDGs; the pillar of 'people' has been addressed as the top priority while the pillars of planet, prosperity and partnership have been used in lower frequency. Based on the above analysis, suggestions have been proposed that while designing the next updated version of these text books attentions should be paid to the ignored SDGs and eco-linguistic properties with a justified eco-centric approach to restructure the cognitive patterns of language learners for eco-sustainability.



Introduction

In 2015 the United Nations has presented the agenda of 17 Sustainable Development Goals (17SDGs) for conservation to advance the conservation of the Earth planet, social justice and wellbeing of the people by 20230. These 17SDGs are significant steps for the development of human beings. Education for sustainability should also be integrated into the EFL learning and teaching process. For this purpose, investigating the dynamics of ELT curriculum with 17SDGs holistic frame work is necessary. Sustainability themes integrated with English language learning goals and contents of the English books all three should be aligned. The dynamics of phenomenon and its applicability will be investigated through this research. This study aims at increasing

awareness about SDGs in the minds of management, heads; principals, English teachers, students, authors, curriculum designers and policy makers about the role of language in the ecology of our planet to raise consciousness about the sustainable development. For this purpose, English language teachers can play a vital role in transitioning to a sustainable green future through Ecolinguistics. Teaching English needs to be renewed with the inclusion of Sustainable Development Goals (SDGs) in the books and practical activities. The research will be an attempt to bridge this void by analysing the English text books (IX-X) Eco linguistically assessing the needs to update the books for next the version. As a contribution to the phenomenon this research will provide the basis for renewing the interesting activities and texts integrated with 17 SDGs in English Language class as a practical solution to reverse the ecological destruction through modifying the behaviour of not only the upcoming generation of students but also their families and the people around them. This research will provide the base that integrating sustainability into language classrooms of the future is an absolute must.

Problem statement

Education for Sustainable Development (ESD) is achieving its fame worldwide. It is the needed to ecolinguistically analyse EFL textbooks to identify whether the content of books is meeting the frame work of 17 SDGs. The present study aims to modify the behaviour of the students by raising awareness about sustainability and to make them ecologically active individuals of society to accelerate the progress to achieve SDGs. This research is an attempt to analyse the English grade (IX-X) text books to identify the gaps which make teachers handicapped to educate their students about SDGs.

Research question

How far English text books contain contents of ecolinguistic properties integrated with 17 SDGs to restructure the cognitive patterns of learners in the favour of sustainability?

Literature review

Ecolinguistics is a scientific field that works to explore the relation of language with environment and society. This interdisciplinary field criticizes the exploitation of natural resources and wellbeing of inhabitants of the earth planet. Ecolinguistics is also an alternative to see and criticize how nature is being used and exploited. Hence, this field is directly related to the sustainability of the resources of Earth planet and wellbeing of its people and other species.

Haugen (1972) was the founder of Ecolinguistics by coining the term language ecology. It was defined as a learning of interfaces between any given language and its environment

Ecolinguistics appeared as a paradigm with a speech delivered by Halliday (1990), “New ways of Meaning: The challenge to applied linguistics”. This address provided a base for establishing a link between language and its consequences for ecological context. Halliday pointed out the destruction brought forward by language to eco system. Halliday identified many discourse examples which are daily feed for human minds to contribute to ecological problems: “growth is good, many is better than less, big is better than small, grow is better than shrink”. Such language promotes consumerism which results in merciless consumption of natural resources. According to Wendel (2005), “the ecological approach to language takes into consideration the complex network of relations occurring between environment, languages and people speaking these languages”. Stibbe (2015), states that the term Ecolinguistics was previously used as linguistic ecology or as metaphorical “ecology” or communication ecology. At that time, it was only the study of the relation between language and ecology but now Ecolinguistics has widened its scope from living species to the physical environment, biotic or abiotic to all natural elements. The application of

ecological analysis in previous researches has been done through these tools: critical discourse analysis, identity theory, content analysis, textual analysis, framing theory, multimodal analysis, systemic functional grammar, and cognitive linguistics. Ecolinguistics helps to replace eco-destructive stories with eco-beneficial stories. Ecological analysis strives to bring into the limelight these discourses which are significant for the ecosystem in the future e.g. neoliberal economics, climate change in the context of politics and fashion magazines. These discourses are frequently researched through the framework presented by Stibbe, having eight types of stories i.e., framing, ideologies, erasure, evaluation, conviction, identity, salience. In addition to this Stibbe, enlisted the possible harmful stories: advertisement, economic growth, consumerism and the stories which treat nature as a commodity. Stibbe, in the book *The Stories We live by* presents various cognitive linguistic frames which affect the cognitive structures of people in a particular context. These cognitive structures prevail in society and affect the ways of thinking and behaviors of that society.

The field of Ecology works for the sustainability of the environment and its resources and Ecolinguistics highlights the role of language in sustainability at a cognitive level. It is a field that contributes to protecting the Earth and the welfare of its inhabitants living on it. Ecolinguistics revolves around sustainability it highlights eco-destructive, eco-ambivalent, and ecofriendly texts and contents and replaces them with environment-beneficial contents and texts to restructure the cognitive patterns of the people which indirectly become the cause of modifying the habits and behaviors.

The United Nations (UN) put forward the Agenda 2030 of 17 Sustainable Development Goals for global collaboration to attain the prosperity of the Earth. This agenda provides critical steps for the prosperity of the development of humanity. These SDGs are becoming guiding principles of education for sustainable development (ESD).

Fien (2020), mentions two main reasons for English teachers to equip themselves with renewable English integrated with SDGs: firstly, teachers need to bring a shift from the traditional methods to an interdisciplinary approach. Secondly, teachers should come forward and play their role in achieving SDGs as Yilmaz et al. (2021) pointed out the alarming situation due to teachers' reluctance to adopt SDGs can hamper the situation to become responsible for the welfare of the people and depletion of natural resources on the planet. Lea and Filtho (2019), point out that the impending risks of not achieving SDGs by 2030 are realistic and it is urgently needed to enhance actions for the contribution by HEIs to accelerate the implementation of SDGs in academics. As Kanapathy et.al found that many universities have a vision for SDGs, education for teachers and learners is important but still the problem is many HEIs lack awareness (2019).

This study will promote Ecolinguistics, Education for Sustainable Development (ESD), Ecoliteracy, and Higher Education for Sustainable Development (HESD) to make the learners conscious for achieving better lives on this shared earth planet with other living beings and resources. Ecolinguists and language teachers should explore more tools to utilize the language for justice, wellbeing, lives free of discrimination, hunger-free lives, safe lives under the water, and safe lives in the air. It is necessary to preserve mother nature with justice and to show care to its reactions to our exploitative, exhaustive consumption of its resources.

Materials and methods

The present study has been investigated through mixed method research by using both qualitative and quantitative research approaches. Exploratory sequential design has been utilized in this study. This design commences with the collection and analysis of qualitative data. Building from the qualitative findings, quantitative measures or instruments are developed (Terrell, 2012; Wisdom &

Creswell, 2013), and finally, a researcher quantitatively tests the variable that they have identified and interprets in what ways the quantitative data simplifies and extends the qualitative findings

Content analysis

The texts of Punjab Curriculum Textbook Board(PCTB) books from Grade (IX-X) have been used as data for content analysis. All the textual paragraphs from 24 units have been coded ecolinguistically in the first step then analysed qualitatively. The process was operationalised to find out whether the texts of these books are having ecolinguistic linguistic properties: eco-beneficial, eco- destructive and eco- ambivalent integrated with 17 SDGs in them. The sample text was analysed using the parameter of ecosophy to judge the text as an ecolinguistic property for sustainability with the intervention of 17 SDGs.

Research model /frame work to be used

17 SDGs have served as a basic frame work throughout research in all stages shown in figure1. These 17 SDGs have been further categorised in 3 dimensions: social, economic and environment. Commonly another lens is used of 5 pillars (5Ps): People, Prosperity, Planet, Peace and Partnership. All these categories will be utilised in the analysis of this research.



Figure2: Overview of the Sustainable Development Goals (SDGs) (UN, 2019b)

The 17SDGs (Figure 2.) are a globally accepted set of goals with the aim of making this planet a better place. On this shared planet, inhabitants of it are facing different challenges, e.g., social, environmental, natural disasters, deprivation from basic human needs, wars, political and economic crisis, and gender inequality, lack of justice and wellbeing of the people at both local and global level. If these 17 SDGs are achieved this world will become a better place by 2030. These global goals are for everyone in 193 signing up countries with the determination to work for achieving them in 2015. People from every field is responsible to strive for achieving them. It is also the responsibility of English language teachers to contribute their efforts for achieving 17 SDGs.

Theoretical model

Content analysis method has been utilized, integrated with ecosophy as a criterion of judgment, to analyse whether the provided texts in PCTB books is eco-beneficial, eco-ambivalent or eco-destructive along with the integration of 17 SDGs. It will be analysed through these texts that to what extent ecolinguistically the books of PCTB make students to reflect upon the sustainability, realize about sustainability of natural resources and their responsibility towards it or not.

The guiding principle: ecosophy

Ecosophy is defined as the criterion for the judgment in ecolinguistic analysis for the targeted ecolinguistic property. It guides for the reorientation of the texts, contents, and discourse to

influence the people's minds, habits and behaviour for sustainable living. This is a cyclic process (Figure 3.) in which modified habits and behaviours of people in turn can also influence to generate new ecosophy to raise the consciousness about sustainability (He et al. 2021, P.54). Raising the minds of the language learners ecolinguistically make them reflect upon and realize to improve their ecological behaviors in real life.

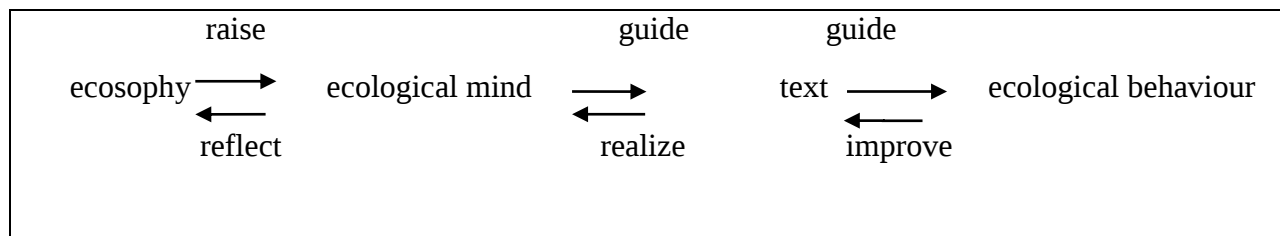


Figure 3. The cycle between ecosophy and ecological behaviour (He et al. 2021).

Judging ecolinguistic property

Analysing the text on ecological criterion identifies the relationship between ecosophy and ecolinguistic property integrated in the text. When ecolinguistic property follows ecosophy it is eco-beneficial, on the contrary when ecolinguistic property violates the ecosophy it displays the eco-destructive elements in it. The ecolinguistic property becomes neutral or eco-ambivalent when it does not follow or does not violates the ecosophy.

Ecosophy of this research

English textbooks (IX-X) contain Eco linguistic properties along with 17 sustainable development goals (17SDGs).

The below mentioned theoretical model in (Figure 4) will be utilized in the textual analysis of PCTB text books (IX-X) to identify different ecolinguistic properties transmitting the 17 SDGs.

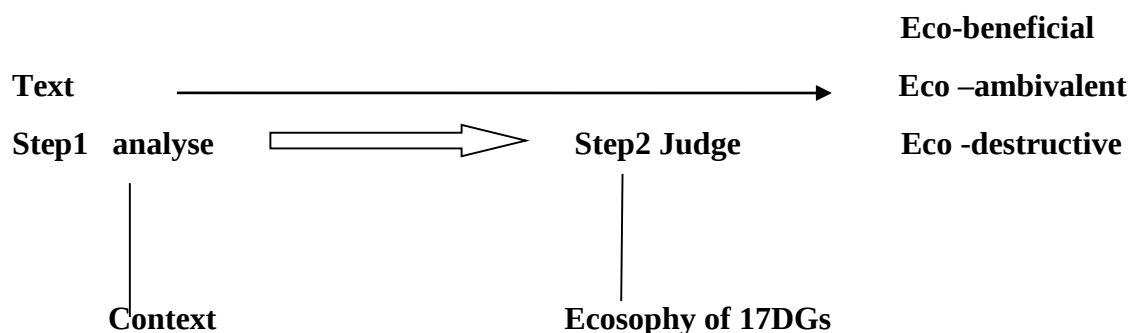


Figure 4. Judgments of ecolinguistic property (He et al. 2021).

The influence of ecolinguistic elements on the human experience will be judged through this model from Pakistani context and particularly Punjab given in the PCTB text books has been analysed through the ecosophy created by the researcher in the first step. The second step is the judgment of ecological property by comparing the contents with ecosophy if the texts approve the ecosophy then it will be eco-beneficial property otherwise eco-destructive; in case the texts do not advocate nor refute the ecosophy it will be eco-ambivalent.

Ecolinguistic analysis

The text has been analysed through content analysis as it is a flexible method and later on quantitative method counting of frequency of occurrence has been used. For this purpose, the three

phase model of content analysis presented by Kibiswa, N. K. (2019) has been utilized. Here for qualitative analysis sample text the Unit:3 ‘Three days to Live’ by Helen Keller has been presented from text book 9.

Sample Text

1. Sometimes, I have thought that it would be an excellent rule to live each day as if we die tomorrow.

Such an attitude would emphasize sharply the values of life. We should live each day with gentleness, vigour, and a keenness of appreciation which is often lost when time stretches before us in the constant panorama of more days and months and years to come. There are those, of course, who would adopt the epicurean motto of “eat, drink, and be merry” but most people would be chastened by the certainty of impending death.

Table 1. Coding and content analysis

Judging the Eco linguistic Property	17SDGs	5Pillars	3Dimensions
Eco- beneficial	SDG12	Prosperity	Social, Economic

This passage is the narration of thoughts and ideas that appear in the mind of author Hellen Keller. She feels that the idea “if we die tomorrow” gets imprinted on the minds it would modify the values of life from materialistic to sustainable approach towards things SDG12: Sustainable consumption and production **Table 1**. The author presents the vision of future when people will have this ideology to “eat, drink, and be marry” means they will not be any more interested in collecting things and accumulation of wealth because the idea of impending death. This ideology according to the Hellen Keller can purify them to enhance their chastity to the level they repent on their wrong doing by thinking they will die tomorrow or maybe they would be inclined for the deeds before their impending death. Islamic point of view is also the same that a man should lead the life like a traveler on the earth likely to leave the place for the next destination. Every human being will leave everything here and will be transferred to eternal world empty handed. So the underlying idea is that we must skip the ideologies of more is better than less, big is better than small new is better than old. Ideas of capitalism of wealth and materialistic approaches are useless for the next world. This passage is eco- beneficial as it is approving the ecosophy of this research. This passage leads its reader to lead a sustainable and responsible life. It rejects hedonistic approach “eat, drink and be marry” and emphasizes moderate and responsible living. The text educates us mainly in social dimension and moderately in economic dimension of sustainability. The message of this passage is responsible consumption, mindful living, self-restraint behavior rather than excessive consumption and it makes the text positively aligned with sustainability principles.

2. In stories, the doomed hero is usually saved at the last minute by some stroke of fortune, but almost always his sense of values is changed. He becomes more appreciative of the meaning of life and its permanent spiritual values. It has often been noted that those who live, or have lived, in the shadow of death bring a mellow sweetness to everything they do.

Table 2. Coding and content analysis

Judging the ecolinguistic Property	17SDGs	5Pillars	3Dimensions
Eco- beneficial	SDG4,16	People, Prosperity	Social, Economic

This passage gives the idea that one must keep in one's mind that death is impending. This realization will make one conscious about his doings. Remembering the idea of death raises a man spiritually, it changes the meaning of life for man. The idea of death makes a man to seek the purpose of life. It is true that whoever sees the death closely; meaning for life gets changed for him on the earth. That person becomes more humbled and becomes the cause of bringing the sweetness in everything. Spiritualism educates us to live for others and do not lead materialistic life for luxuries for self (SDG: 4 Quality education), avoid moral evils and adopt selflessness to enhance the inner light of your soul it encourages deeper learning of moral values **Table 2**. This text guides the readers in social and economic dimension. Today's man work for worldly gains and economic progress. While true achievements are at moral and spiritual level with compassionate behavior in the face of reality. Teachings of spiritual nourishments educate its learners to shun of the luxuries of life for the welfare of others. So the man should not forget that he is destined to be transferred to eternal life his focus should be moral transformation. This world is just a preparation for the next stage. SDG:3 wellbeing is relevant here for the spiritual, psychological health and emotional wellbeing of the person in social behavior.SDG:16 is also relevant here as it promotes compassionate peaceful and value based human conduct. The message of this passage is to support sustainable human living rather than excessive consumption that clearly indicates eco- beneficial property of the text for the sustainability of planet and the people.

3. Perhaps I can best illustrate by imagining what I should most like to see if I were given the use of my eyes, say for just three days.

Table 3. Coding and content analysis

Judging the Eco linguistic Property	17SDGs	5Pillars	3Dimensions
Eco- ambivalent	SDG 3,4	People	Social

The dimension of this passage is social **Table 3** as the author sets the example of herself to draw the attention of the reader for observing ,learning and understanding the world and its natural beauty SDG4: Quality education. Its focus is on well being and appriciation of life experiences. As Hellen Keler was blind so she decides to imagine if she were given eyes for three days what she would like to see. This passage highlights appreciation of sight, valuing experiences, and awareness of human abilities that are often taken for granted. So here relates the SDG3: good health and wellbeing with healthy human senses and abilities. This passage promotes mindfulness, responsible engagement with life, gratitude and appreciation of human capabilities and no ecological concern is present here.

4. On the first day, I should want most to see the people whose kindness, gentleness and companionship have made my life worth living.

Table 4. Coding and content analysis

Judging the Eco linguistic Property	17SDGs	5Pillars	3Dimensions
Eco- beneficial	SDG 3,16	People	Social

The passage in its social dimension focuses on social support,compassion ,kindness in human relationships.The appreciation of others and positive relationships contribute to well being and the quality of life which is directly related to SDG3: good health and well being **Table 4** .The author says if she has given the eyes for three days only; on the first day she will see people who made her worth living with kindness and gentleness.The idea is to see the unnoticed support and kindness which is not valued. Here SDG16 is relevant as peaceful coexistence, empathy and

strong social bonds bring justice and strong institution in the society. All properties of good interpersonal relationships of people have been taught to the readers of this passage that encourages positive human relationships but no message is present regarding the sustainability of environmental sustainability of the planet so the ecolinguistic judgement of this text is eco ambivalent.

5. The next day - the second day of sight - I should arise with the dawn and see the thrilling miracle by which night is transformed into day. I should behold with awe the magnificent panorama of life with which the sun awakens the sleeping earth.

Table 5. Coding and content analysis

Judging the ecolinguistic Property	17SDGs	5Pillars	3Dimensions
Eco- beneficial	SDG4,13,15	Planet	Environmental

The focus of this passage is environmental dimension it appreciates the beauty of Earth's living environment, natural cycles of day and night the sunrise, that relates to SDG13: climate action **Table 5** by emphasizing awareness of nature. The author says that she would like to rise in the morning to see the miraculous transformation from the darkness of night into the sun rising. The beginning of the second day is a symbolic wish of the author, a sun may arise which way that may remove all the darkness of evils. This passage celebrates the life on land SDG: 15 and living world awakened by the sun. This passage teaches (SDG4) its readers to observe the natural beauty around to understand and celebrate it. The message of this passage is supporting the natural processes, respect and appreciation of natural environment that is why this is an eco-beneficial property of the text.

6. This day I should devote to a hasty glimpse of the world; past and present. I should want to see the pageant of man's progress, the kaleidoscopic of the ages. How can so much be compressed into one day? Through the museums, of course.

Table 6. Coding and content analysis

Judging the Eco linguistic Property	17SDGs	5Pillars	3Dimensions
Eco- ambivalent	SDG 4	People	Social

Helen Keller decides that second day activity will be spent to learn the history of the world through different lenses that how man has made the progress it relates to SD4: Quality education **Table 6**. She says it is only possible through a visit in the museum. This passage gives the symbolic meaning that one should never forget the past. As history gives the realization that how man has made the progress and what has been achieved up till now. Helen Keller wishes to understand human history, culture, civilization, and progress through museums. This passage is eco-ambivalent in its nature as the main focus is civilization and its progress; no environmental values directly or indirectly have been discussed. All the points of cultural awareness, education and historical understanding are in social dimension.

7. The following morning I should greet the dawn, anxious to discover, new delights, for I am sure that, for those who have eyes which really see, the dawn of each day must be perfectly new revelation of beauty. This according to the terms of my miracle is to be my third and last day of sight.

Table 7. Coding and content analysis

Judging the Eco linguistic Property	17SDGs	5Pillars	3Dimensions
Eco- beneficial	SDG 3,15	Planet	Environment

On the third day the author with eyesight, would like to see the new beauties of early morning. This passage suggests that it is needed to renew the the ways of life .Usually everyday is same like the previous day but it is always needed to add some the change for a sustainable life on earth that is why ‘re’ terms are getting popular now a days e.g. renew, reforestation, reuse, recycle, reverse, replanish, reuse, recycle. This passage also makes its readers to rethink the living styles to turn into sustainable habits formation and resilient infrastructure. The beauty of nature is renewed every day and should be appreciated. The author is appreciating the beauty of life on land SDG: 15 **Table 7** and its ecosystems. The author is teaching the readers that natural sights should be viewed everyday as if they are new for eyes she teaches the readers how to make connection with nature. The strong bond with nature is good for mental, psychological and emotional health SDG3: Good health and wellbeing. This passage is eco-beneficial property as it appreciates the natural cycles, promotes ecological awareness, encourages respect and bond with nature. This passage clearly falls into environmental dimension.

8. I shall have no time to waste in regret for longing; there is so much to see. The first day I devoted to my friends, animate and inanimate. The second revealed to me the history of man and nature. Today I shall spend in the workaday world of the present, amid the haunts of men going about the business of life. And where can one find so many activities and conditions of men as in New York? So the city becomes my destination.

Table 8. Coding and content analysis

Judging the Eco linguistic Property	17SDGs	5Pillars	3Dimensions
Eco- ambivalent	SDG 8,11	People	Social, Economic

In this passage the author reviews past two days; first day was devoted for family and friends. Second day was consumed in finding the history of man and nature. Third day she decides to observe the business of life and wants to spend as a working day SDG8 (decent work and economic growth) **Table 8**. The author wants to go the New York City as a place of destination. The text of this passage suggests its readers to identify the place of your destination where do you want to work for the betterment of the present. It may be your street, your school, home or sea beach village etc. One must lead a life with the purpose to work on before leaving this planet as a better place for the upcoming generations. Helen Keller values the present and wishes to observe human activities in New York. As the focus of the author is urban life and human interactions SDG 11: Sustainable Cities and Communities and no explicit ecological concern has been exhibited so it is an eco-ambivalent passage. The dimensions of this passage are ‘social’ due to community life interactions and ‘economic’ as direct concerns of work and productivity have been mentioned.

9. Now and then I have tested my seeing friends to discover what they see. Recently, I was visited by a very good friend who had just returned from a long walk in the woods, I asked her what she had observed. "Nothing in particular," she replied. I might have been incredulous had I not been accustomed to such responses, for long ago I became convinced that the seeing see little.

Table 9. Coding and content analysis

Judging the Eco linguistic Property	17SDGs	5Pillars	3Dimensions
Eco- beneficial	SDG 3,4	People , Planet	Social, Environment

The theme of this passage is people often overlook the beauty and richness of their surroundings. Here the author relates that recently she inquired her friend what she had observed during visit in the forest. She replied that ‘Nothing particular’. This made the author convinced that short sightedness is common among people. The visit in a forest may provide many observations but the answer of her friend shows the carelessness about nature. The idea is making the reader more mindful (SDG4: Quality education) about the keen observation of natural beauty it enhances the observation skills and awareness. Such mindfulness creates connection and appreciation of the nature which enhances the good health and wellbeing SDG3 **Table 9** of the human being. This passage is eco-beneficial as it criticizes the disconnection with nature and encourages the ecological mindfulness. This passage moves in the social dimension due to providing awareness, improving the perception. One more dimension of this passage is environmental as it encourages to notice the nature and be good observer to establish the connection with nature.

10. How was it possible, I asked myself, to walk for an hour in the woods and see nothing worthy of note? I, who cannot see, find hundreds of things to interest me through mere touch. I feel the delicate symmetry of a leaf. I pass my hands lovingly on the smooth skin of a silver birch, or the rough shaggy bark of a pine. In spring, I touch the branches of trees hopefully in search of a bud, the first sign of awakening Nature after her winter's sleep. I feel the delightful, velvety texture of a flower, and discover its remarkable convolutions; and something of the miracle of Nature is revealed to me. Occasionally, if I am fortunate, I place my hand gently on a small tree and feel the happy quiver of a bird in full song. I am delighted to have the cool waters of a brook rush through my open fingers. To me, a lush carpet of pine needles or spongy grass is more welcome than the most luxurious Persian rug. To me the pageant of seasons is a thrilling and unending drama, the action of which streams through my fingertips.

Table 10. Coding and content analysis

Judging the Eco linguistic Property	17SDGs	5Pillars	3Dimensions
Eco- beneficial	SDG 3,13,15	Planet	Environment

In this passage the author expresses her feelings about nature linking the text with environmental dimension of the planet. Despite of her blindness she is deeply attached with natural elements through tactile sense. She is beautifully describing her feelings to touch the “symmetry of leaves”, “smoothness of silver birch”, “shaggy bark of silver pine”, "happy quiver of a bird", "cool waters of a brook", "pageant of seasons" all these expressions: celebrate biodiversity, encourage environmental stewardship, promote emotional bonds with nature and life on land (SDG15) **Table 10**. This text is a source of ecological awareness and establishes the connection with nature to be caring about it (SDG13 climate action). The way Hellen is teaching to maintain the bond with nature brings emotional and psychological wellbeing (SDG3). This is an eco-beneficial property of the text as it discusses seasons, streams, flowers, birds and forests.

11. If I were the president of a university, I would set up a course called "How to Use Your Eyes". The professor would try to show his pupils how they could add joy to their lives by really seeing what passes unnoticed before them. He would try to awaken their dormant and sluggish faculties.

Table 11. Coding and content analysis

Judging the Eco linguistic Property	17SDGs	5Pillars	3Dimensions
Eco-beneficial	SDG 3,4	People	Social, Environment

This passage is about awakening the hidden faculties among students. It means that many individuals are bestowed with numerous abilities and competencies but they are unaware of them. So their competencies go in waste. The author is of view that there should a subject included in university course in which students should be given a chance to explore their potentials to make them utilise their best. Education should teach people to observe and appreciate the world around them. SDG4 quality education **Table 11** is relevant here as the author is presenting a good suggestion to explore hidden talents. SDG3 good health and wellbeing relates here when awareness increases it raises life satisfaction. The dimensions of sustainability are social and environmental as personal development through education is the focus of this passage. The message of this passage is eco- beneficial as it challenges the disconnection with the beauties of nature, promotes ecological literacy and encourages people to notice and value nature like stewards.

Results and Discussions

In this section all the quantitative results of frequencies of occurrence are presented from book 9 and book 10. These frequencies Table.11 are counted and compared to analyse the results and generate suggestions.

Table 11: Occurrence Frequency of Ecolinguistic Property in Paragraphs

Total Eco Beneficial Property	Book 9	Book10	Total Paragraphs
Total Eco Beneficial Property	74	40	114
Total Eco-Destructive Property	03	01	04
Total Eco-Ambivalent Property	05	25	29

These above mentioned results in **Table 11** show that the frequency of occurrence of eco-beneficial property in the textual paragraphs is 114 as these are text books taught in school at grade 9 and 10. So such passages are approving the ecosophy of this research. The second result is about eco- destructive property awareness provided property that 4 to the lowest level. So the eco-destructive awareness provided by these books is likely to be nothing. Eco- destructive awareness is the needed to reverse the harms made by man on the earth aiming at progressing and producing more without considering its effects on the environment. Eco-ambivalent 24 passages are more number in books 10 in comparison with 5 passages found in book 9 which is the normal frequency of occurrence.

Table 12: Frequency of Occurrence of UN's 17 SDGs in Book 9&10

17 SDGs	Book 9	Book 10	Total
1.No Poverty	7	3	10
2.Zero Hunger:	6	3	9
3. Good Health and Well-being	26	4	30
4. Quality Education	21	8	29
5. Gender Equality	6	0	6
6. Clean Water and Sanitation	4	3	7
7. Affordable and Clean Energy	6	2	8

8. Decent Work and Economic Growth	9	12	21
9. Industry, Innovation and Infrastructure	6	0	6
10. Reduced Inequalities	8	3	11
11. Sustainable Cities and Communities	6	0	6
12. Responsible Consumption and Production	8	2	10
13. Climate Action	9	7	16
14. Life below Water	3	1	4
15. Life on Land	14	7	21
16. Peace and Justice, Strong Institutions	17	18	35
17. Partnership for the Goals:	8	1	9

Statistically analyzing, Table 12 presents that book 10 is totally devoid of SDG5: Gender equality, SDG9: Industry, Innovation and Infrastructure and SDG11: Sustainable Cities and Communities. The occurrence frequency of SDG: 7 Affordable and Clean Energy, SDG 12 Responsible Consumption and Production, SDG14: Life below Water and SDG: 17 Partnership for the Goals is unsatisfactory. The frequency of occurrence of SDG1: No Poverty, SDG2: Zero Hunger, SDG 3: Good Health and Well-being, SDG6: Clean Water and Sanitation, SDG10: Reduced Inequalities exhibit slightly satisfactory results. The satisfactory results of SDG 4 Quality Education, SDG12: Responsible Consumption and Production, SDG13: Climate Action, SDG15: Life on Land, are also explicit. While SDG16: Peace, justice and strong institution has been the top focus of this book.

The book 9 shows the SDG3: Good health and wellbeing, SDG4: Quality Education, SDG16: Peace, justice and strong institution have been focused. While SDG6: Clean water and sanitation, SDG 14: Life below water have been given least attention. While rest of frequencies are slightly higher in frequency of occurrence in comparison with the frequencies of Book 9.

Table 13: Frequency of Occurrence 3Dimensions of UN's 17 SDGs in the paragraphs

3Dimensions (3Ds)	Book 9	Book10	Total of Book 9+10
Social Dimension	47	33	80
Economic Dimension	17	16	33
Environmental Dimension	21	13	34

The 3Ds results shown in **Table 13** are aligned with the frequencies of occurrence of 17 SDGs. Here again the book 9 shows higher frequencies than book 9. The frequencies in total are higher in social dimension while the economic and environmental dimensions have been least prioritized.

Table 14: Frequency of Occurrence 5Pillars of UN's 17 SDGs in Paragraphs

Five Pillars (5Ps)	Book 9	Book10	Total of Book9+10
People	48	33	81
Planet	20	16	36
Prosperity	08	07	15
Peace	01	13	14
Partnership	08	01	09

Table 14 illustrate the lens of five pillars of sustainability the results are aligned with the results of table 3 and 4. The approach of anthropocentrism or human supremacy becomes more visible here with the highest frequency in the pillar of people with the frequency of 81. The second focal pillar

is planet with the frequency of 36. Third place has been achieved by the pillar of prosperity with the frequency of 15. Partnership has been focused 14 times in both books. Partnership pillar occurred 9 nine in both books.

Suggestions

This ecosophy of this study is based on “diversity and harmony, interaction and co-existence” that to what extent English text books are harmonious and diverse or interact and co-exist with 17 SDGs ecolinguistically. The researcher seeks that the text in these textbooks seed or not the eco-consciousness in the minds of the students for the sustainability of the Earth and it’s all living beings, resources and wellbeing of the all living species on the earth. For this purpose, ecolinguistic analysis has been made in all the paragraphs of all units of the books. 17 SDGs under the eco-linguistic properties of eco- beneficial, eco-destructive and eco-ambivalent texts have been identified with the coding of themes of 17 SDGs in each paragraph and the frequency of occurrence has been recorded. The results show that the text of these books should add the content about gender equality to avoid discrimination, exploitation and violence. The concepts about resilient infrastructure inclusive and small scale industries should be highlighted for domestic technology development. The readers of these books are in the age range between 15 to 17 years they should be trained on these grounds instead of old and conventional stories. The sustainable habits and behaviours are much needed and it can start only with raising the consciousness about it among the people. In the context of Pakistan where energy is getting expensive and load shedding is scheduled in every season, renewable and affordable energy consciousness can support the energy sector. This area should be addressed in the textbooks. In our society the trends of more is better than less, bigger is better than small, new is better than old has been promoted through brand advertising for production industries. Students should be taught practically to renew and reuse the things and what is responsible purchasing. The inclusion contents about life below water, marine pollution, ocean acidification, destructive fishing practices, conservation of coastal areas and biodiversity may help to enhance the understanding for the importance of life below water. In the context of Punjab province which is the land of five rivers cognitive consciousness should be raised about water conservation for future generations and water pollution caused by irresponsible industries. The stories should be added to inspire the students how they can eliminate the poverty not only in their families but also in the village or the area they live in. The results show that eradicating the vulnerability and zero hunger are the themes of book 9. It is suggested that frequency of occurrence should be increased by giving the ideas and practical activities about the domestication of animals, equitable sharing, and agricultural productivity. The theme of health and wellbeing and quality education has been amplified in good manner. The both books show the combine results 7 times for the SDG 6 clean water and sanitation which is insufficient in post-COVID era. It is needed to add at least a single unit revolving around sanitation, hygiene, defecation, untreated waste water, scarcity of water desalination of sea water. SDG 7 should be addressed in the books strategically about solar energy, wind energy and energy saving habits. Renewable energy and its benefits should be promoted. For the improvement in SDG8 in the time of financial crisis in Pakistan the importance of skills and technical education should be highlighted in the minds of the students; the profession of domestic industrialization should be appreciated by showing them the various advantages and options. It should be integrated with innovative sustainable infrastructure of the industries. And equitable sharing of natural resources the right of every one and all equally deserve for it. An ideal picture of eco- city should be framed where all amenities life is aligned with sustainability and living there is eco- beneficial where people practice zero waste, bicycles for transportations, buy local products, share things with vulnerable, depend upon skill working for earning, reuse food garbage as compost, reuse water for conservation, use solar energy devices, prefer to work in daylight, plantation and kitchen

gardening are their hobbies, use less plastic. Additionally, climate action ideas in both books make the SDG 16 high alert on the problem of smog. The education department notify the vacations keeping in view of air quality index of Lahore. This is not the justified solution to compromise on educational process for the sake of breathing. The SDG15: of Life on land presents the frequency of 21 in both books but the concepts are more implicit. Unfortunately, major cities of Punjab province are no more the place for animals and greenery; the students should be taught about eco-centric attitude instead of anthropocentric tendencies specially the urban residents of Punjab province. Peace, justice and strong institution SDG: 16 has been well addressed with the frequency of 35 times. SDG17: Partnership of Goals can be added through videos or webinars within the classrooms from different countries. This can be great motivation for students to resonate with the students of other countries who are engaged in sustainable habits and practices.

Conclusions

The results of 3Ds and 5Ps are presenting the aligned results with the table of 17 SDGs. The social dimension has been focused on, while less than half of the frequency of themes has been used in economic and environmental dimension in the English text books. Same is the case with 5Ps the highest frequency has been used for the pillars of people and peace while pillars of planet, prosperity and partnership in the texts have been used with lesser frequency in these books. The results of this investigation become guide for the educators, policy makers, curriculum and book designers to bring balance in all the dimensions and pillars of 17 SDGs. The major problems of pollution and inflation which are affecting the day to day life of Punjab should be addressed in the books. To solve these issues the involvement of layman is necessary by preparing them to take small steps e.g. zero-waste living, fuel free transportation, responsible production, reusing the water, equitable sharing of resources, kitchen gardening and many more. But major issue is people are unaware or in denial about the concept of sustainability goals. The circulation of the awareness is possible when 17 SDGs are practically added in the books and teachers training should be arranged so that ELT teachers may play their active role. At University level ecolinguistic should be made the compulsory subject in all disciplines instead of teaching the conventional Functional English and Communication Skills course. The efforts of cognitive restructuring linguistic patterns can raise ecological minds through texts taught in schools of Punjab. Further the text produced under the ecosophy will make the language learners reflect about their habits and attitude this cyclic process will emerge for the realization about responsibilities and guidance about improvements in habits formation and behaviour. These eco-friendly habitual transformations and behavioural modifications of lay man will be the real contribution for sustainable future. The active participation initiates when language learners start using the terminology in their daily life conversations and it leads for habit formation processing daily life activities. This research also suggests to bridge the gap between involvement of the layman and scientific laborious researches by suggesting new stories and vocabulary by making them the part of language skills of EFL learners. Gradually this cognitive processing will prepare an active generation of eco- sustainers to combat with the issues of wellbeing of the all living species on the earth, climate emergency, equitable sharing and conservation of natural resources for intergenerational equity.

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Conflict of interest:

The authors declare no conflict of interest

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