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Abstract

Integrating eco-centric literature in English as a foreign language (EFL) education could be considered beneficial as it has the potential to develop students' language proficiency while exposing them to ecocentric perspectives which challenge mainstream discourses promoted by Education for Sustainable Development (ESD). This qualitative case study has, therefore, examined students' perceptions of local surroundings and attitudes towards environmental responsibility, and analysed whether their pre-reflections differ from their post-reflections and in what way. The research drew on data collected from sixteen student logbooks in the course English 6, and the study was conducted during a three-week period in an upper secondary school in south-west Sweden. Results showed that students' awareness about their surroundings, to some extent, was heightened after the project, and that students' attitudes towards individual and collective environmental responsibility also changed to a certain degree. Nevertheless, multiple responses also reflected more passive attitudes, and the literature used for the study seemed to have little immediate effect on these students. Still, the findings underscore the potential of integrating ecocentric perspectives and illustrate the importance of implementing them to a larger degree in ESD.

Table of Contents

1. Introduction.....	1
2. Aim and Research Questions.....	2
3. Definition of Terms.....	3
3.1 Nature and Environment.....	3
3.2 ESD and Ecocentrism.....	3
3.3 <i>Braiding Sweetgrass for Young Adults</i> and TEK.....	4
4. Previous Research.....	6
5. Method.....	9
5.1 Participants and Data Collection.....	9
5.2 Teaching Materials and Lesson Design.....	10
5.3 Data Analysis.....	12
5.4 Ethical Considerations.....	12
6. Results.....	13
6.1 Perceptions of Natural Surroundings.....	13
6.2 Attitudes Towards Individual Responsibility.....	17
6.3 Attitudes Towards Collective Responsibility.....	19
6.4 Students' Opinions About the Project.....	21
7. Discussion.....	22
8. Conclusions.....	26
References.....	28
Appendix 1.....	32

1. Introduction

One of the main objectives for upper secondary school in Sweden is to help each student discover their unique individuality and foster a lust for lifelong learning. Additionally, the curriculum for upper secondary school (GY25) conveys that the education should aim to cultivate “a sense of justice, generosity, tolerance and responsibility” within each individual (Skolverket, 2023). To achieve this, the Swedish National Agency for Education declares that students are expected to participate in education about contemporary societal challenges such as gender equality, ethics and environmental issues. The purpose of this paper relates to the environmental domain which, according to GY25, mainly has two goals. Firstly, to provide students with knowledge of how to prevent environmental damage and secondly, to help students develop a personal relationship to these global issues (Skolverket, 2023).

Internationally, this environmental perspective is reflected in the concept of *Education for Sustainable Development* (ESD) and accounts for three equally important dimensions of sustainable development: the environmental, social and economic (Berglund & Gericke, 2015, p. 1116). When teaching ESD, a holistic approach including all dimensions of the concept is often emphasised as important, but there are also studies which oppose this method. Kopnina (2012) for instance, emphasises that ESD lacks eco-centric perspectives and fails to acknowledge humans’ responsibility towards the environment and other species. Hence, this study focuses exclusively on the environmental dimension of ESD and will provide one concrete suggestion on how it may be incorporated in a Swedish educational context.

Considering that the environmental perspective is not specifically mentioned in the English syllabi, English as a foreign language (EFL) teachers need to find their own ways of integrating it with the learning objectives. When looking at the syllabi for English 5, 6 and 7, it becomes evident that literary narratives related to environmental themes may be a useful entryway since reading plays a substantial part in all courses (Engelska, 2023). As Bloemert et al. (2019, p. 372) assure, literature has long been considered a useful medium in foreign language education and could, therefore, have a two-fold function - both as an informative source and as a tool that enhances students’ language proficiency. Since eco-centric English literature not only exposes students to new information, which may challenge their existing worldviews, but also provides new vocabulary that enables students to express their attitudes and ideas, it covers multiple teaching objectives. In addition, when recognising that “language is our gift and our responsibility” (Kimmerer, 2013, p. 347), teachers may also

move beyond the syllabi and realise that the knowledge given to students through eco-centric literature can itself be seen as a gift.

By conducting a qualitative case study based on concepts from the abridged, young adult edition of the non-fiction work *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teaching of Plants* (Kimmerer, 2013), this study will investigate how EFL teachers can create portals between their classroom and surrounding environments in order to heighten students' ecological awareness. By analysing students' texts using qualitative content analysis, the study will also illustrate how students reason about their relationship to nature, and evaluate whether eco-centric literature impacts these attitudes. Lastly, due to the lack of ESD in the English syllabi, the study also attempts to bridge the gap between the GY25 curriculum and the English classroom through the use of literature.

The organisation of this paper is as follows. The forthcoming chapter will account for the research questions guiding the aim of this study. Thereafter, a discussion of central terms and a review of the previous research field will be provided in chapter 3 and 4. Chapter 5 deals with the methodological choices and considerations used for the study before stating the results in chapter 6. In chapter 7, the results will be discussed in relation to previous research and, lastly, the final chapter aims to consider the pedagogical implications relevant to this paper.

2. Aim and Research Questions

The aim of the study is to examine whether students' ecological awareness can be heightened by incorporating eco-centric literature in the EFL classroom. More specifically, it will evaluate the literary impact of text excerpts from *Braiding Sweetgrass for Young Adults: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants* (Kimmerer & Smith, 2022). These objectives resulted in the following research questions:

1. How do students express their perception of natural surroundings?
2. How do students' attitudes towards environmental responsibility reflect their views of the human-nature relationship?
3. To what extent do the students change their perceptions and attitudes after reading eco-centric literature?

3. Definition of Terms

Before reviewing previous research of the field, it is relevant to discuss central terms and concepts for this paper. Since the purpose of the study is to analyse how students express their ecological awareness, the chapter will firstly define the terms *nature* and *environment*. Thereafter, the chapter turns to the educational sphere, examining ESD and the role of eco-centric literature within it. Lastly, it concludes with a brief overview of the book used for the study, and a discussion about traditional ecological knowledge (TEK).

3.1 Nature and Environment

Nature and environment are two multifaceted terms which are regarded differently depending on which scientific, philosophical and cultural lenses one uses. For the sake of simplicity, this paper will rely on the definitions provided by Sandell et al. (2005). In their book *Education for Sustainable Development: Nature, School and Democracy*, the authors describe *environment* as everything around us, including nature and culture, whereas *nature* only involves those parts and processes of the environment which have not been intentionally controlled or managed by humans (Sandell et al., 2005, p. 33). However, the distinction between what is controlled and not is somewhat complex when recognizing that we, as humans, and our interactions originate from nature. Therefore, *nature* manifests itself in both natural catastrophes and untouched landscapes, but also in humanly controlled environments such as a school if considering the laws of thermodynamics allowing fresh air to enter the classroom, or the moss growing on the school staircase. Consequently, when comparing an untouched landscape with a school, *nature* is present in both but with the difference that an untouched landscape carries a higher level of nature. In that regard, the definitions recognize the intertwinement between nature and culture. Finally, the authors also point out how the categorisation of society and nature, as two separate entities, reflects our modern day relationship to nature (Sandell et al., 2005, p. 32). In other words, it represents a worldview in which humans are detached from nature, and where nature is controlled and commodified instead of being recognized as something that we humans are a part of.

3.2 ESD and Ecocentrism

The objectives of the environmental perspective stated in the GY25 curriculum are similar to those of ESD as the goal of ESD is to teach “individuals to make informed decisions and take

action, both individually and collectively, to change society and protect the planet” (UNESCO, 2024). With the pressing climate crisis, the concept nowadays has a prominent role globally and includes not only an environmental dimension, but also social and economic dimensions (Berglund & Gericke, 2015, p. 1116). Regarding how to teach ESD, the University of Plymouth (n.d) maintains that it should entail participative, collaborative, creative learning which gives students the ability not only to think critically, but also to act accordingly.

One way of instilling a learning environment, which fosters awareness, responsibility and active participation, could be through the use of eco-centric literature. Since this paper will primarily focus on the environmental dimension of ESD, it is appropriate to discuss what is meant by eco-centric literature and ecocentrism. In short, Washington et al. (2017, p. 35) define ecocentrism as “the broadest term for worldviews that recognize intrinsic value in all lifeforms and ecosystems themselves, including their abiotic components”. This means that ecocentrism moves away from the widely spread ideology of anthropocentrism and, instead, acknowledges humanity’s responsibility towards nature, as well as recognises non-human interests. Hence, the authors argue that the eco-centric perspective is a fundamental part of solving the climate crisis and claim its relevance from ecological, evolutionary, ethical and spiritual perspectives (Washington et al., 2017, p. 39). In addition, the eco-centric perspective is also central in relation to the ecocritical research field which analyses and emphasises the interconnectedness between literature and the environment. Thus, it considers literature to be a powerful medium that helps shape public opinion, raise ecological awareness and foster empathy towards nature (Rishma & Gill, 2024, pp. 563-566). That being said, eco-centric literature can be described as a genre that shifts the focus away from anthropocentric perspectives and instead accentuates the environment and the relationship between humanity and nature.

3.3 *Braiding Sweetgrass for Young Adults* and TEK

The book used for this study, *Braiding Sweetgrass for Young Adults: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants* (Kimmerer & Smith, 2022), is an example of eco-centric literature. As the subtitle suggests, the content draws on personal stories, ecological and botanical science, as well as teachings from North American indigenous cultures. Together they communicate healing narratives and promote educational and emotional reflections about sustainability and the human-nature relationship. Four themes

that are central and recurring within the book are *kinship*, *responsibility*, *reciprocity* and *gratitude* (Wood-Krueger, 2023). The concept of kinship is essential to indigenous communities and underscores the importance of nurturing our relationships - both to humans and to the rest of the Creation. When recognising that we are related to everything around us, it becomes, as the Anishinaabe peoples phrase it, easier “to be a good relative” and show the same respect to all beings as one would to their own family (Wood-Krueger, 2023, p. 6). In that way, stories about kinship may help readers see beyond themselves and realise that we are part of nature, not separated from it. Thus, it ties into themes of responsibility as relatedness encourages readers to take responsibility and hold themselves accountable for their actions. This theme promotes reflections about what duties we have in this world, and what we can do in order to live a good life for ourselves and for others. Furthermore, reciprocity illustrates how our actions and interactions in the world circulate; what is given to us, must be reciprocated with a gift if we are to keep the circles alive. This theme, therefore, highlights the need for nurturing our relationship to nature and makes the reader consider the consequences of their actions and interactions. It also aims to make readers become aware of all that is given to (or taken by) us to sustain our lifestyles, making us more mindful of what we need to give back. This awareness relates to the last theme, gratitude, since an active awareness can help us feel grateful for what already exists. When readers realise this, it is easier to recognise the abundance of what we have, rather than the scarcity of what we do not have, which is what the market economy wants us to feel. In that manner, gratitude is medicine for the land and the people alike, and may function as an antidote to the western consumption culture.

Some of the narratives in the book which carry the themes are directly related to North American indigenous cultures. These teachings, referred to as TEK, are founded upon thousands of years of human experience, and offer deep wisdom of how to understand and practice reciprocal and mutual relationships with the earth (Kimmerer, 2012, p. 317). In recent decades, TEK has gained relevance amongst scientists and policymakers, and has begun to be recognised as a complementary source of knowledge to scientific knowledge. Kimmerer (2012), therefore, argues that it holds a legitimate place within environmental science education as it “offers an alternative to the dominant materialist worldview which conceptually separates people from nature and instead focuses on understanding and managing relationships between land and people for mutual benefit” (Kimmerer, 2012, p. 317). Hence, one may argue for the relevance to include such a perspective in all school subjects dealing with ESD, not only science education.

However, teachers need to be cautious when integrating TEK in the classroom as it may give rise to cultural misunderstandings and appropriation. It is, thus, essential to acknowledge that the literary narratives used for this study serve as representations that convey a particular understanding of indigenous worldviews. As Kimmerer (2012, p. 319) clarifies, teachers should recognise that new environmental ethics cannot simply be adopted or taken from native communities, but instead needs to be respectfully explored and understood as something that arises authentically through relationships between land and people. Within this study, TEK and the narratives used from *Braiding Sweetgrass for Young Adults: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants* (Kimmerer & Smith, 2022), therefore, primarily function as point of departure - a lens that enables students to reflect upon the society they live in, and gives them the opportunity to develop an awareness of various cultural values and worldviews.

4. Previous Research

As already mentioned, ESD has an apparent role in the Swedish upper secondary school, both through the curriculum and through subjects like natural sciences (Skolverket, 2023; Naturkunskap, 2023). However, various studies show the importance of complimenting scientific perspectives with perspectives stemming from the humanities. For instance, storytelling and literary narratives are said to carry didactic potentials which can instill emotional engagement, critical reflections, and a will to act (Löwe & Nilsson Skåve, 2020; Uhrqvist et al., 2021). Guanio-Uluru (2019, p. 6) similarly maintains that literature may help raise environmental awareness since these narratives are constructed environments designed to foster certain behaviours and attitudes.

Since the English subject is supposed to deal with societal, cultural, political and historical conditions in English speaking countries (Engelska, 2023), the subject can initiate wider discussions about environmental issues which include societal and global perspectives that may otherwise be forgotten in the science education. A study conducted by Andersson Hval and Aijmer Rydsjö (2021) also showed the willingness amongst prospective teachers to include ESD within the English subject and used climate fiction as the primary teaching material. Despite these positive attitudes, Guanio-Uluru (2019) demonstrated in another study that none of the participants felt prepared by their teacher education to teach ESD. Hval and Aijmer Rydsjö (2021) also point out the pedagogical challenge of creating an optimistic learning environment that inspires students to see possibilities rather than insoluble problems.

As a large amount of eco-centric literature often display dark and dystopian narratives, teachers must make sure students are not left feeling overwhelmed or hopeless as it may result in poor coping strategies such as climate denial (Andersson Hval & Aijmer Rydsjö, 2021, p. 32).

Another issue often raised is that ESD easily becomes a moralizing and instrumental activity with the goal of indoctrinating certain values (Andersson Hval & Aijmer Rydsjö, 2021, p. 39; Uhrqvist et al. 2021, p. 156). Studies have also shown that ESD teaching materials targeted towards children, such as games and literature, tend to frame solutions to environmental issues as objective and pragmatic. As a result, these pedagogical tools carry a simplistic view of ESD which mainly focus on consumerism, technological solutions and individual responsibility - expecting individuals to make informed and “correct” choices (Ideland & Malmberg, 2014, p. 181). Similarly, in his book *Ekologi, samhälle och livsstil* [Ecology, Community and Lifestyle], Næss (1981, pp. 85-86) argues that instrumental norms, such as the ones mentioned above, do not benefit the ecological movement and that the arguments themselves need to carry intrinsic values. So, instead of teaching children that it is better to bicycle than going by car because it emits less greenhouse gases, a teacher promoting ecological values should try to emphasise underlying benefits of using a bicycle - how it enables people to be outdoors and be physically active in nature.

The consequences of solely promoting ecological solutions such as recycling, saving electricity or buying eco-certified products are, on the one hand, that it constructs ideal children and citizens “who are supposed to feel free to choose, but who in fact are limited by powerful norms of what is valuable knowledge, morally right and wrong, environmentally friendly or not” (Ideland & Malmberg, 2014, p. 177). On the other hand, Galtung (1972, as cited in Næss 1981, p. 247) also argues that it maintains the industrialised society’s “master-slave relationship” to nature, which treats nature more as a place of control and leisure rather than a space for reciprocal coexistence. To avoid these traps, Grice and Franck (2017) argue that ESD must integrate analytical and ethical dimensions which allow students to reflect and take a stance. In other words, teachers should work to develop students’ ability and will to act since action readiness bridges the gap between experience and behaviour (Grice & Franck, 2017, p. 261). Teachers could also adopt a pluralistic pedagogy where no ethics is already given or prioritised over another and where all values are treated equally - consequently counteracting predetermined and “correct” answers since students encounter multiple perspectives (Pauw et al., 2015, p. 15696).

Furthermore, the discourse about teaching ESD often emphasises the need for holistic inclusion of all three dimensions - the environmental, economic and social. This holistic approach focuses on the relations between the three and acknowledges that environmental issues are often the result of social and cultural factors (Pauw et al., 2015, p. 15696). As Uhrqvist et al. (2021, p. 150) point out, these dimensions are well known as the major pillars of ESD, and within the economical dimension, a technological dimension could also be added since it is closely related to the material production of goods and services. This three-fold discourse about ESD may, however, be problematic for various reasons. Firstly, because it carries two conflicting goals: economic growth and environmental protection of natural resources (Jabareen, 2008, p. 182). Secondly, because ESD conceptualises *environment* as resources used for economic development and thus aims to “promote economic development that takes care of social equity and ecological sustainability” (Suavé, 2005, p. 34). In other words, the concept reflects an anthropocentric worldview which primarily focuses on human interests and forgets the entangled relationship between nature and humans. Moreover, Kopnina (2012, p. 8) argues that the environmental goals within ESD are merely seen as an afterthought to other issues such as equality, and that all non-human interests thus become marginalized. This tendency is also illustrated by Washington et al. (2017, p. 38), explaining that organisations such as The United Nations and UNESCO remain anthropocentric by prioritizing human rights and ignoring the claims of nature. The pluralistic and holistic pedagogy discussed above are, therefore, unlikely to contribute to the much needed eco-centric perspectives in education and may, instead, only support what Kopnina (2012, p. 8) calls “the dominant post-industrial neo-liberal anthropocentric discourse”.

One way of counteracting such an anthropocentric view of the environment could be to adopt a more naturalistic attitude. Within this perspective, *environment* is perceived as nature and the aim of such an education is to reestablish the connection with the natural world (Suavé, 2005, p. 33). As discussed in chapter three, TEK also offers valuable teachings on how we should think and act in order to sustain all life on Earth. This knowledge may, for instance, be mediated through literature and poetry. In fact, Steinman (2022, pp. 111-112) suggests that indigenous poetry can broaden Eurocentric perspectives and provide students with a deeper understanding of peoples history and relationship to the land. It also inspires students to discover the connections between people and land, challenging the western binary thinking of nature and society as two separate entities. The literary narratives in *Braiding Sweetgrass for Young Adults: Indigenous Wisdom, Scientific Knowledge and the Teachings of*

Plants (Kimmerer & Smith 2022) can thus function as a tool to mediate TEK focusing on reciprocal relationships between land and people.

5. Method

The section below will account for the methodological choices employed during the research. Chapter 5.1 provides information about the context of the study and how the data has been collected in regard to qualitative research methods. Chapter 5.2 outlines how the project was carried out - including teaching materials, lesson design and teaching methods. Chapter 5.3 describes the analysis process. Lastly, chapter 5.4 discusses the ethical considerations undertaken during the research. A comprehensive version of the lesson plans and activities used throughout the study is provided in Appendix 1.

5.1 Participants and Data Collection

The research study subjects were thirty-one students in year two at an upper secondary school in south-west Sweden. The group consisted of nineteen boys and twelve girls enrolled in the course English 6. Given its detailed examination of this single student group in a real-life context, using one example of eco-centric literature, the study has adopted a qualitative case study design. Since case studies are well-suited for evaluating particular cases (McKay, 2006, pp. 71-72), it was an appropriate research method as it enabled an in-depth examination of the impact of eco-centric literature on student attitudes. Moreover, the research methodology was inspired by educational intervention studies and diary studies since the collected data was gathered from student logbooks and featured a pre- and post-test design. The logbooks were individual documents created on student computers during lesson one, and were used throughout the study which lasted for six lessons during a time span of three weeks. The reason for using logbook entries as the data collection instrument was because they provide valuable insights into students' attitudes and perceptions (Rose, 2020, p. 349). Similarly, logbooks also promote continuous reflection and functioned as a useful tool to gather students' reflections before, during and after the project.

Since the logbooks were used during the entire project, they contain various entries. However, for the purpose of this paper, only two entries are relevant to analyse. These entries include students' responses to pre-reflection and post-reflection questions. The pre-reflection

entries were collected during the first lesson before the students started working with the text excerpts, and the post-reflections were collected during the last lesson as the final activity in the project. All questions used for these entries had an open-ended character (see Appendix 1), making the data collection relatively unstructured. The benefit of using such questions is that they do not limit the participants' responses in the same manner as close-ended questions do (McKay, 2006, p. 10). As for the role of me as a researcher, the study exerted some intervention since the class activities were structured and planned according to the research purpose. However, during the lessons, my primary relationship to the students was as a teacher and not as a researcher.

5.2 Teaching Materials and Lesson Design

The teaching material primarily involved text excerpts from *Braiding Sweetgrass for Young Adults: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants* (Kimmerer & Smith 2022). This is an abridged version of the original non-fictional book *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teaching of Plants* (Kimmerer, 2013). Since the young adult version is shortened and presented in a more accessible format containing illustrations and reflective prompts, it was a more pedagogical and suitable medium than the original book considering the targeted audience. Due to the time constraints of the study, it was, however, not feasible to read the entire book and, therefore, the lessons only included those excerpts that seemed most relevant for the research objectives and the participants' prerequisites. Appendix 1 presents a more detailed account of the chapters and activities used during the research but, briefly, the project revolved around the four themes presented in chapter 3.3: *kinship, responsibility, reciprocity* and *gratitude*. These themes, in conjunction with the subject of English, offered the possibility of approaching environmental education from perspectives beyond the purely scientific. In alignment with the English curriculum - which states that students should explore cultural conditions and values in different contexts where English is used, and compare these with their own experiences (Engelska, 2023) - the selected teaching material also allowed for students to engage with such content while practising their receptive and productive language skills.

Moreover, lessons were designed in order to create student engagement and included multimodal, participatory and reflective activities using all four language skills. Some of these activities entailed collaborative work, individual writing, shared reading sessions,

audiovisual material and creative expression. Since studies on language aptitude have shown that education which aligns with students' aptitude profile benefits learner's comprehension and proficiency (Lightbrown & Spada, 2013, pp. 80-81), the lesson design attempted to incorporate numerous teaching methods and multimodal learning strategies. Seeing as the participants' interests and prerequisites were unknown to the researcher during the planning phase, it was, however, challenging to design and carry out lesson activities and assignments that stimulated all students on an appropriate level. One of the primary difficulties in executing the project, thus, concerned the lesson design. As a consequence, the lesson plan was continuously adjusted and refined during the project in order to align with the students' pace, language proficiency, and level of engagement.

According to Sandell et al (2005, pp. 200-203), the teaching content should preferably include both *direct* and *indirect*, as well as *open* and *closed* encounters. Due to the limitations of the study, the teaching methods only consisted of indirect encounters, meaning that the students received the content through text, pictures and videos. The advantage of such encounters is that they provide students with knowledge that lies outside of their own reality, thus allowing students in a Western Swedish context to become acquainted with stories and knowledge stemming from North American indigenous communities and peoples. In addition, the encounters had both an open and closed format, implying that students were expected to both attain specific knowledge from the teaching content, and to practice reflexivity when answering individual questions in their logbook or participating in discussions.

Continuing on the lesson design, it has already been discussed that EFL teachers can incorporate literature for various purposes. The methods employed for this study were a language and a reader approach (Bloemert et al., 2019, p. 372). The language approach focuses on using literature as a resource to enhance language proficiency and was, therefore, mainly implemented through lesson activities such as translating vocabulary and answering questions related to reading and listening comprehension. The reader approach, however, aims to spur personal development and thus focuses on the relation between the text and the reader. Considering the aim of the study, this approach was highly relevant as it created possibilities for students to reflect on the content - thus exploring students' attitudes and perceptions. Both approaches employed in this study have used literature as a resource and are equally important since an improved language proficiency enables students to articulate their attitudes and ideas about the content, whereas the text approach initiates these reflections.

5.3 Data Analysis

The data was analysed using inductive qualitative content analysis. Consequently, the analysis process followed three steps of inductive category development including *preparation, organisation* and *presentation* (Selvi, 2020, p. 443). The reason for choosing an inductive approach was due to little former knowledge about the topic area - thus, it was more beneficial to use an open coding frame rather than predetermined categories.

The preparation step first included immersion with the data and the research questions as well as selecting and structuring relevant material. During this step it became evident that many logbook entries were either incomplete or unreliable since they featured copy pasted answers from ChatGPT. As a result, the selected material only contains sixteen out of thirty-one possible answers and limits the generalisability of the results. All logbook entries were then anonymised, numbered and the material was structured into two parts - one for the pre-reflection answers, and another for the post-reflection answers.

The organisation step involved open coding, grouping of the material, revising and categorising. The primary grouping of material was made in accordance with the pre- and post-reflection questions used in the classroom, and the subheadings in the upcoming results section illustrate this categorisation. The secondary categorisation of the collected data consisted of patterns and recurring ideas that were found in the student answers. The results from these categories are reported in the results as part of the presentation step. Considering that the study has utilised qualitative research methods, the results have been presented accordingly, using a chronological and rich description of the collected data (McKay, 2006, pp. 71-72).

5.4 Ethical Considerations

To ensure that the project upheld ethical standards, all participants signed a consent form at the beginning of the first lesson. As it was important that all students understood the terms of conditions, I read the consent form aloud to the class and all information was communicated in Swedish. The consent form provided to the students was based upon the ethical institutional guidelines of Gothenburg University and The Swedish Research Council. This meant the research adhered to the four principles which form the foundation of an ethical mindset, namely: reliability, honesty, respect and accountability (Vetenskapsrådet, 2024, p. 11).

6. Results

This chapter has been separated into four parts and the results in each section will be presented chronologically, beginning with the students' pre-reflections, followed by their post-reflections. Chapter 6.1 presents responses about students' awareness of natural surroundings, thus focusing on research question one. This includes participants' perceptions of their local environments, as well their associations to forest imagery (see Appendix 1). Chapter 6.2 and 6.3 examines how the students reason about daily actions and responsibility, first from their own individual perspective and then from a broader, collective perspective. The purpose of these two chapters is to address the second research question. Lastly, chapter 6.4 summarises students' general thoughts about the project. Responses from all chapters together will lay the foundation to answer the third research question.

6.1 Perceptions of Natural Surroundings

Table 1. Students' perceptions of natural surroundings.

Aspect	Before	After
Awareness of local surroundings	7/16 not usually aware	9/16 neutral or no change
	9/16 sometimes aware (often more aware in the forest or by the ocean)	7/16 heightened awareness
Perceptions of forest imagery	11/16 positive connotations (e.g. beautiful, calming)	6/16 heightened awareness
		6/16 no change
	5/16 no opinion or indifferent attitude	4/16 no opinion

When students were asked to describe their awareness of natural surroundings such as plants, animals, the ocean, or the air, a slight majority said they are usually not aware, or as aware as they want to be. Some explained that they are not interested and simply do not think about it, whereas others acknowledged that their daily routines deprive them of their awareness.

“I don't usually pay much attention to my natural surroundings when I'm outside. My focus is more on where I'm going or what I'm doing rather than the plants, animals, or the air around me.”

“When I’m outside, it’s often when I’m walking to school or any other activity. Therefore, I don’t really recognize the details of the [sic] nature and the beauty of it.”

A few participants also mentioned how the weather or their own mood can affect their awareness both positively and negatively. In addition, six of the students considered the city environment to be unhelpful for their awareness.

“I’ve noticed I’m not very aware of nature in my surroundings. When I’m in the city it’s probably the least thing I think about.”

“One place where I feel less aware is when [I]’m walking in more public areas with my phone in my hand and listening to music. It’s like my mind gets trapped in a bubble and I miss what’s happening around me.”

However, half of the participants explained that they experience the forest or the ocean as calming environments and acknowledged they are often more present and aware in such places.

“I can always feel a positive difference when I focus on the [sic] nature instead of being stressed and not appreciating it.”

“... when [I]’m outside [I] tend to prefer walking in [a] forest with lots of trees because they feel calming.”

“In a quiet place like a forest my awareness increases as you feel more connected because I notice the trees being blown by the wind and the sound it makes, the sound of leaves rustling and even the way the air smells as time feels like it’s slowed down. As well as by the sea where my attention shifts to the sound of the waves, the breeze and the sound of loud seagulls.”

Similar perceptions of nature were also visible when students were requested to describe their thoughts and feelings in relation to an image depicting a Swedish forest. A majority of eleven participants associated the image with positive connotations and reported experiencing tranquility or harmony upon viewing it.

“The picture is calm and easy on the eyes. It reminds me of spring with the vibrant green leaves.”

“When I see the picture I think of peace and harmony. I can imagine that you can hear birds singing, if there is a pond in the area you might hear the water flowing as well.”

“I feel very calm because the forest is very quiet and relaxing.”

“I do like the picture since it makes me imagine that I’m in it. I can feel that I probably would have been happy that day. Just like a fantasy, where problems do not exist.”

“Just raw nature. It makes [me] calm but also scared for the future and how people are going to treat it. I want them to treat the [sic] nature with respect and actively try to spare it.”

These responses reflect an emotional engagement and appreciation for what they view. Some even expressed protective attitudes and a will to take care of such scenery. The remaining five participants, however, either did not write anything at all in relation to the picture, or reported indifferent attitudes in which the imagery did not evoke any strong emotions. One of the respondents acknowledged that others may find it appealing but did not articulate any personal connection themselves.

“When I look at the picture, I just see a forest with rocks and moss, nothing particularly exciting or interesting to me. It’s a typical natural scene, and I probably wouldn’t spend much time thinking about it. I might acknowledge that some people find places like this peaceful or beautiful, but for me, it’s just another outdoor setting.”

At the end of the project, students were again asked to reflect over their natural surroundings. However, this time in relation to the themes they had worked with during the project: *kinship*, *responsibility*, *reciprocity* and *gratitude*. The logbook entries then showed that a slight majority of nine participants indicated either a neutral or negative change of attitude. To summarise, the answers expressed a limited impact from the literary texts and even though some respondents showed openness towards the themes, they had little immediate effect on their worldviews.

“To be honest, these themes have not really changed my perspective on nature. Gratitude, responsibility, reciprocity and kinship might be important to some people, but I do not feel a strong connection to them when it comes to the natural world. Nature is just there, it just exists. While it can be relaxing or fun to look at or spend time in, I do not feel any deep emotional or moral obligation toward it.”

“Unfortunately they haven’t affected my view of my natural surroundings, for the better. However they haven’t changed my view for the worse either. I’ve always appreciated my natural surroundings like the ocean and the trees/ forest.”

“Not a lot, I think you need a longer time to get your views changed.”

“It has given me a new perspective on my surroundings, but I can not [sic] say it will change how I currently see my surroundings. I will say it might have a bigger effect later down my life but for now, it will sit in the back of my mind.”

“I don’t think themes like gratitude, responsibility, reciprocity, and kinship have really changed my view on nature that much. I still feel like nature is something I should care for, but I don’t think these themes have had a huge impact on how I see things.”

The other seven students, however, reported a positive change compared to their previous answers. This entailed a deeper understanding of the interrelationship between humans and nature, a higher sense of gratitude, and connection to the Earth and other beings.

“After reading [*Braiding Sweetgrass*], I feel way more connected to nature. I see how important it is to be grateful for what nature gives us, like food, air, and beauty. I also get that it’s our job to take care of the environment, not just use it up. Reciprocity means giving something back to nature, like planting trees or wasting less. Kinship reminds me that we’re all part of the same world[;] humans, animals, and plants are all connected.”

“I’ve learned to appreciate the [sic] nature and show responsibility to the natural creations of [G]od such as trees and grassy hills.”

“Exploring these themes has deepened my understanding of the relationship between humans and the natural world. Previously I viewed nature as something external- something to be admired but not necessarily engaged with on a deeper level. However the idea of reciprocity challenges this perspective, making me more aware of how much we take from nature without considering what we give in return... The theme gratitude was definitely my favorite in understanding and it had truly shifted my mindset; rather than simply acknowledging nature’s presence, I now recognize the importance of valuing and preserving it. While I wouldn’t claim to have undergone a complete transformation, I am certainly more conscious of the way I interact with my surroundings and the responsibility that comes with that awareness.”

“It has made me more grateful in general and I feel a lot more kinship towards animals than I did before. I always liked animals a lot, but now I feel a connection with them on another level and I’m starting to understand why people become vegan for example.”

“To be honest I have not been as aware of nature as I... want to be. But after reading the texts I feel like my mind has opened for understanding the reality of the society we all live in.”

When the participants were exposed to the forest imagery again, six out of sixteen reported a higher sense of awareness compared to the first time. These answers expressed an enhanced personal and emotional connection to the picture and a greater will to protect what was portrayed in the image. Whereas the positive responses from the first lesson mostly described appreciation for the beauty and harmony, these answers carry deeper reflections about the different elements in the picture and what the consequences may be if we are not mindful of our surroundings.

“As for the picture, after reflecting on these themes, I see it differently now. Instead of just appreciating its beauty, I also think about the relationships between the living beings in the image - how every plant, animal, and element contributes to a larger, interconnected system. I feel a stronger sense of responsibility to protect what I see.”

“If I look at a picture of nature now, I feel more connected to it. I see how important it is to take care of it. But if it’s a picture of nature being hurt or destroyed, it makes me sad and I

want to do something to help. It's like a wake-up call that we need to take better care of the world.”

One of the participants also showed a shift in attitude going from a naive and admiring interpretation to a more critical and conflicted view, realising that new perspectives can change the way we treat nature and fellow human beings.

“So when I look back at the picture of the tree I get another perspective of it. Now the beautiful and unarmful forest that I saw before has become darker and harmful. Because that is the reality that I now see. After these lessons I think it was supposed to make me see the forest as a gift. That is something I still do, but now it has changed my vision to darker, because I know that it is not a reality anymore if the over consumption continues... But still this does not need to be the end. We can still change our view on the earth with gratitude and reciprocity... The same with kinship, if you have in mind that there are many other people who will one day be on this earth, you will feel responsible to take care of the earth.”

Another six participants answered they did not change their perception of the scenery from last time, and the remaining four did not answer the question.

6.2 Attitudes Towards Individual Responsibility

Table 2. Students’ attitudes towards individual responsibility

Aspect	Before	After
Consideration of daily environmental impact	9/16 not considerate	9/16 no change
	3/16 sometimes considerate	7/16 positive change
	4/16 regularly considerate	

Another aspect the participants reflected upon, was whether they usually consider how their daily actions impact their surroundings. Before the project started, a slight majority reported they mostly do not. Multiple respondents explain that the cause for this is because they have difficulty in seeing how small things such as throwing litter on the ground or recycling plastic makes any difference. In other words, they do not believe their daily actions and choices leave any noticeable consequences and, therefore, some students mention that they prioritise convenience over eco-friendly alternatives.

“For example, I don’t consider how using plastic or going in a car or bus affects the environment in my daily routine, I just do what’s convenient.”

“Sometimes [I] throw trash on the ground because [I] think one piece won’t hurt but so does everyone else also think.”

The other students mention they are sometimes or regularly aware of the choices they take. To a large extent, this reflects a consideration about greenhouse gases, buying eco-friendly products, saving energy and water, and reducing food waste as well as single use plastic. However, to some extent these actions seem more like habits they have been raised with rather than conscious choices.

“...these actions are not my actions to reduce my ecological footprint, it is simply ethical morals that my parents raised me with.”

“My mom is a specialist of the environment and works daily to come up with ideas to lower the carbon footprint in the world. Therefore, I feel like [I] have a big knowledge of how to live with a low carbon footprint.”

In the post-reflections, nine out of sixteen responded that the book had not made them more aware of their personal environmental impact. Some explained that the content did not provide them with any new information, and others indicated an indifferent and somewhat hopeless attitude, arguing they still do not believe individual choices make any difference considering the magnitude of the climate crisis. Furthermore, they expressed that the issues feel distant and that it feels overwhelming.

“The book didn’t make me think much more about how my daily actions affect the environment. I’m aware of it, but I don’t feel like it’s changed how I act on a daily basis. It’s just a lot to keep in mind all the time.”

“While I get the idea that everything is connected, I do not see how minor personal choices... make a huge impact on the grand scheme of things. At the end of the day, larger systems and industries have a much bigger effect on the environment than what one person does.”

Meanwhile, seven respondents claimed they had changed their perception to the better due to the literature. The most frequently mentioned insight was the realization that change does not have to be initiated by governments or organisations, but can also be achieved at a decentralized level by individuals and grassroot movements who share common values. Students thereby expressed an understanding of how personal responsibility can contribute to the well-being of the Earth and its inhabitants.

“I have always been aware, to some extent, that human actions impact the environment, but the book provided a more personal and ethical perspective... While I haven’t completely overhauled my lifestyle, I have started making more deliberate choices, understanding that even minor actions contribute to a larger, collective impact.”

“Focusing on the windigo footprint, which the book indicates, has made me more aware of how my actions affect my surroundings, I’m more aware of the food [I] throw away, and the clothes [I] b[u]y - which has become a much lesser amount recently.”

“Now after understanding the importance behind the text I feel guilty for the problems that have [harmed] our [E]arth. Because I have as much responsibility for the overconsumption as anybody else living in a consumption society has [sic]. I used to think that I do not make any difference [in] the impact on the [E]arth... But that is wrong... I have been reminded that we all are on the same [E]arth, which means that we all need to share the natural resources.”

6.3 Attitudes Towards Collective Responsibility

Table 3. Students’ attitudes towards collective responsibility

Aspect	Before	After
Who should care for nature?	9/16 everyone	13/16 everyone
	7/16 institutional actors (e.g. organisations, governments, corporations)	3/16 institutional actors (e.g. organisations, governments, corporations)

An additional aspect of students’ perspectives on environmental impact concerns the question of who holds responsibility for taking care of nature. The results from both the pre- and post-reflections showed that all responses were either of the opinion that it is a shared responsibility between all human beings, or that it is primarily a task for governments, politicians and corporations. In the pre-reflections, a slight majority suggested it was everyone’s duty. Even though multiple of these answers also mentioned governments and businesses, they highlighted that all humans should be equally accountable and that it is a shared responsibility. In comparison, the remaining seven respondents emphasised that action should be initiated from a top-down level because such stakeholders are more capable of making a considerable change. Since corporations and large industrialized nations leave noticeable ecological footprints, the responses implied that they should be held more accountable than individuals.

“I think governments and environmental organizations are mainly responsible for taking care of nature since they have resources and power to enforce rules and make large scale changes. While individuals can help, most people, including myself, are focused on their own lives and don’t think about environmental issues all the time.”

“China and India, they let out the most [CO]2 in the world.”

“I believe that that is for the world leaders to have responsibility for the living world because they have the real power to impact.”

In contrast to the pre-reflections, the post-reflections, however, included a higher percentage of participants who suggested a shared responsibility. The previous nine responses had increased to thirteen and entailed richer arguments, showing an increased consciousness and new perspectives in relation to the question.

“...everyone has a part in taking care of the Earth. It’s not just up to one person, governments, companies, and all of us need to help protect nature. We need to treat nature like family and make sure it stays healthy for future generations.”

“Honestly, *everyone* has a role to play, but not in the same way. If someone litters, that’s obviously their responsibility, but at the same time, if huge companies are dumping tons of waste into the ocean, my decision to recycle my soda can isn’t going to fix everything. Governments need to step in with laws that actually enforce environmental protection, and businesses need to stop putting profit over sustainability... It’s kind of like a group project - if only one person does all the work, it’s not going to turn out great. But if everyone puts in some effort (even if some have bigger roles), things actually get done.”

“The natural answer is that it’s our responsibility, the consumer’s responsibility to control and to think of how we should consume so that we do not take too much from the plane[t]. But I have also started to think about how it might be everyone’s responsibility, consumers but also the plants and animals need each other’s for the planet to fun[c]tion and to continue flourishing.”

“Humans are ultimately responsible for caring for the living world. This is because we have the capacity for awareness, understanding, and the power to change our practices. We are not separate from nature; our well-being is deeply tied to the health of the Earth, and it’s our duty to protect and restore it for future generations.”

The remaining three participants were still of the opinion that governments and organisations such as the United Nations, carry the responsibility, seeing as they are capable of enforcing regulations, investing in sustainable solutions and creating policies that make considerable impacts. Moreover, the responses also reflected passive attitudes considering that they either failed to recognize their individual responsibility, or expressed a sense of powerlessness.

“I do not think that the burden should be placed on everyday people when major industries are the ones that are causing most of the environmental damage. It is unrealistic to expect for people to change their whole lifestyle when the bigger contributors to pollution and destruction are operating on a much larger scale.”

“I think it’s kind of everyone’s responsibility, but honestly, I feel like it’s up to the people in charge to do something about it. I don’t think my actions alone are going to make a huge difference, especially when bigger problems are out of my control.”

6.4 Students' Opinions About the Project

Table 4. Students' opinions about the project

Attitude	Number of participants
Only positive	3/16
Positive and negative	7/16
Only negative	4/16
No opinion	2/16

By the end of the last lesson, the students also had the opportunity to describe their thoughts about the project. This part entailed reflections about which parts they enjoyed most or least, as well as the level of difficulty of the lesson materials. When analysing the responses, results showed that three out of sixteen students expressed positive attitudes exclusively. Seven accounted for both positive and negative aspects, and four held only negative views of the project. The remaining two did not answer the question.

Concerning which parts of the lesson material and activities that the participants appreciated, results showed a wide range of opinions without any recurring themes. However, some text excerpts seemed to have made a deeper impact since they were mentioned in multiple logbook entries. These excerpts primarily dealt with the teachings of “One bowl and one spoon” and “Windigo”. Moreover, there were also mixed opinions regarding the level of difficulty during the lessons. While some students struggled with comprehending the content, others said the lessons were easy and that it was not the difficulty of the material that made it uninspiring, but rather the content itself.

“I liked learning some things, but some parts felt kind of pointless or hard to understand.”

“I think that the hardest part of this unit was to understand the different grammar in the text we read, there was [sic] a lot of words that [I] am not used to seeing in modern text that [I] read today.”

“...the difficulty of the lesson was to understand the importance of the text since it made me confused at first.”

“The lessons were easy to understand as long as one listened to the instructions.”

“I’ve been enjoying both coming to class and what we learned about. I didn’t think anything in particular were [sic] difficult.”

“I don't think that the subject was suited for our class. Nothing was difficult but everything was pretty boring.”

Although multiple students expressed some kind of negative opinion about the project, a majority of the participants still acknowledged that it had contributed to their awareness and knowledge concerning their relationship to nature. Some also mentioned the project had been interesting because it provided them with new perspectives and gave them opportunities to reflect over their own habits. In addition, they reported that the project had provided them with insights on how environmental education can be approached, not only through measurable knowledge but also through the lenses of concepts such as gratitude or responsibility.

“What the lessons gave me was that [they] reintroduced how gratitude, kinship, reciprocity, and responsibility affects [sic] our society. I have always been aware of these, but I would normally not think about them in my daily life. However, I think the lessons have been interesting, because it was [sic] different from our usual lessons.”

“Reflecting on a project like this [I] think the most engaging part [was] the opportunity to connect with nature on a deeper level. [L]earning not just about the environment but also about how [to] change our perspective on the world.”

“About my enjoyment of class, I would say the topic is quite an acquired taste, individually I didn't find it very appealing and fun but it's a good concept.”

“I actually found the project more interesting than I expected. The best part was the discussions because hearing different perspectives made the topics feel more real...I also liked that the lessons weren't just about 'the environment is important' but actually tied into bigger ideas like gratitude and responsibility, which [we] can apply to everyday life...[O]verall, it was a different way of learning that actually made me reflect.”

7. Discussion

The aim of the current study was to investigate whether students' ecological awareness could be heightened by working with eco-centric literature in the EFL classroom, thus examining the literary impact on student attitudes. To achieve this, the study has accounted for students' perceptions of surrounding environments, as well as their attitudes towards individual and collective responsibility.

The results from chapter 6.1 account for the first research question (*How do students express their perception of natural surroundings?*), and indicate that many students are not actively aware of their surroundings in their daily life. Most of them described nature (for instance the forest or the ocean) as a contrast towards their normal routines in the city, and the

presence of nature, therefore, seems to be associated with recreational purposes such as stress relief or vacation. This conclusion was further supported considering that the primary associations to the forest imagery in the pre-reflections consisted of admiring descriptions of a beautiful and relaxing setting. Given that the post-reflections were of a less self-centred character and showed greater reflexivity compared to the pre-reflections, the data suggests that the project, to some extent, changed students' perceptions and heightened their awareness. The responses also illustrated that the themes (*kinship, responsibility, reciprocity and gratitude*) helped students become more conscious about their local surroundings: "...I often appreciate the beauty of a forest or the feeling when [I am] at the beach and feeling [sic] the calming presence of the sea. [T]hough [I have] rarely stopped to think about how these ecosystems sustain life and in turn require care and respect." As the quote shows, the heightened awareness also prompted students to be good relatives, and multiple students expressed a stronger will to protect, and care for, their surroundings. The responses thus suggest that some of the participants' action readiness was enhanced and that the project also developed their ethical competence (Grice & Franck, 2017, p. 261).

In relation to the second research question (*How do students' attitudes towards environmental responsibility reflect their views of the human-nature relationship?*), it is of relevance to discuss the results from chapter 6.2 and 6.3. Both the pre- and post-reflections in chapter 6.2 showed that students' attitudes towards individual responsibility mainly concerned actions such as recycling, not throwing trash on the ground, minimising the use of plastic and fast fashion, carbon footprint reduction, as well as reducing waste of water, electricity and food. Although this suggests that students are somewhat conscious about the impact of their actions, they are behavioural and consumption focused ways of acting which promote instrumental and easily measurable solutions. Seeing from the perspectives of Næss (1981), such actions entail a shallower ecological philosophy. The potential risks with these attitudes are that students attain a simplified view of a complex issue, and that a strong emphasis on individual actions may limit their willingness to engage on a deeper level. It could also hinder students from critically reflecting on their own responsibilities, thereby making it difficult for them to experience any personal change. This attitude was reflected in the following student response when participants were asked whether the book made them more aware of how daily actions affect their surroundings: "I would have to say no. Mostly because I was not really a large contributor to natural destruction. I recycled and rode collective transport." Even though almost half of the students reported a positive attitude change, the majority of the post-reflections still centred on instrumental solutions. On the one

hand, this implies that they have become more conscious about their lifestyles but, on the other hand, it also underscores that they are still shaped by anthropocentric values and view themselves as separate from nature.

In contrast to shallow ecological philosophy, deep ecology entails a heightened sense of interconnectedness and an egalitarian attitude towards the world and all its living beings, not just humans (Næss, 1981, p. 247). Although they were in a minority, some of the post-reflection entries did express such attitudes. These responses recognised a close relationship between humans and nature, and implied that the themes (*kinship, responsibility, reciprocity* and *gratitude*) had made students realise this intertwinement. This confirms Steinmann's (2022) and Kimmerer's (2012) argument that indigenous poetry and TEK challenge western binary thinking and can help students to understand the relations between land and people. This claim is further supported by the findings in chapter 6.3 which indicated that more students in the post-reflections compared to the pre-reflections, expressed the belief that environmental responsibility is a collective duty. By the end of the project, the majority of students had thus moved towards viewing themselves as part of a larger whole where responsibility is shared equally.

Together, chapter 6.2 and 6.3 demonstrated that multiple students expressed an increased action readiness and emotional engagement after the project. As authors have stated (Löwe & Nilsson Skåve, 2020; Uhrqvist et al., 2021; Guanio-Uluru, 2019), this shows that eco-centric literature may carry didactic potential in raising environmental awareness. However, since only half of the participants' logbooks were of use for the study, the amount of data was smaller than anticipated. This likely affects the validity and generalisability of the results since the data does not cover experiences and attitudes from the entire student group. Nonetheless, even if eco-centric literature holds pedagogical promise, it remains important that teachers consider which literature they use since dystopian narratives may have a negative impact on students' motivation (Andersson Hval & Aijmer Rydsjö, 2021, p. 32). Even though the book used for this study offers a constructive and inspiring tone through stories of relationships and restoration, some students still expressed conflicted attitudes regarding the content. For instance, feelings of disempowerment, guilt and indifference. This could limit students' willingness to engage and teachers must, therefore, work to create an inspiring environment which focuses on healing rather than degradation.

The students who showed little or no change in attitude either referred to a lack of time or interest in the project. Although a few acknowledged the themes and new perspectives, they were cautious to express any personal change. This suggests that there is

potential in the project but that the time restrictions of the study limited the positive outcomes. Furthermore, the following student response clearly illustrates that the results are bound to its context: “I don't think that the subject was suited for our class”. Considering that the school is located in Sweden’s second largest city and that the admission scores are high, one could assume participants are likely to come from sociocultural backgrounds shaped by values emphasizing individual success, academic achievement and urban lifestyles. According to Bordieu’s (as mentioned in Backman, 2010, p. 66) habitus theory, this context influences the students’ interests, behaviours and actions, making them less receptive as their context contrasts with the relational, land- and community-based values promoted in the book. However, as the results indicated, it should be noted that students who come from similar sociocultural backgrounds do not automatically share a common value system. Instead, students’ experiences, interests and personality traits will likely also affect how well they resonate with a certain teaching content.

As the findings in chapter 6.4 indicated, some students expressed difficulties in comprehending the content due to new and advanced vocabulary. This highlights the importance of including the language approach when working with literature in the EFL classroom. This study mainly did so through glossary lists and reading comprehension exercises which encouraged the students to understand the meaning behind phrases and learn the Swedish equivalents of certain words. Seeing as some students considered the level of difficulty of the texts to be high, the lesson activities could have placed even more emphasis on language. However, when comparing the pre- and post-reflections, results showed that many students made use of the new vocabulary in their post-reflections. This suggests the students’ vocabulary had been enriched and enabled them to reason differently compared to the beginning. As discussed in chapter 5.2, this did not only improve students’ language proficiency, but also aided their reflective abilities, considering that an enhanced vocabulary is essential for engaging in meaningful contemplation and communication.

Furthermore, chapter 6.4 also indicated a lack of consensus amongst the students regarding which types of activities that they perceived as most and least favourable. This supports Lightbrown and Spada’s (2013, pp. 80-81) assertion that diverse learning aptitudes and student personalities necessitate multimodal and varied lesson activities for successful learning. Therefore, as mentioned in chapter 5.2, the lessons attempted to integrate all four language skills and made sure that students received opportunities to use different learning strategies; collaborative, reflective, individual, audiovisual, interpretative creative tasks, and more predetermined tasks such as vocabulary work or reading comprehension. The aim with

these activities, except for meeting as many student needs as possible, was to enhance student activation and counteract an instrumental learning environment. As was mentioned earlier in this study, authors have claimed that ESD should preferably entail pluralistic pedagogy with participative, creative, analytical and ethical learning dimensions (Grice & Franck, 2017, p. 261; Pauw et al., 2015, p. 15696; University of Plymouth, n.d.). When analysing the logbook entries, students express that the project involved a different way of learning compared to their usual lessons:

“It wasn’t just about answering questions - it actually made me think about my own habits and the way society works... I also liked that the lessons weren’t just about ‘the environment is important’ but actually tied into bigger ideas like gratitude and responsibility...”

The student reflection thus shows the significance of the aforementioned teaching approaches for educators seeking to move beyond instrumental, measurable knowledge, and, instead, design ESD activities which carry deeper ecological values.

8. Conclusions

This study has examined to what extent eco-centric literature can heighten students’ ecological awareness by analysing their perceptions of natural surroundings and attitudes towards environmental responsibility. The literature used for the research project was *Braiding Sweetgrass for Young Adults: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants* (Kimmerer & Smith, 2022), and the compiled data consisted of pre- and post-reflection entries from sixteen student logbooks in the course English 6. By conducting qualitative content analysis of the logbook entries, results indicated that some students did not express any personal change, indicating that there was a limited impact of the literature used for the study. These logbook entries also showed that the participants expressed a lack of interest or emotional engagement with the teaching content. However, the remaining students did express a heightened ecological awareness after the project. This entailed an enhanced understanding of how concepts such as *kinship*, *responsibility*, *reciprocity* and *gratitude* may offer new perspectives that challenge the perceived separation between humans and nature. Furthermore, these students reported an increased willingness to act and a realisation of the interconnectedness of the world.

Given the time constraints and the limited sample size of this small-scale case study, more research is needed in order to establish a more definitive impact of eco-centric

literature. Future research efforts could, therefore, focus on more longitudinal studies and investigate which aspects of eco-centric literature that are most beneficial for student engagement. In addition, it would be relevant to conduct studies in different contexts in order to evaluate whether students' backgrounds affect their receptibility to the content. To conclude, this study has attempted to bridge the gap between the environmental perspective outlined in the GY25 curriculum, and the EFL classroom. In light of the limited presence of ESD in the English syllabi, the findings offer valuable pedagogical implications on how educators can design lessons that integrate both language development and ecological values. However, considering that the majority of the student entries centred around shallower ecological values, the results also call for the need of integrating eco-centric literature and TEK to a larger extent in the Swedish school system and introducing such perspectives at an earlier age. This would likely reduce students' sense of unfamiliarity with respect to the content, and could help foster future generations that carry deeper ecocentric values.

References

- Andersson Hval, U., & Aijmer Rydsjö, C. (2021). Klimatkrisen i klassrummet: Reflektioner kring användning av litteratur i undervisning om hållbar utveckling. *Utbildning & Lärande*, 15(2), 27-44. <https://doi.org/10.58714/ul.v15i2.11242>
- Backman, E. (2010). *Friluftsliv in Swedish Physical Education - a Struggle of Values: Educational and Sociological Perspectives*. [Doctoral thesis, Stockholm University]. DiVA. <https://www.diva-portal.org/smash/record.jsf?pid=diva2:319155>
- Berglund, T., & Gericke, N. (2016). Separated and Integrated Perspectives on Environmental, Economic, and Social Dimensions - An Investigation of Student Views on Sustainable Development. *Environmental Education Research*, 22(8), 1115-1138. <https://doi.org/10.1080/13504622.2015.1063589>
- Bloemert, J., Paran, A., Jansen, E., & van de Grift, W. (2019). Students' Perspective on the Benefits of EFL Literature Education. *Language Learning Journal*, 47(3), 371-384. <https://doi.org/10.1080/09571736.2017.1298149>
- Engelska [ämnesplan]. (2023). Skolverket. <https://www.skolverket.se/undervisning/gymnasieskolan/laroplan-program-och-amnen-i-gymnasieskolan/gymnasieprogrammen/amne-gy2025?url=907561864%2Fsyllabuscw%2Fjsp%2Fsubject.htm%3FsubjectCode%3DENGE%26version%3D1%26tos%3Dgy%26origin%3Dgy2025&sv.url=12.467ba038192d14ade318a>
- Grice, M., & Franck, O. (2017). Conceptions of Ethical Competence in Relation to Action Readiness in Education for Sustainable Development. *Reflective Practice*, 18(2), 256-267. <https://doi.org/10.1080/14623943.2016.1269001>
- Ideland, M., & Malmberg, C. (2015). Governing “Eco-Certified Children” Through Pastoral Power: Critical Perspectives on Education for Sustainable Development. *Environmental Education Research*, 21(2), 173–182. <https://doi.org/10.1080/13504622.2013.879696>
- Jabareen, Y. (2008). A New Conceptual Framework for Sustainable Development. *Environment, Development and Sustainability*, 10(2), 179-192. <https://doi.org/10.1007/s10668-006-9058-z>

- Kimmerer, R. W. (2012). Searching for Synergy: Integrating Traditional and Scientific Ecological Knowledge in Environmental Science Education. *Journal of Environmental Studies and Sciences*, 2(4), 317-323.
<https://doi.org/10.1007/s13412-012-0091-y>
- Kimmerer, R. W. (2013). *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teaching of Plants*. Penguin Books.
- Kimmerer, R. W., & Smith, M. G. (2022). *Braiding Sweetgrass for Young Adults: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*. Lerner Publishing Group.
- Kopnina, H. (2012). Education for Sustainable Development (ESD): The Turn Away from “Environment” in Environmental Education? *Environmental Education Research*, 18(5), 699-717. <https://doi.org/10.1080/13504622.2012.658028>
- Lightbrown, P. M., & Spada, N. (2013). *How Languages are Learned (4th ed)*. Oxford University Press.
- Läroplan för gymnasieskolan*. (2023). Skolverket.
[https://www.skolverket.se/download/18.4cb468a3193deb60ded258f9/1738333348252/L%C3%A4roplan%20Gy25%20-%20Gymnasieskolan%20\(002\).pdf](https://www.skolverket.se/download/18.4cb468a3193deb60ded258f9/1738333348252/L%C3%A4roplan%20Gy25%20-%20Gymnasieskolan%20(002).pdf)
- Löwe, C., & Nilsson Skåve, Å. (2020). *Didaktiska perspektiv på hållbarhetsteman: I barn- och ungdomslitteratur* (Första utgåvan). Natur & Kultur.
- McKay, S. (2006). *Researching Second Language Classrooms* (1st ed.). Erlbaum.
<https://doi.org/10.4324/9781410617378>
- Næss, A. (1981). *Ekologi, samhälle och livsstil*. LT:s förlag.
- Naturkunskap [ämnesplan]*. (2023). Skolverket.
<https://www.skolverket.se/undervisning/gymnasieskolan/laroplan-program-och-amnen-i-gymnasieskolan/gymnasieprogrammen/amne-gy2025?url=907561864%2Fsyllabuscw%2Fjsp%2Fsubject.htm%3FsubjectCode%3DNATU%26version%3D1%26tos%3Dgy%26origin%3Dgy2025&sv.url=12.467ba038192d14ade318a>
- Pauw, J. B.-d., Gericke, N., Olsson, D., & Berglund, T. (2015). The Effectiveness of Education for Sustainable Development. *Sustainability*, 7(11), 15693-15717.
<https://doi.org/10.3390/su71115693>

- Rishma, R. D., & Gill, J. C. R. (2024). Eco Criticism: Exploring the Interplay between Literature and Environment. *World Journal of English Language*, 14(4), 563-568. <https://doi.org/10.5430/wjel.v14n4p563>
- Rose, H. (2020). Diaries and Journals: Collecting Insider Perspectives in Second Language Research. In J. McKinley, & H. Rose (Eds.), *The Routledge Handbook of Research Methods in Applied Linguistics* (pp. 348-359). Routledge. <https://doi.org/10.4324/9780367824471-37>
- Sandell, K., Öhman, J., Östman, L., Billingham, R., & Lindman, M. (2005). *Education for Sustainable Development: Nature, School and Democracy*. Studentlitteratur.
- Sauve, L. (2005). Currents in Environmental Education: Mapping a Complex and Evolving Pedagogical Field. *Canadian Journal of Environmental Education*, 10(1), 11-37.
- Selvi, A. F. (2020). Qualitative content analysis. In J. McKinley, & H. Rose (Eds.), *The Routledge Handbook of Research Methods in Applied Linguistics* (pp. 440-452). Routledge. <https://doi.org/10.4324/9780367824471-37>
- Steinman, K. (2022). Indigenous Poetry and Sustainability: Troubling Anthropocene Logic Through Kinship and Holistic Care. In A. Sorby & S. L. Kleppe, *Poetry and Sustainability in Education* (Eds.), (pp. 97-118). Springer International Publishing. https://doi.org/10.1007/978-3-030-95576-2_5
- UNESCO. (2024). *What is education for sustainable development?* Retrieved April 3, 2025, from <https://www.unesco.org/en/sustainable-development/education/need-know>
- University of Plymouth. (n.d.) *What is Education for Sustainable Development?* Retrieved April 3, 2025, from <https://www.plymouth.ac.uk/students-and-family/sustainability/sustainability-education/esd>
- Uhrqvist, O., Carlsson, L., Kall, A. S., & Asplund, T. (2021). Sustainability Stories to Encounter Competences for Sustainability. *Journal of Education for Sustainable Development*, 15(1), 146-160. <https://doi.org/10.1177/09734082211005041>
- Vetenskapsrådet. (2024). *God forskningssed*. <https://www.vr.se/download/18.4c9f221a191e4edf9053a474/1727853946433/God%20forsknings%20VR%202024.pdf>

Washington, H., Taylor, B., Kopnina, H., Cryer, P., & Piccolo, J. J. (2017). Why Ecocentrism is the Key Pathway to Sustainability. *The Ecological Citizen* 1(1), 35-41.

Wood-Krueger, Odia. (2023). *Braiding Sweetgrass for Young Adults: Teaching Guide*. Lerner Publishing Group.

https://lernerbooks.blog/wp-content/uploads/2023/04/Braiding-Sweetgrass-for-Young-Adults_Teaching-Guide-2.pdf

Appendix 1

Lesson 1: Meeting Sweetgrass - An invitation to remember

1. Present the project and show a rough lesson plan for the upcoming weeks. Go through the consent form.
2. Discuss the title of the book and introduce pictures of sweetgrass.
3. Create student logbooks.
4. Write the first entry in the logbook (individual work). Students answer the questions below:
 - a. How would you describe your awareness of natural surroundings (plants, animals, the sea, woods, the air etc.) when you are outside? Are there any specific places where you feel more or less aware?
 - b. Do you usually consider how your daily actions impact your surroundings? Support your answer with examples.
 - c. Who do you believe is responsible for taking care of the living world? Explain why and in what way.
 - d. What thoughts and feelings come to mind when you see this picture?



5. Meet the author. Show Youtube video https://www.youtube.com/watch?v=BiVvl-p_6O8
6. Shared reading session: “An invitation to remember” and “Wiingaashk”.
7. Discuss two and two:
 - a. In what ways can stories be medicine?
 - b. How does the English language hinder us from experiencing a sense of kinship with nature and all living beings?

8. Work with vocabulary: indigenous, kinship, commodification, reciprocity, animacy, inanimate.

Lesson 2: Planting Sweetgrass - Sowing the seeds of knowledge

1. Warm up talk: What do strawberries and flowers have to do with today's class?
2. Shared reading session: "The gift of strawberries".
3. Post reading activity:
 - a. Copy the vocabulary into your logbook: gift economy, abundance, commodities, scarcity, ensuing generations, deplete.
 - b. Look up their meaning and write it down in your own words.
 - c. If finished, either summarise the main ideas of the chapter, or finish your reflections from the last lesson.

Lesson 3: Tending sweetgrass - Remembering our responsibility

1. Introduce today's topic by showing a YouTube video about the Haudenosaunee Thanksgiving Address <https://www.youtube.com/watch?v=swJs2cGNwIU>
2. Shared reading session: "Allegiance to gratitude"
3. Work with the text individually or in pairs:
 - a. The author mentions it is a revolutionary idea to express gratitude in a consumer society. What does she mean with that?
 - b. What would you say is the duty of humans?
 - c. Make sure you understand the vocabulary: gratitude, contentment, reciprocal relationship
4. Group work: Write your own thanksgiving address. What beings or parts of the world would you like to say thanks to? "I send my greetings and thanks to..."
(Students receive coloured papers and pencils. They use these to write and draw their thanksgiving addresses)

Lesson 4: Picking sweetgrass - Knowledge is the gift

1. Introduce today's topic "The honorable harvest"
2. Hand out pen and paper and write on the whiteboard:
 - a. Robin mentions the indigenous people recognize strawberries as berry people. What does that do with their relationship with the plants? How do you think they treat them?
 - b. What is the teaching of one bowl and one spoon?
3. Tell students to take notes and listen for the answers to the questions above. Show YouTube video <https://www.youtube.com/watch?v=Lz1vgfZ3etE&t=76s> Stop at 7:30 and discuss the content thus far.
4. Tell students to pay attention to the Honorable harvest principles. Take notes. Finish watching the video.
5. Class discussion to summarise the principles:

- a. Never take the first
 - b. Ask for permission
 - c. Listen for the answer
 - d. Take only what you need
 - e. Use everything you take
 - f. Minimize harm
 - g. Be grateful
 - h. Reciprocate the gift
 - i. Take only that which is given
6. Logbook work: Use the Honorable harvest principles and rewrite at least four of them so they fit in your own life. The overall meaning behind the principles should, however, stay the same. For example: Minimize harm → Do not buy things from brands that maintain poor working conditions (e.g. SHEIN).
 7. Homework: Choose one (or several) of your Honorable harvest-principles and focus on weaving it into your life until the next lesson. Try to notice how it feels.

Lesson 5: Burning sweetgrass - A journey of renewal

1. Check in with last week's homework
2. Warm up talk: Show picture of Windigo. Who is this? Discuss 5 minutes
3. Shared reading session: "Windigo footprints"
4. Discuss in pairs: Where do you see Windigo footprints in the community or city you live in? Share your thoughts on the whiteboard!
5. Go through and summarise the answers written on the whiteboard.
6. Read together: "Defeating Windigo"
7. Logbook work:
 - a. Work with the vocabulary: ravenous, overindulgence, insatiable, impoverish, affluent, antidote.
 - b. Answer the questions: Which solutions to "Windigo thinking" did the author give? What are your own solutions? Use your own notes on the whiteboard as inspiration.

Lesson 6: Written production and post-reflections

1. Teacher-led session about writing.
2. Individual work: Answer the questions in your logbook:
 - a. How would you say themes such as gratitude, responsibility, reciprocity and kinship have affected your views on your natural surroundings?
 - b. Has the book made you more aware of how daily actions can affect your surroundings? Explain why and in what ways.
 - c. Who do you believe is responsible for taking care of the living world? Explain why and in what way.
 - d. What do you think and feel when you see this picture now - do you see or feel anything new compared to last time?



- e. Try to describe your thoughts about the project. Which parts did you like most/least? Was there anything particularly difficult? Have you been enjoying coming to class?