



Høgskulen  
på Vestlandet

# MASTER'S THESIS

Education embedded in sustainable  
development – English teachers'  
experiences of pitfalls and opportunities

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## **Abstract**

Education is acknowledged as the most effective way to change social behaviour and reduce negative impacts on the planet. The Core curriculum in Norway states that pupils shall learn to think critically and act ethically and with environmental awareness. Moreover, they have the right and responsibility to participate in decision-making for the future. The question discussed in this paper is how five EFL teachers in the fifth to tenth grade prepare learners for the uncertain future through education embedded in sustainable development. Through interpretative phenomenological analysis and semi-structured interviews, educators reveal their understanding of education for sustainable development and their choices of methods, teaching material, and content in sustainable teaching. The thesis also evaluates schools' professional development facilitation. The analysis shows several challenges that arise as a result of unexpected problems such as the pandemic and through the application of interdisciplinary teaching and whole-school approaches. The conclusion is that due to complex relations inside and outside of schools the level of implementation and the strategies for reaching the goals of the curriculum varies considerably.

Key words: Education for sustainable development, EFL educators, Norway.

## **Abstract in Norwegian**

Utdanning er anerkjent som en av de mest effektive måtene å endre sosial atferd for å fremme en mer bærekraftig fremtid. Overordnet del av læreplanen i Norge oppgir at elevene skal lære å tenke kritisk, og handle etisk og miljøbevisst. De har også rett til å delta i beslutningsprosesser for fremtiden. Spørsmålet som diskuteres i denne oppgaven er hvordan fem engelsklærere i femte til tiende klasse forbereder elevene sine på den usikre fremtiden gjennom undervisning forankret i bærekraftig utvikling. Gjennom hermeneutisk fenomenologisk metode og semistrukturerte intervju viser lærerne sin forståelse av utdanning for bærekraftig utvikling og sine valg av metoder, læremateriale og innhold i bærekraftig undervisning. Avhandlingen evaluerer også skolens tilrettelegging for faglig utvikling blant lærere. Analysen avslører utfordringer som oppstår som følge av uventede problemer som pandemien og gjennom bruk av tverrfaglig undervisning og helskoletilnærminger. Konklusjonen er at på grunn av komplekse relasjoner i og utenfor skolen, varierer gjennomføringsnivået og strategiene for å nå de tverrfaglige målene i læreplanen betydelig.

Nøkkelord: Utdanning for bærekraftig utvikling, Engelsklærere, Norge.

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As I write this, I reflect on the experience of creating this Master's thesis. I have learned a lot about the complexities, obstacles, and opportunities involved in doing research. Not only have I gained a deeper understanding of sustainable development in education, but I have also seen how close to my heart this topic lies. I am certain that it will continue to be an important part of my life.

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# 1.0 Introduction

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## 1.1 Sustainable development

As proposed by James Lovelock and Lynn Margulis (2007) through the Gaia Hypothesis, all living organisms on the planet interact with their surroundings to form self-regulating systems that create and maintain the climate and biochemical conditions to make life on Earth possible. This includes the stability of global temperature, photosynthesis, the hydrologic cycle, biodiversity, and other environmental structures. The Gaia Hypothesis is relevant to this Master's thesis because it describes the connection and interdependence between all living organisms on the planet, and it provides arguments for how everything will all be affected if something goes wrong. An example of this was the Chernobyl disaster, where a nuclear power plant in Ukraine exploded and airborne radioactive contamination was spread to several parts of the Northern Hemisphere (Salbu & Reitan, 2022). It caused severe consequences for fresh-water resources, food production, wildlife, and the health of humans and animals. Another example is the Deepwater Horizon drilling unit that had an explosion on board in 2010 that caused leakage of approximately 3,19 million barrels of oil and natural gas into the northern Gulf of Mexico (Westerholm & Rauch, 2016). The oil moved with deep-sea currents and spread to an area of 43,300 square miles killing an estimated 1 million sea birds, 6000 turtles, 30,000 marine mammals, and an unknown number of fish (Westerholm & Rauch, 2016). The decisive factor in both events, and several other environmental catastrophes that have happened throughout history, was human error. Human activity is regarded as one of the main drivers of the climate imbalance that has occurred during the last century (Rieckmann, 2018, p.63).

Climate change has made humanity aware of the vulnerability of the Earth's natural resources and the significance of our impact on the planet. We now have manifold terminologies to describe a better way of living that protects the planet. "Sustainable" development is defined as actions that can be continued for a long time since it causes little or no damage to the environment (Cambridge Business English Dictionary, 2022). This term describes the transition or positive change in society to utilisation of natural resources that do not exceed the biocapacity of the earth and that can be continued in the long haul. An often-cited definition of sustainable development was established by the World Commission for Environment and Development (WCED), also known as the Brundtland Commission in 1987:

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains

within it two key concepts: the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs (World Commission on Environment and Development, 1987, p.41).

Kuhn-Deuschländer (2021, p.28) sums up WCED's definition of the concept by arguing that "Sustainable development combines economic progress with social justice and conservation of the natural environment.". It was clear that targeting issues such as poverty, overconsumption, climate change, exploitation of biodiversity, and unfair distribution of the earth's resources required specific strategies, and it was the Brundtland Commission's task to develop them. In the field of sustainability, there are many complex situations and dilemmas due to the tensions between economic, social, and environmental aspects (Haraldsen et al., n.d). Sustainable development is often referred to as a utopia or ideal state since it seems impossible to accomplish due to the complicated issues inherent in the concept, at the same time as it is a goal which humanity must strive to achieve (Haraldsen et al., n.d).

## **1.2 Research questions and aims of the study**

The many issues related to sustainable development require society to develop specific competencies such as critical thinking, self-awareness, and unconventional problem-solving (Rieckmann, 2018, p.44). Education is acknowledged as the most effective way to change social behaviour and reduce the negative effect humanity's actions have on the planet (Leicht et al., 2018b, p.7). Since education must enable individuals to take personal responsibility for creating a sustainable future, I am interested in looking at how this is done in Norwegian primary schools. The thesis will shed light on this by examining selected educators' teaching and experiences with sustainable development through the qualitative research method; semi-structured interviews.

The main question this thesis aims to answer is "How do Norwegian EFL teachers in 5-10<sup>th</sup> grade prepare learners for the uncertain future through education embedded in sustainable development?" There are many different practices and approaches when it comes to implementing the topic and this has made me question whether this creates challenges or opportunities for educators. I hope that this thesis can contribute to filling the gap in research on how sustainable development is being implemented in education, particularly in the English subject.

In addition to the stated purpose of the study, this thesis has a personal purpose, which is to gain insight into educators' experiences with teaching. Hopefully, immersion in this topic will make me better equipped as a teacher so that I can create a learning environment that encourages learners to engage with sustainable development.

To be able to answer the main question, I have chosen to divide it into three subordinate research objectives:

1. What aspects of sustainable development and environmental pedagogy do educators emphasise when they express their understanding of these concepts?
2. Which teaching methods and materials do the educators use to implement sustainable development?
3. Do EFL teachers have the tools to use environmental pedagogies in an effective way?

The background for the first research question is to gain insight into how educators understand the concept of "sustainable development". The purpose of the question is to see how their preconceptions of the phenomenon might play a role in their use of environmental pedagogies. The term "environmental pedagogy" will be explained in chapter 2.2. The second question addresses which pedagogical decisions educators make when they choose the content of the instruction. This explores which sustainability topics they choose to focus on and what activities they believe will help reach the goals of the curriculum. The final question investigates which external aids and facilitation educators experience. The aim of the question is to reveal how professional development is prioritised in Norwegian schools.

### **1.3 Previous research and research gap**

After reading literature and research articles on sustainable development in education, specifically in the EFL classroom, I have seen that there is a heavy focus on how environmental pedagogy should be implemented. Few scholars have been able to draw on any systematic research into how it is currently being implemented in education, especially in English teaching in Norway. Research on how sustainable development education can look in practice is abundant, but there is an absence of research on measurement, follow-up, and quality assurance of sustainability teaching. Ahmad Qablan (2018, p.133) explains that "Effective educational transformation depends on motivating teachers to bring about change not only in their instructional practices but also in their surrounding school and community environments.". Hence, talking to teachers about their experiences with sustainability to find out whether we are moving forward or meeting stagnation appears to be a vital part of educational development.

Both the approach to environmental pedagogies in Norway and the relevance of language education in solving global issues are essential to answer the questions of this study. Therefore, the following section will briefly present three research articles that cover the research field of the thesis.

### 1.3.1 The sustainable backpack

Education for sustainable development (ESD) is implemented in Norway through the national professional development programme called “The sustainable backpack”. Scheie and Stromholt (2019) note that most research on documented efforts to implement ESD has been carried out in higher education so their study’s aim is to provide insight into important aspects of professional development in primary and secondary schools. Their article presents national efforts to support teachers in implementing ESD. The study does this by interpreting the principles of the programme and several teachers’ experiences with ESD implementation. The article describes how ESD “provides crucial opportunities for young people to be involved authentically in addressing socio-ecological challenges in their local and global communities.” and that “Teacher and teacher educators need a better understanding of cross-disciplinary practices that support ESD.” (Scheie & Stromholt, 2019, p.1). Through their study, it became clear that even though educators wanted to shift towards an interdisciplinary practice it was challenging for them accomplish this. Scheie and Stromholt (2019) also found that even the researchers in the Sustainable Backpack programme had challenges with developing measurements that would reveal the levels of increased effective interdisciplinary teaching.

### 1.3.2 Global issues and language education

Scholars such as Cates (1991, 2005) argue that global problems are bound to language learning and teaching processes. Language teaching is connected to issues such as poverty, prejudice, social injustice, and environmental destruction. It can contribute to greater social responsibility by empowering students with the knowledge, skills, and commitment required by world citizens to solve global problems, such as the ability to communicate across cultures and borders (Cates, 1991). Through his research, Cates emphasizes the important role of language teachers and their commitment to promoting peace, international understanding, and global awareness. He clarifies that the aim of global learning is to “enable students to effectively acquire a foreign language while empowering them with the knowledge, skills, and commitment required by a world citizen to solve global problems.” (Kuhn-Deuschländer, 2021, p.28). Also, he explains that there are several challenges for educators when it comes to teaching about complex issues. These will be accounted for later in this paper. The main weakness of his studies is that they

were carried out in the beginning of the 21<sup>st</sup> century, so in some ways they are bygone. Nevertheless, Cates's findings are still relevant in language teaching and his insight into the connections between language teaching and social issues can assist in answering the research questions in this thesis. To begin to illustrate this, it is appropriate to quote Cates' conclusion,

Language teaching has a mission – helping language students around the world to develop a greater respect for the environment and human rights, greater willingness to work for social justice, and greater commitment to a peaceful world free of war and prejudice. Language students and teachers are therefore not only part of the world's problems, they can also be very much part of the solutions (Cates, 1991, p.223).

### 1.3.3 Scope and delimitations

The educators that have participated in this research project are teachers of the English subject. Even so, I have chosen not to limit the interviews to only this subject since the Core Curriculum in Norway states that the sustainable development topic should permeate all subjects and be applied through interdisciplinarity. Moreover, the background of this choice was that I wanted the teachers to provide a more holistic indication of how sustainable development is being implemented in their schools. While the study facilitates the inclusion of data related to the schools' operation, it provides insight that shows how the English subject can contribute to reaching the interdisciplinary goal of sustainable development.

There are several issues that I will not cover in this thesis although they are relevant for studying sustainable development in education and the English subject. Even though this study touches on issues such as educators' motivation, engagement, and knowledge, the aim is to reveal how sustainable development is currently being implemented in Norwegian schools, so the main areas of interest are facilitation, pedagogical choices, methods, and content. There are many questions when it comes to practices in education for sustainable development. I will only attempt to answer the ones presented in chapter 1.2.

## 2.0 Theoretical considerations

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This chapter will present the relevant theories that will be linked to the findings in the discussion section of the thesis. When searching for information regarding education for sustainable development, one quickly discovers that there is a massive quantity of research on this topic. The first search on “education for sustainable development” in the Western University of Applied Sciences’ library showed 664,510 results, which is an impossible amount to get through. This is a topic that involves all parts of society. It has been a challenge to identify the most relevant research since the concept is such a broad one, so the first task was to narrow the range of literature through more specific searches and by finding literature that was commonly referred to in research.

### 2.1 Sustainable Development

In June 1972, the UN held one of its first climate conferences in Stockholm. The 1970s generally raised awareness of human activity’s impact on the environment and climate (Sinnes, 2021, p.19). “Climate crisis” became the term for the sum of all the challenges the world was facing as a result of globalization (United Nations Association of Norway, 2021). In 1984, the United Nations (UN) appointed the Brundtland Commission, an agency that would identify the causes and find solutions to humanitarian crises such as poverty, overpopulation, consumption, and climate change. As stated earlier, one of the most cited definitions of sustainable development was presented by this commission in 1987 in its report *Our Common Future* (Dernbach, 1998; Sinnes, 2021). In this definition, sustainable development meant that we had to meet the needs of humans both now and in the future without compromising the earth’s capacity to support us. It indicated that the technological state and social organisation were already putting pressure on the earth’s biocapacity and that we had to find solutions that could give societal development a push in the right direction. Furthermore, this formulation introduced the social, economic, and ecological aspects of sustainable development. The Brundtland Commission included these aspects through their explanation of what they meant by development: “[A] process of change in which the exploitation of resources, the direction of investments, the orientation of technological development; and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations.” (World Commission on Environment and Development, 1987, p.43).

The ecological aspect emphasised that we must take care of nature. The world was increasingly experiencing a climate crisis primarily due to the burning of oil, coal, and gas (United Nations,

2021). Several of the earth's resources and natural processes, such as biodiversity, drinking water, air quality, and pristine nature were in danger of being permanently damaged due to human lifestyles. The UN (2021) explained that climate change made us more vulnerable to famine and other natural disasters, and even though rich countries were the ones responsible for the situation, poor countries were the ones who had to handle most of the consequences. The ecological aspect of sustainable development aimed to protect and raise awareness of the threatened natural supplies that we depend on.

The economic aspect focused on how we can maintain economic growth while at the same time taking care of the earth's resources and covering peoples' needs. The goal was to lift everyone out of poverty by levelling social differences. Ensuring financial security for people and society was crucial for achieving sustainable development since it had the power to prevent division among the population, conflict, and political uprising (United Nations, 2021). This aspect aimed for an equitable distribution of resources.

The last of the three aspects addresses the social dimension. It was a crucial part of sustainable development since it aimed to ensure that all people had the opportunity to live decent lives (United Nations, 2021). Human rights were the guidelines for this aspect. Education, decent work, gender equality, cultural diversity, and good health care were just some of the areas in which this aspect touched. The UN (2021) connected this to how empowered people are in society to influence both their own lives and their circumstances. This aspect also considered what governance and government measures we should promote to realise sustainable development since it required that we make choices built on democratic principles that benefitted all people.

Today, we have several different organisations that work continuously to raise awareness among the public and world leaders. The UN is one of these, and they branch out to other groups that have shared purposes but different focus areas. For instance, The Intergovernmental Panel on Climate Change (IPCC) is the UN's body for reviewing research on climate change. It supports governments at all levels with scientifically grounded guidance that can be used to develop climate policies, and its reports are used in international climate change negotiations (IPCC, n.d.). In 2022 the IPCC published its latest research in the "Sixth Assessment Report", with the conclusion that governments are not doing enough to protect people from the hazards of climate change and global warming. The report explains that implementation and planning have been observed across the globe, but that there are large adaptation gaps and that the initiatives often focus on near-term issues (IPCC, 2022, p.21). These gaps refer to the distance

between the actual implementation and the internationally set goals. The report indicates that we have a long way to go to succeed with sustainable development:

Despite progress, adaptation gaps exist between current levels of adaptation and levels needed to respond to impacts and reduce climate risks (high confidence). Most observed adaptation is fragmented, small in scale, incremental, sector-specific, designed to respond to current impacts or near-term risks, and focused more on planning rather than implementation (high confidence). [...] The largest adaptation gaps exist among lower income population groups (high confidence). At current rates of adaptation planning and implementation the adaptation gap will continue to grow (high confidence). As adaptation options often have long implementation times, long-term planning and accelerated implementation, particularly in the next decade, is important to close adaptation gaps, recognising that constraints remain for some regions (high confidence) (IPCC, 2022, p.21).

## 2.2 Education and sustainable development

“Some say that I should be in school. But why should any young person be made to study when no one is doing enough to save the future?” (Thunberg, 2018).

There are several pedagogical and didactic terms that describe the implementation of sustainable development in education. They have many shared goals, such as developing knowledge about ecology, raising awareness of natural resource management, and encouraging action to prevent further damage to the environment (Kuhn-Deuschländer, 2021, p.28) However, Kuhn-Deuschländer (2021, p.28) explains that “the principle underlying these approaches varies to a great extent.”. Environmental education (EE), education for sustainable development (ESD), ecopedagogy, ecoliteracy, and ecodidactics all aim to promote educational practices that lay the foundation for sustainable development. For instance, ecopedagogy builds on Paulo Freire’s critical pedagogy and focuses on changing behaviour by fostering the “correct” values and attitudes from ancient, cultural knowledge, while ecodidactics focus on learners’ participation in the global community with personal values, opinions, and attitudes (Kuhn-Deuschländer, 2021; Misiaszek, 2015). The following section will account for conceptual clarification and the historical background of sustainable development in education. When I use the term “environmental pedagogy”, I refer to common traits of pedagogy and didactics that aim to incorporate sustainable development in education.



### 2.2.1 Historical background

Education's importance in succeeding with sustainable development is not new. One of the first times the term EE was used professionally in public was by Thomas Pritchard at the Conference for Establishment of the International Union for the Protection of Nature in Paris, October 1948 (North American Association for Environmental Education, n.d.). Already at that time, it was clear that the most efficient way to transform society by reaching the demands of sustainable development was through educating the public (Leicht et al., 2018b, p.7). Later, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) became one of the pioneers in informing, assisting, and educating stakeholders in sustainable development. They were an essential part of the UN International Conference on the Human Environment in Stockholm in 1972, where the development of the United Nations Environment Programme (UNEP) took place (Leicht et al., 2018a, p.27). The aim of the international environmental program was to provide practical guidance for educators in implementing sustainable development. The purpose was to make the knowledge and aims of environmental education available for all.

As the name of the conference implies, the "First Intergovernmental Conference on Environmental Education" in Tbilisi, Georgia in October 1977 was the first that exclusively targeted environmental education (Leicht et al., 2018a, p.27). The Tbilisi Declaration, which was developed through this conference, explored some aspects that today make up the pillars of environmental pedagogy. Environmental pedagogy was not just about ecology, it included the economic and social aspects as well. This was fundamental for the further development of education since the goal became to understand the interdependence between economy, sociology, and ecology (Leicht et al., 2018a, p.27). Furthermore, the importance of the transdisciplinary and holistic approach was emphasised:

Environmental education should be integrated into the whole system of formal education at all levels to provide the necessary knowledge, understanding, values, and skills needed by the general public and many occupational groups, for their participation in devising solutions to environmental questions. (UNESCO, 1978, p.12).

"Effective public participation in decision-making" was the aim, and the way to get there was through teaching ethical awareness, values, attitudes, skills, and behaviour (United Nations, 1992, para.36.3). Solving global issues would require education, since educating the public was the single, most effective way of changing the public's behaviour and teaching them how to live better lifestyles. In 1992 the UN arranged a conference in Rio de Janeiro, where all the

member countries committed to following an action plan called “Agenda 21” (Leicht et al., 2018a, p.28). This plan contained important initiatives for sustainable development that member countries had to implement and it emphasised that humanity was standing at a defining moment in history (Dernbach, 1998, p.103). Chapter 36 of the report focused on the necessity to educate and raise the awareness of the public.

Both formal and non-formal education are indispensable to changing people’s attitudes so that they have the capacity to assess and address their sustainable development concerns. It is also critical for achieving environmental and ethical awareness, values and attitudes, skills and behaviour consistent with sustainable development and for effective public participation in decision-making. (United Nations, 1992, para.36.3).

Agenda 21 was replaced by the Millennium Development Goals (MDGs) that were introduced by the UN in September 2000 (Leicht et al., 2018a, p.29). Eight goals were agreed upon by all member states and the goal was to reach them by 2015. Later, in 2002, the UN decided that the period from 2005 to 2014 would be the international decade of education for sustainable development and that UNESCO would have the overall responsibility to check if the goals were being implemented by member states (Sinnes, 2021, s.19). The aim of the decade was to prioritise and work to advance education for sustainable development (Lockhart, 2018, p.217). They believed that common principles and practices of sustainability when put into all contexts of education, training, and learning, would lead to positive transformation in social behaviour which would reduce the negative impacts on the planet (Lockhart, 2018, p.217).

In 2015 the UN presented a set of goals that were called UN’s Sustainable Development Goals (SDGs). The 17 goals would replace its’ predecessor, the MDGs, and all member states signed the agreement which made them responsible for reaching the goals within 2030 (Leicht et al., 2018a, p.29). Each goal includes targets that will help reach the SDGs. Goal 4 reads “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.” (United Nations, 2015, p.17). Target 4.7 focuses on enabling learners to live sustainable lifestyles. This target’s goal is to become a natural part of all levels of national education policies, curricula, teacher education, and student assessment.

By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural

diversity and of culture's contribution to sustainable development. (United Nations, 2015, p.17).

### 2.2.2 Characteristics of environmental pedagogies

So far, this chapter has focused on environmental pedagogy's historical background. Since there are so many different terms that describe environmental pedagogy and because there is no established consensus on the definition, the following section aims to present what the prevalent characteristics are.

UNESCO explains that the aim of environmental pedagogy is "To transfer 'appropriate' sets of knowledge attitudes, values and behaviour; and [...] to develop people's capacities and opportunities to engage with sustainability issues so that they themselves can determine alternative ways of living" (Didham & Ofei-Manu, 2018, p.91). Sinnes (2021, p.49) also describes how learning and training must enable competencies that learners will need to contribute to creating a sustainable society. This is supported by many researchers, such as William Stapp, a founder of the environmental education movement who stresses that it "helps overcome social conflicts in society by raising knowledge of the natural environment, conducting interdisciplinary exploration, and encouraging critical thinking through inquiry-based, student-centered framework" (Kahn, 2010, p.7). Richard Kahn (2010, p.xv) describes environmental pedagogy as a starting point for classroom practice and political strategies for reinventing the world since it is grounded in an understanding of the interconnectedness of all living beings. He also emphasises that successful environmental pedagogy will naturally bring an understanding of human emotions, respect for universal rights and culturally diverse ways of living, and planetary consciousness (Kahn, 2010, p.xvi).

Sinnes (2021, p.55) reveals five characteristics of education for sustainable development, which is (1) updated professional knowledge, (2) interdisciplinary approach to teaching, (3) relatable knowledge to the learners reality, (4) focus on competencies such as creativity, critical thinking, communication and cooperation, future-focused thinking and optimism, action competence, and being satisfied with lower consumption, and (5) that the school is an arena for learning to live in a sustainable manner.

#### 2.2.2.1 Updated knowledge

Updated knowledge is central in education for sustainable development since there is rapid progress and frequent new findings in that research area (Sinnes, 2021, p.56). Some sources of information are regarded as better than others when it comes to staying up to date. Examples of

sources that are commonly referred to as legitimate are UNEP, IPCC, CICERO, Norwegian Polar Institute, and the Norwegian Biotechnology Advisory Board (Sinnes, 2021, p.56). Sinnes (2021) explains that these are good sources of information due to their scientific anchoring, applicability, and recommendations for further readings. They develop reports and guidelines that inform policymakers about specific areas of sustainable development, such as climate change, biodiversity, sustainable production and consumption, global justice, disaster risk reduction, and poverty reduction (Rieckmann, 2018b, pp.62-82). These reports are easy to comprehend and should enable individuals to put the theory into practice. Rieckmann (2018b, pp. 62-82) describes these topics as decisive in the success of sustainable development. These organisations aim to give educators guidance so that they can teach these topics and use the teaching strategies that most effectively promote a holistic understanding. The pedagogical choices that the educators make related to topics and content are decisive for the development of sustainable competencies. Learners need to become familiar with content that gives them a picture of the current state of the planet (Rieckmann, 2018b, pp. 62-82). Sinnes (2021, p.56) writes that textbooks do not have the same ability to stay updated as other materials such as websites, articles, and books. Still, the ocean of information and teaching material on sustainable development online can be a challenge for educators to navigate through. It means, however, that there are endless options for how the instruction might unfold, which is very beneficial for accomplishing adapted education.

#### *2.2.2.2 Interdisciplinary teaching*

In chapter 2.1 it was established that there are three aspects of sustainable development, which are the economic, social, and ecological aspect (Sinnes, 2021; World Commission on Environment and Development, 1987). These are interconnected, so issues in one of the aspects will affect the others (Sinnes, 2021, p.57). This means that education for sustainable development has to be implemented in an interdisciplinary manner and involve policymakers, school administration, and staff (Scheie & Stromholt, 2019; Sinnes, 2021).

Leading up to the professional renewal, the Ministry of Education and Research (Meld. St. 28 (2015-2016)) published a whitepaper to explain the purpose of changing the curriculum. The whitepaper frequently mentions interdisciplinarity as an important method in contemporary teaching. “The connection between the subjects must also be made clearer in the curriculum, in order to contribute to the students’ holistic understanding” (Meld. St. 28 (2015-2016), p.7). This section of the report also explains how the chapters in the core curriculum about basic skills and interdisciplinary topics show educators what the subjects have in common. However, it was

made clear that the interdisciplinary topics should only be included where they are relevant to the subject's competence aims (Meld. St. 28 (2015-2016), p.7)

Klein (2020, p.37) demonstrates that interdisciplinarity can be applied in different ways. One way was to teach the holistic topics through each subject's internal methods, terminologies, and contents. Other approaches were to work with topics through tightly interwoven subjects or to arrange big projects across all subjects. The core of interdisciplinary teaching is to facilitate work with topics that require knowledge and competencies from different subjects (Klein, 2020, p.37).

### *2.2.2.3 Whole-institution approach*

The whole-institution approach, similar to the interdisciplinary approach, shows that sustainable development in education is not confined to only subjects or schools but applies to all levels of education as an integral part of lifelong learning (Rieckmann, 2018a, p.46). It requires that society builds the capacity of educators and policy support both nationally and internationally, so the learning institutions feel the societal drive towards these changes. The curriculum is built up so that all subjects are connected to sustainable development through the interdisciplinary topic (Summers and Cutting, 2016, p.64).

Summers & Cutting (2016, p.224) recognise that many schools foster unsustainability through teaching fragmented understandings, creating unhealthy competition, reproducing norms and flawed behaviours, and underestimating the human ability to explore and find alternatives. They argue that a whole-institution approach promotes healthy reasoning around the connections between subjects instead of limiting learning to the frames of single subjects.

Breiting et al. (2005, p.9-12) reveal criteria for implementing ESD in Norway. They emphasise that schools need to facilitate educators' professional development through earmarked time for discussion and evaluation of sustainable teaching practice. Moreover, schools need to prepare a shared vision for ESD that the staff can follow and find a way that they all can learn from and benefit from experiences with ESD (Breiting et al. 2005, pp.9-12). They believed this would make it easier for educators to improve their practice even if they did not feel motivated to work with sustainable development. They give an example from a school that aimed to become more involved in research on ESD, where they gathered data through reading and discussed the findings in groups of teachers, parents, learners, and other employees. Breiting et al. (2005, p-42) also emphasised that the whole-institution approach required that the school included the

local community. This would create meaningful teaching and learning by providing an opportunity for learners to engage in real action and local collaboration and development.

Schools have characteristic phases they go through in the transition into more sustainable practices (Sinnes, 2021, p.178). The first phase is ground zero, where educators and administration teach topics from the curriculum that are regarded as sustainable but do not consider sustainable development to be an essential part of the school management. The second is one where individual teachers carry out isolated projects with their class or the whole grade with some support from the administration. In the third phase, the administration considers education for sustainable development to be an important part of their school, so they encourage educators to implement it in their teaching. The fourth is a more defined phase, where the school has set goals for the content of the teaching and visions for how the school can become more sustainable overall. However, they still have little experience. In the last phase, they have been recognised as a sustainable school that works towards stipulatory goals by giving the concept a clear position in teaching, daily operation, and collaboration with the community outside the school (Sinnes, 2021, p.178).

#### *2.2.2.4 Relevant and relatable to learners' reality*

Most research on education for sustainable development accentuates the significance of teaching issues and themes that are relevant to the learners and close to their reality. If learners can see the problems that need to be solved locally or regionally and get experience with possible solutions the learning becomes much more effective (Klein, 2020, p.62). If educators use real environments outside the classroom to teach, learners get the chance to achieve the learning goals of ESD, create better connections with the local community, become more interested in nature, and develop their environmental awareness (Manni et al., 2017, in Scheie & Stromholt, 2019).

When learners hear about catastrophes that happen on the other side of the world, affecting people they will never know, they are distanced to a degree that makes it hard to grasp the actual extent of the tragedy. Also, when learners hear about child labour, polluted environments, deforestation, and biodiversity loss, it is difficult to understand how their lives can be related to those situations. Naturally, Nordic regions are experiencing significant environmental changes as well, such as earlier growing seasons, more pollen and rainfall, fish stock shifting northwards, and the endangerment of species like the polar bear (Nordic Council of Ministers, 2009, p.6). However, social issues that occur because of climate change, such as homelessness,

poverty, and hunger, are very distant from the reality in shielded countries like Norway. Klein (2020) explains that abstract issues are easier to understand if they are put into context.

Sinnes (2021, pp.148-50) illustrates how outdoor education can provide students with good social experiences as well as learning opportunities. She singles out resources teachers have in learning arenas outside of school, such as school gardens, local companies, museums, science centres, and outdoor areas. By moving education outside, learners can develop competencies that are important for the future and get authentic experiences with nature and environmental issues. By cycling or cleaning beaches, learners get a chance to understand how they can take action to live more sustainably. Moreover, by visiting local businesses and volunteer organisations, for example, they can learn how to encourage change in their local communities. Outdoor education can help learners become environmentally aware citizens (Sinnes, 2021, p.149).

#### *2.2.2.5 Competencies*

Now that the theory chapter has covered some of the external aspects of sustainable teaching, it is time to move on to inner aspects, which are competencies that learners need to attain for society to move in the desired direction. Rieckmann (2018a, p.44) highlights key competencies such as system thinking and handling of complexity, critical thinking, acting fairly and ecologically, cooperation, participation, empathy, change of perspective, anticipatory thinking, communication and use of media, action competence, evaluation, ambiguity, and frustration tolerance. Klein (2020, p.38) articulates similar abilities but adds to them the competency of innovative problem solving. Sinnes (2021, pp.58-67) encapsulates all these competencies in seven categories: (1) creativity, (2) critical thinking, (3) system understanding, (4) communication and cooperation, (5) faith in the future, (6) action competence, and (7) ability to live lives without overconsumption.

Creativity is regarded as a relevant competency because it enables individuals to think outside the box. Many of the challenges related to climate change cannot be solved with simple solutions. Sustainable development is a complex matter that has many aspects we need to consider. Rieckmann (2018a, p.45) believes that creativity can optimise the process of finding innovative ideas and unconventional solutions. Warren et al. (2014, p.10) describe this competency through the term “strategic thinking”, where individuals know how to use creativity and innovation to find solutions to the problems and challenges of the 21<sup>st</sup> century. “Wicked problems”, which are tasks that provide complex real-life problems without clear solutions, enable learners to use their creativity (Rittel and Webber, 1973, in Scheie and

Stromholt, 2019, p.8) Wicked problems encourage learners to use knowledge from different subjects to find solutions. Scheie and Stromholt (2019) found that participation in the Sustainable Backpack program increased the use of wicked problems in schools.

Critical thinking is the ability to raise questions about how the world operates and the knowledge we encounter. “The ability to question norm, practices, and opinions; reflect on own one’s values, perceptions, and actions; and take a position in the sustainability discourse.” is what Rieckmann (2018a, p.44) characterises as critical thinking. Sinnes (2021, p.60-61) argues that there are five important dimensions of critical thinking. Firstly, individuals need to have a general understanding of the concepts which are discussed. Secondly, it is helpful to keep an open mind so that new information or ideas can be properly processed. For instance, this involves the appreciation of reflection and rational exploration. Two other aspects of critical thinking are knowing how to do critical research before making up one’s mind about a topic and knowing how to find the validity of statements. The latter especially focuses on terminologies, such as the difference between assumptions and conclusions, or value statements and empirical claims. The last aspect Sinnes (2021, p.60-61) highlights, is the capability to uncover the background for how the data was found, such as knowing if a method was applicable or considering the degree of accuracy. There are several issues related to sustainable development that even scholars and scientists disagree on, so critical thinking is a tool one can use to position oneself in the discussion (Sinnes, 2021, p.60-61). The importance of critical thinking can be illustrated briefly by looking at how global capitalism often affects local environments to the disadvantage of the people living there. Many people are affected by decisions made elsewhere and do not have the opportunity to change that. Without critical thinking, we would not be able to question these practices, and we would not be able to keep decision-makers accountable. An example of this is EU’s waste regulation, especially e-waste. This will be discussed further in the following section.

Action competence and the ability to live lives without overconsumption focus on self-awareness and the capability “to reflect on one’s role in the local community and (global) society” (Rieckmann, 2018a, p.45). Both competencies aim to encourage individuals to be aware of their actions and continually evaluate their consequences. Moreover, if the individual reflects on their impact and place in society, they might train their emotional intelligence by dealing with the feelings and desires that lead their actions (Rieckmann, 2018a, p.45). These competencies will also hold people around the individual accountable for their actions both by spreading awareness and demanding change to eradicate unfair practices. Examples of action



competence as a powerful driving force for change can be seen through Greta Thunberg's empowerment of the youth climate activism movement. She was announced *Time* magazine's 2019 person of the year because of her dedicated effort to keep world leaders accountable for their actions (Alter et al., 2019). As the magazine wrote in 2019: "[S]he has succeeded in creating a global attitudinal shift, transforming millions of vague, middle-of-the-night anxieties into a worldwide movement calling for urgent change" (Alter et al., 2019). On 20 September 2019, approximately four million people from 165 different countries joined the largest climate strike in history. In Norway, an estimated 40,000 school children joined the "climate roar" on 30 August 2019 (Strønen et al., 2019).

Moving on to the next competency, a straightforward description of system understanding is the ability to see the whole picture. There are often different sides to issues and one needs to see them all to find new solutions. "[S]ystems thinking is about assessing the degree of system complexity and analysing system dynamics to make informed decisions that reduce the risk of negative outcomes" (Warren et al., 2014, p.8). System understanding can help individuals to make decisions since they take into consideration the complexity of connections in society. It also enables people to see how systems are embedded in different areas. To further emphasise the example of e-waste, which is the term for electronic products that are no longer useful, system understanding can help individuals realise how a structure that works in their country might not be the most beneficial for others. In 2015, European countries sent 54% of their e-waste to developing nations outside the EU (Summers & Cutting, 2016, p.62). Many might not be aware of the impact our customary systems have on other nations. System understanding can help individuals realise that shipping waste to other countries is not the end of the problem and that it involves issues such as unregulated working practices with risks to the health and safety of both workers and local ecosystems (Summers & Cutting, 2016, p.62). System understanding, similar to critical thinking, can support society in managing inequality, complexity, and uncertainty (Rieckmann, 2018a, p.44).

This brings us to communication and cooperation. To approach sustainable development in a viable way we need to work together. The ability to learn from others and be open to their perspectives is vital to "facilitate collaborative and participatory problem-solving" (Rieckmann, 2018a, p.44). The capacity to be empathetic helps us to understand and respect the needs and views of others. Good interaction skills are part of this social competency since most conflicts in groups can be avoided through respectful and clear communication. Furthermore, many of the issues we face today might have several solutions, so the classroom needs to be an open

space for productive disagreements and discussions where learners can contribute with open, critical, respectful, and thorough arguments (Klein, 2020, p.32). This social competency requires that learners understand concepts such as justice, equity, social-ecological integrity, and ethics, and that they recognise the value differences between cultures (Warren et al., 2014, p.7). This means that they must learn about discriminatory systems where problems and solutions impact people in different ways so that they can demand solutions that benefit all people and not just a single group. Richard Kahn (2010, p.xv) argues that humanity needs ecopedagogy competencies such as collaboration and critical thinking since “the majority of the social and political problems facing us today are fundamentally rooted in mainstream social relations and material conditions that fuel authoritarianism, fragmentation, alienation, violence, and greed”. He further explains that these conditions enable learners to become what he describes as “entitled consuming masters and exploiters of the earth, rather than collective caretakers of the planet” (Kahn, 2010, p.xv).

The last category that Sinnes (2021, p.63) presents is one that discusses the ways in which we look at the future. Anticipatory thinking, foresight, and trans-generational thinking are commonly discussed in literature and research about education and sustainable development (Sinnes, 2021; Warren et al., 2014). Rieckmann (2018a, p.44) describes it as “anticipatory competency”, which embraces the ability to predict how the future will look based on our choices today. It is essential that individuals have the capability to systematically analyse, evaluate, and imagine the future so that they can predict and prepare for challenges and risks that might arise (Warren et al., 2014, p.6). As Warren et al. (2014, p.6) explain: “Sustainability necessitates learning from the past, exploring the present, thinking about the future, and developing solutions that are adaptable and resilient.” Learning from the past means that we “consider how past decisions led us to the crises we face today” and thinking about the future requires that learners become comfortable with uncertainty (Warren et al., 2014, p.6). Individuals have to be empowered so that they can (1) discuss how the past has affected the present and how the present will affect the future, (2) understand the consequences of a lack of action today, (3) envision a sustainable future and come up with societal changes to develop it, (4) recognise the different futures that might evolve based on our choices today such as a utopian, dystopian, possible, probable or desired future, and (5) foresee unintended costs of technological development and new inventions (Warren et al., 2014, pp.6-7).

All competencies mentioned in this chapter are interconnected and equally important, and they need to be developed together with the basic competencies in education (Rieckmann, 2018a,

p.44). Summer and Cutting's (2016, p.61) description of "action research" explains that educators' professional practice of ESD requires the same competencies that individuals are intended to learn through environmental pedagogies. They emphasise many of the same competencies as Sinnes, such as the willingness to explore, and being able to work with the idea that one's own view may not be the right one. Also, the ability to study oneself alongside others and being open to encounters with disconfirming evidence from a wide variety of sources (Summers & Cutting, 2016, p.61). Critical thinking, communication, and cooperation are also emphasised in their article.

#### *2.2.2.6 School as a role model for living sustainably*

Since the goal of environmental pedagogy is to create individuals that are environmentally aware and know how to make sustainable choices, it is not enough to teach them this through instruction. Sinnes (2021, p.67) emphasises that the whole school operation has to be an example of how one can live sustainably. In Norway, the Eco-lighthouse and Green Flag organisation grants certification to schools that wish to change to a more sustainable practice. They require that the schools make environmental measures so that the daily operation of the school fosters sustainability. Sinnes (2021, p.67) argues that it is not enough to have a sustainable school if the instruction fails to implement sustainable development. Therefore, it is important that the pedagogical content complements the school's sustainable operation and vice versa.

Sinnes (2015, pp.162-164) provides examples of how schools can be role models for living sustainably. For instance, new or renovated school buildings are required to regulate the temperature in energy-efficient ways. Old schools can facilitate learning through discussions about developing more efficient energy use, such as switching all lightbulbs to energy-saving bulbs. This could also be transmitted to learners' homes. Transportation is also highlighted as relevant to sustainable school practices (Sinnes, 2015, p.162), since questions are raised related to schools' bicycle parking, transportation choices for excursions, electric car charging stations, and shower opportunities, among others. Sinnes explains that these issues can be used in teaching for raising awareness around carbon footprints and personal consumer choices. These could also be raised through food-consumption awareness, where schools reorganise their cafeterias by changing to vegetarian or plant-based meals, changing suppliers or to short-travelled products, and changing the size of the plates for less food waste. Sinnes (2015, p.163) also suggests activities where learners can calculate their food's impact on the environment, such as their lunch or their family's dinner. Also, a school's policy on clothing and trends can

have a lot to say for the learners' view on consumption. Schools should prevent unhealthy trends and unsustainable consumption of products such as clothes, bags, shoes, and technology. The common goal of these activities and adjustments is to familiarise the learners with sustainable solutions that they can transfer to their own lives.

Schools' have characteristic phases they go through in the transition into more sustainable practices (Sinnes, 2015, p.168). The first is the phase where educators teach topics from the curriculum that are regarded as sustainable but do not consider sustainable development to be an essential part of the school management. The second is one where educators individually carry out isolated projects with their class or the whole grade with some support from the administration. In the third phase, the administration considers education for sustainable development to be an important part of their school, so they encourage educators to implement it. The fourth is a more defined phase, where the school has set goals for the content of the teaching and visions for how the school can become more sustainable overall. However, they still have little experience and are in the early part of the transition. The last phase is where the school has been established as a sustainable school that collaborates with the local community to educate learners that contribute to developing a sustainable society.

### 2.2.3 Teaching material

As we have already seen, some of the key components of environmental pedagogy are:

- the three dimensions of sustainable development
- interdisciplinarity
- past and future thinking
- global citizenship
- local, national, and global perspectives
- action
- critical thinking

Klein (2020, p.61-82) provides examples of how learners can work with sustainable development through activities embedded in the elements above. Her first suggestion is to ask big questions since this can activate learners' curiosity, exploratory urge, and wish to find solutions (Sinnes, 2021; Klein, 2020). It is an advantage to develop solid questions that take time to answer, require effort and engagement, and make individuals reflect. Exploratory activities are helpful to answer these types of questions, and such an activity could be, "What is the life cycle of my phone?" To find all the connections that exist between the origin of the

phone and the individual, the learners must explore topics such as consumption, interdependence, poverty, economic injustice, global citizenship, and child labour. An instruction based on an activity like this can unfold in several ways. The learners could prepare a product such as a cartoon, movie, campaign, poem, reader post, organised demonstration, presentation, or strategy for political change (Klein, 2020, p.64). She gives examples of material that can be used in these lessons, such as documentaries, videos, or tasks from NRK, Greenpeace, UN, Save the children, Eco-agents, The future in our hands, Mission Impact, and other reliable sources. She also refers to matters that the instruction's tasks can build on, for instance, the school's or individuals' ecological footprints, the SDGs, the purpose of education, children's literature, and environmental blogs (Klein, 2020, pp.68-82). Klein refers to two books that present further recommendations for teaching materials, which will be accounted for in the following sections.

Kvamme and Sæther (2019, p.126) emphasises that sustainable development teaching materials does not have to be created from nothing, educators can reinvent their current material so that they encompass sustainable dimensions. They also suggest that educators use the UNs SDGs as a starting point for English instruction since they promote intercultural competence through respect for diversity, comprehension of other cultures' perspectives on the world, and communication across borders. They provide an example of how literature can assist learners in exploring the differences between cultural norms (Kvamme and Sæther, 2019, p.127). An educator could read through a text with the learners and make them delve into the content through a series of thought-provoking questions that focuses on the interaction between individuals and the cultural communication traditions. The aim of an activity like this could be to raise awareness around the causes of misunderstandings and conflicts in communication.

In the book "Action, takk!", Sinnes (2020) provides teaching material that can create awareness around the textile business, electronic consumption, food and agriculture, plastic, fossil energy, and politics. The teaching material is divided into four separate sections with different aims, where the first brings attention to what the issue stems from, the second to how the issue arose in the local community, the third explores possible solutions, and the last one focuses on how the school could contribute to solving the issue. Examples of teaching activities are interviews, surveys and campaigns in the local environment, presentations of people that participate in activism and politics, setting of goals to make changes in personal lives, exploration of how many resources are used to make products that we use daily and their life cycle, and diving into movies, documentaries, and literature that present different perspectives of the issues. Sinnes

(2020, p.65) suggests that schools should arrange clothes swaps, flea markets, reparation clubs, and outdoor expeditions where local impacts are studied. Schools can also reduce single-use plastics and serve more sustainable foods in the cafeteria, start kitchen gardens, measure individual and collective food waste, and develop carbon-neutral solutions and practices together. The importance of outdoor school and local collaboration permeates the teaching material.

#### 2.2.4 Norway's approach to sustainable development in education

The implementation of environmental pedagogies has a long history in Norway (Sinnes, 2021). For instance, Bjørndal et al.'s publication from 1975, "Innføring i økopedagogikk: En studiebok for læreres" underlined that if one was to have the opportunity to achieve profound and lasting changes in attitudes, ecological thinking had to be included as a central dimension of general education (Bjørndal et al., 1975, p.7). To them, learning about active contributions to solving environmental problems was valuable for students' development into members of society (Bjørndal et al., 1975, p.20). Already at this point in history, they sought to overcome the problem of teaching about sustainability in the few subjects directly relevant to ecological issues by emphasizing that environmental problems affected economic, social, and cultural aspects as well (Bjørndal et al., 1975, p.20).

Even though Norway is a small country of only 5,39 million people, the nation looks out at the world in solidarity to help change global society for the better (Statistics Norway, 2022). Naturally, this means that Norway is affected when there is international development in goals and strategies for implementing sustainable development. The professional renewal that began in 2017 is an example of this. The intention of the renewal of the curriculum (LK20) was to keep the content and purpose of school subjects in line with societal changes (Klein, 2020, p.7). The government established a working group called the Ludvigsen-commission in 2013 with the purpose of asserting what competencies learners would need for the future (Klein, 2020, p.7). The professional renewal builds on the Ludvigsen-commission's findings. Klein (2020, p.7) explains that the biggest challenges of our time are global and complex, and they make different disciplines intertwine. A comprehensive understanding is required to find solutions. Through the new curriculum, the mission of preparing individuals for responsibility and participation in society through all-around development (Bildung) is emphasised (Ministry of Education and Research, 2017). The core curriculum presents the values, principles, and purposes of education, and this section is considered equally important as the competency aims for all the subjects (Ministry of Education and Research, 2017). Klein (2020, p.8) makes clear

that interdisciplinarity has become a substantial part of education since the connections between the subjects have become important for achieving lifelong learning and a holistic understanding of the world.

The three interdisciplinary topics that were introduced through the professional renewal in 2020 are related to SDG 4. Sinnes (2021, p.49) explains that education in Norway is divided into subjects that cover most of the knowledge that students need to acquire. Norway has developed a core curriculum with interdisciplinary targets that are supposedly meant to pervade all teaching without displacing the subjects' content. Learners are supposed to understand the world's complex issues through the introduction of interdisciplinary themes. The Ludvigsen-committee recommended that all three interdisciplinary topics should be integrated into all subjects and all levels of education. However, the Ministry of Education was less consistent in its explanation of the role of the same topics. For instance, the Ministry writes that education for sustainable development must be integrated in all relevant subjects so that it facilitates holistic understanding (Aaslid et al., 2019). The relevant subjects exclude English, mathematics, and music (Ulvestad, 2019). Still, the Ministry implies that these topics must be included in the whole school operation; "The topics shall facilitate interdisciplinary collaboration, and they must be a common purpose for the school" (Meld. St. 28 (2015-2016), p.7). For many educators, it is quite a task to teach about the global challenges in this way (Sinnes, 2021, p.50):

Sustainable development as an interdisciplinary topic in school shall help pupils to understand basic dilemmas and developments in society, and how they can be dealt with. Sustainable development refers to protecting life on earth and providing for the needs of people who live here now without destroying the possibilities for future generations to fill their needs. Sustainable development is based on the understanding that social, economic and environmental conditions are interconnected. Our lifestyles and resource consumption have local, regional and global consequences (Ministry of Education and Research, 2017).

Even though sustainable development is not explicitly mentioned in the English subject's purposes or competency aims, Klein (2020, p.56) argues that the subject contributes with essential skills such as communication and intercultural competence. She explains that the EFL classroom can teach learners how to speak with people around the globe, and understand that values, beliefs, and attitudes are culturally bound.

### 2.2.5 Criticism of environmental pedagogy

Environmental pedagogy's spot in education has been challenged in recent years by a number of writers. The most prominent argument against it has been summarised by Jickling and Wals (2008, p.16) through their claim that education should not aim to develop citizens with a special set of attitudes and values. Instead, they argue, education should aim toward creating free humans who can make their own decisions and think independently and critically. Jickling and Wals (2008, p.16) also argue that not only does environmental pedagogy pose a danger of indoctrination, but it could also be used as a political tool to move society in a specific direction. Through these arguments, they draw attention to the ethical aspects of education. They understand that urgency plays a significant role in the decision-making in education, and that the effects of climate change might push education towards a praxis that shapes the learners more than it empowers them. They argue that educators need to be conscious of how their instruction enables learners to understand complex situations, make up their own perceptions and values, and develop competencies such as creativity, innovation, and solution-orientation (Sinnes, 2021). Moreover, education should give learners the tools to make a difference and impact society the way they personally desire.

Johan Öhman (2007, 43-47) has questioned how educators can avoid teaching the “absolute right and good”, which would qualify as indoctrination, and instead develop the learners' capability to contribute to the democratic conversation about the decisions made for the future through understanding ethical values and developing a moral compass. Öhman (2007, p.44) argues that rather than teaching “this is wrong” and “this is right”, educators should facilitate learning activities where pupils can participate in conversations with people about their ethical and moral opinions:

We rather learn to communicate opinions about the right and the good by participating in situations where other people express what they find to be fair, unfair, self-sacrificing, insulting, selfish, unselfish, greedy, generous, honest, dishonest, just, unjust, etc. (Johan Öhman, 2007, p.44).

He concludes that environmental pedagogy should be a recommendation instead of a fixed goal. Learners should have the opportunity to discuss and reconsider what a sustainable society and the future demands of a global society, instead of learning preconceived ideas (Öhman, 2007).

Søren Breiting (2007) broke with tradition by raising the question of how we approach issues in modern society. To him, it was unfortunate that educators often were the ones who had to



handle new problems that presented themselves, such as obesity, smoking, suicides, inappropriate nutrition, health issues, and environmental problems. He believed that a top-down approach such as the one regarding sustainable development might create several challenges for both educators and learners. For instance, it has been suggested that learners should teach their families to behave in certain ways after gaining the knowledge themselves. This lays a burden on children that should be carried by adults. Teachers often feel overburdened with the continuous new challenges they have to handle and they feel like they never do what is expected of them (Breiting, 2007). Scientific literature and the curriculum give educators an idea of what education for sustainable development aims for and they highlight the necessity of integrating the topic in most subjects in school. However, in Breiting's (2007) experience this might not be enough, because teachers need a greater idea of what education for sustainable development requires for their teaching to be effective. The content, which is presented in the curriculum, is not the most important aspect to him. "The more important is how the students get the frame for working with the content, i.e. what is the level of participation?" (Breiting, 2007). In similarity with Jickling, Wals, and Öhman, Breiting (2007) expresses that instead of indoctrinating the learners with sustainable development ideas educators should empower them by teaching them how to express their views. This will strengthen their future commitment to solving environmental challenges.

### 2.3 Teacher cognition

Li Xu (2012) has studied previous research on teachers' beliefs to explore how they influence the language teaching and learning process. She explains that beliefs influence how we make sense of the world individually, and whether we accept or reject new information that we encounter throughout life (Xu, 2012, p.1397). Every experience we have had or will have will be coloured by what we believe about the world. There are many theories on how teachers' beliefs are formed, but there are some common ideas about what they arise from, such as the teachers' life experiences, upbringing and early life, social history and culture, the teaching process, and unconscious influence (Xu, 2012, p.1397).

Xu continues her essay by explaining that beliefs were closely related to values, attitudes, and behaviour, and that therefore it was crucial to examine the consequences they had for the educators and learners. She brought up Williams and Burden (1997) by stating that if educators are not aware of their belief systems and evaluate how much their actions reflect those beliefs, there is a high probability that inconsistency or discrepancy between beliefs and actions will occur. In their words, if the inconsistency "is a large one, then learners are likely to receive

confusing messages” (Williams et al., 1997, in Xu, 2012). Xu (2012) notes how educational theorists regard teachers’ beliefs as important parts of educational practice, and that critical reflection is one of the instruments that can be used to enhance self-awareness and ensure quality examination. Teachers’ beliefs are often resistant to change and influence their decisions and classroom practice more than their knowledge of planning lessons do. This is one of the reasons why it is relevant to look at the five educators’ beliefs, attitudes, and values in this thesis. I reasoned that understanding the fundamental ideas upon which educators build their work should assist me in charting the comprehensive picture of how my respondents target the objectives of the curriculum. Beliefs “serve as a foundation for setting goals and standards by framing what is viewed in detail and focusing teachers’ attention and energy” (Xu, 2012, p.1398). This means that teachers’ values decide what they choose to emphasise in the instruction and determine the goals of the teaching, especially when it comes to topics that can be interpreted and understood differently such as sustainable development.

Beliefs are highly related to how we perceive new information, and this might have an effect on the development of education. Most educators have set ideas about issues such as what role education can play and what is right and wrong in a classroom, so new information can often be either dismissed as unworkable and wrong or as matters they already know (Xu, 2012, p.1397). This might cause some challenges when the goal is to improve education through teaching educators about new methods of teaching:

Teachers’ beliefs have a deep impact on their classroom principles. The realization of this relationship is very important for teachers to prepare and implement their new syllabus. Teachers’ beliefs affect what they accomplish in their classroom, their attitudes, and their learner’ beliefs. They guide teachers to adopt their teaching strategies for coping with their teaching challenges, shape language learners’ learning environment, their motivation and their language ability (Gilakjani & Sabouri, 2017, p.78).

The previous section has shown that teachers’ beliefs significantly affect the way they teach and the development of education. Now, in the section that follows, it will be argued that their values affect the wider world and are linked to the global issues that we are facing. Scholars such as Cates (1991, p.218) and Gilakjani and Sabouri (2017, p.78). argue that the educator’s choices due to beliefs about language teaching, such as methods and content, lay the foundation for learners’ future abilities. He emphasises that if the learners are taught to be passive, obedient, and unquestioning listeners, it will have catastrophic consequences for the global

community. The argument that teachers' belief about teaching shapes how our future society will look is supported by the statements in chapter 2.2.2 where it is emphasised that the goal of achieving environmental and ethical awareness, values and attitudes, skills, and behaviour for effective public participation requires competency such as critical thinking, system understanding, cooperation, and empathy. These competencies are learned most efficiently when the teacher views the learners as clients, partners, individual explorers, or democratic explorers and facilitates learning activities based on learners' needs (Xu, 2012, p.1398). Instead of shaping the learners based on the teachers' personal views, educators should view themselves as co-learners or facilitators.

Another cognitive aspect that is tied to teachers' beliefs is self-efficacy, which is a term developed by Albert Bandura (Bandura, 1994, in Xu, 2012, p.1400). It includes "people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives" (Bandura, 1994, in Xu, 2012, p.1400). In this thesis, I examine how teachers facilitate learning for sustainable development, so bringing in self-efficacy and its impact on educators' practices might help to determine what beliefs they expose their learners to. By way of illustration, Bandura shows how individuals with a strong sense of efficacy approach difficult challenges with strong effort and commitment and view failure as unsatisfactory effort or inadequate knowledge which one can change. Moreover, they have a better starting point for approaching difficult issues since they have a fundamental belief that they can solve them.

## 2.4 Bildung

Georg Wilhelm Friedrich Hegel, a German philosopher from the 18<sup>th</sup> century, understood Bildung as the individual's process of developing and regulating a subjective self with personality, behavior, and morals (Hogstad, 2021). This includes the individual's attempts at becoming free thinking and critical of society's structure. Even though Hegel was critical of some of Immanuel Kant's theories, he built parts of the Bildung concept on his work, such as his thoughts on the individual's responsibility to become a critical citizen and engage in reflection and debates around the structure of society, if humanity was to be able to achieve positive development (Hogstad, 2021).

### 2.4.1 Understanding the self and experience

Experience and self-understanding are some of the most important aspects of Bildung according to Hegel (Stølen, 2015). He emphasises that the individual has to understand the experiences that they and society encounter and attempt to internalise these so that they become part of their

self-awareness (Stølen, 2015, p.388). When an individual comprehends what they experience through remembrance, they expand their understanding of themselves. Moreover, the importance of encountering situations that challenge the individual's perceptions of the world is crucial for becoming good citizens, since it prompts self-regulation and maturation through overcoming self-conflict (Stølen, 2015, p.388).

For an individual to attain freedom, they need to understand themselves and the world around them. So, Bildung's goal is to help humanity to learn from historical events through remembrance, and build a better society by challenging our perceptions of the world in encounters with others' perspectives (Stølen, 2015, p.391). According to Stølen (2015, p.391), Bildung raises the question of how "individuals should be formed into citizens with a democratic self-understanding".

#### 2.4.2 Global citizenship

One can argue that individuals need a community to understand themselves (Stølen, 2015). Through society, we learn about our subjective point of view and challenge our beliefs through encounters with others, which helps create further development in society (Stølen, 2015). Hegel writes that pedagogy's task is to make humans morally responsible through teaching them decent, honourable ways of thinking and living. Kuhn-Deuschländer (2021, p.27) argues that to develop responsible individuals with the right knowledge, skills, attitudes, and values learners need to understand how the world is connected. In his words, "The challenge of uniting both perspectives can best be described with the well-known saying 'thinking global, acting local'" (Kuhn-Deuschländer 2021, pp.27-28). According to Hegel and Kuhn-Deuschländer, global citizenship and transnational perspectives should get significant consideration in education. In Norway, the obligations of education are defined in the law called "The Education Act". It presents the knowledge, skills, attitudes, and values that the Norwegian government sees as beneficial for learners to create meaningful lives for themselves and others. For individuals to take their place in the world and participate in the development of society, they need abilities such as critical thinking and ethical and environmental awareness (The Education Act, 1998, §1-1). It is connected to global citizenship through its' statement, "Education and training in schools and trainings establishments must, in collaboration and agreement with the home, open doors to the world and give pupils and apprentices insight into and a firm foundation in history and culture." (The Education Act, 1998, §1-1). Moreover, Hegel's concept is emphasised through the Act, "The school's mission is the education and all-round development (Bildung) of all pupils. Education and all-round development are interlinked and mutually

dependent, and their underlying principles should help schools accomplish this dual mission.”  
(Ministry of Education and Research, 2017,).

## 3.0 Methodological considerations

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This chapter accounts for the methodological choices that were made in this Master's thesis. It describes the applied methods and the execution of the investigation. This chapter also portrays the validity and reliability considerations of the method.

### 3.1 Qualitative method

Since the aim of the thesis was to explore how a selection of EFL teachers in the fifth to tenth grade understand and work with environmental pedagogies it was favourable to talk to them in person through interviews. Postholm and Jacobsen (2018, p.89) explain that the qualitative method gathers information about reality through words and language, where the researcher presents the data through text either by explaining what respondents said or by illustrating what was observed. The discussion about how social phenomena and human behaviour can best be investigated is centred around qualitative and quantitative methods (Postholm & Jacobsen, 2018, p.90). An argument for applying the qualitative method to this project is that “meaning” is socially constructed by individuals in their own perception of the world, and this construction and understanding of reality constantly changes throughout their lives (Postholm & Jacobsen, 2018, p.90). Since sustainable development has received increased attention in recent years, and because the new curriculum in Norway was initiated in 2020, this project was created to understand what perceptions educators have of this matter at this particular time (Postholm & Jacobsen, 2018, p.90).

As Kleven & Hjordemaal (2018) explain, the qualitative interview is a way of doing research that allows a large degree of proximity. Unlike the quantitative method which touches only the surface of topics through establishing figures and statistical evaluations, the qualitative method allows us to study topics to a deeper level by exploring informants' personal experiences (Kleven & Hjordemaal, 2018, p.22).

#### 3.1.1 Semi-structured interview

As stated earlier in this chapter, this project involved interviews of a selection of educators. There are several ways to conduct a qualitative interview. The questions that are asked during an interview help guide the data that is generated, but an equally important part is the structure of these questions (Kvale et al., 2015, p.162). A structured interview uses the same questions in a set order and carries them out identically in each interview, while an open interview has very few questions and allows the respondents to talk almost freely. The semi-structured interview, which was chosen for this project, is an applicable approach when aiming for

something in the middle of the two. In this approach, the researcher develops a set of questions that makes up an interview guide that focuses on different issues that they want to discuss (Kvale et al., 2015, p.46). The questions are often open to interpretation, which allows the research participants to talk about aspects of the phenomenon that the researcher did not envision. In this way, both the informant and the researcher decide which direction the interview will take.

The semi-structured interview is beneficial to use in this study since this way of collecting data has allowed me to get descriptions of informants' encounters with sustainable development, as well as give insight into their thoughts and opinions. Naturally, education for sustainable development is a term that educators meet because of their choice of occupation. Semi-structured interviews allow for spontaneous changes during the execution, both by the interviewer and the interview object (Kleven & Hjaldemaal, 2018, p.21). It allows for something similar to a conversation but still requires the researcher to remain professional and listen more than they speak. This approach to interviews is good to use when the aim is to understand phenomena from our daily lives through the personal perspectives of the people encountering them (Kvale et al., 2015, p.46).

### 3.1.2 Recruiting informants

Before recruiting respondents to this study, it was necessary to develop a consent form that would allow them to read about what their participation would involve. Kvale et al. (2015, p.104) explain through their chapter on ethics regarding research interviews, that informing the participants about a research project in a respectable way that values their individual autonomy should be the starting point of the conversation between the informant and the researcher. Additionally, participants have to be informed about the purpose of the study, how the data will be collected, who has access to the data material, and that their involvement is voluntary so they can withdraw their consent at any time (Kvale et al., 2015).

The thesis involves five educators who at the time of being interviewed were working either full or part-time in Norwegian primary schools. The group consists of two men and three women between the age of 24 and 50. Four of the informants were gathered through acquaintance. One of them showed interest for the thesis topic when I told him about it two years before the project began. He wanted to take part in the study and told me to contact him when the time came to start the research. I contacted him through e-mail correspondence since

I already knew them through working in different schools in Western Norway. The connection to the third informant was through the teacher education programme. I was put into contact with the fourth respondent through a relative who works as a principal in Northern Norway. One of the employees at Western Norway University of Applied Sciences put me in contact with the fifth educator. Fortunately, through my years working as a substitute teacher while studying at university, I have met many new contacts in schools in Western Norway, which has made the process of recruiting informants considerably easier than it could have been. The informants originate from different places, spanning from Iceland to the North and West of Norway. Due to respect for the privacy of the informants, there will be no further individual presentation of them.

It would have been exciting to interview an employee from one of the Green Flag schools in Norway since they were likely to have a profound focus on sustainable development in their school. The Green flag is an organisation that grants environmental certifications to schools and kindergartens (Grønt flagg, n.d.). The intergovernmental organisation Foundation for Environmental Education (FEE) has certain criteria that schools must fulfil to become a member. The reason I wanted to speak to educators from Green Flag schools was because of my curiosity to see if there were any differences between the data generated from the different kinds of schools. Even though I stated that the recruiting process was easy earlier, it was difficult to get in touch with the Green Flag schools. Despite my efforts, it was not possible to get any respondents from these schools.

### 3.1.3 Execution of the interviews

Usually, when planning to execute interviews, researchers must take into account the relational aspects of the data accumulation. There are many challenges when it comes to collecting data through conversations with people since it builds on human interaction. Kvale et al. (2015) explain that the research participants should trust the person asking the questions and experience the atmosphere as empathetic and positive for the interview to be successful. This will lead to most informants being more open to the questions that are asked and enable them to give detailed answers (Kvale et al., 2015). One needs to be aware that the role of an interviewer is demanding. The job consists of manoeuvring the conversation in specific directions while at the same time allowing the subject to change the course if the answers will help to answer the research question. Asking the right questions, adding questions when it is appropriate, listening to responses, and documenting everything that is being said, among other things, are all equally important tasks that the interviewer must perform (Kvale et al., 2015,



pp.119-122). Moreover, it is useful to keep the responses to the respondents' answers as unbiased as possible, so that they do not try to give answers they believe are expected of them instead of describing their honest opinions. Throughout the interview, I was conscious about giving acknowledging replies such as "yes", "right", "hm", and "mhm" together with appropriate facial expressions and nods, so that they would feel encouraged to continue speaking. According to Kvale et al. (2015, p.161) active listening, which is often followed by natural reactions, allows participants to feel that their responses are valuable and interesting.

Four of the interviews took place at the respondents' schools, while the last one was online due to the long distance between the locations. We booked conference rooms to avoid interruptions by other employees or distractions that could interfere with the conversational flow. The online interview was done from home, which both parties agreed would be appropriate. Before the Dictaphone was started in each interview, I used some minutes to become better acquainted with or catch up with the participants. I also repeated some parts of the consent form, such as the purpose of the study and the opportunity to withdraw consent at any time. It was an advantage to use a Dictaphone since the conversational flow and the attention to their responses would not be interrupted by taking notes. Moreover, the process of transcribing was made easier since it was possible to play, stop and rewind the audio clip.

The initial routine questions were easy to answer, covering the subjects the interviewees were teaching and how they related to terms such as sustainable development and interdisciplinary teaching. This was to warm the informants up to questions that were broader and required more time to answer. The semi-structured interview was useful since it allowed me to vary the structure of the questions with support from the interview guide. It was interesting to see what this way of conducting interviews looked like in practice as the interviews ended up having different compositions due to the informants' answers. For example, the informants would answer a question that I had planned for later through the one I had just asked, due to the degree of openness of the questions. When the interviews came to an end it was natural to ask if the respondents had anything they would like to add or if there were anything that we had not yet discussed that they would like to talk about. In most cases, they answered that they were content with the answers they had already given and did not want to elaborate on anything. Two of the informants wanted to discuss some issues further. This added to their data, which was beneficial for the analysis part of this thesis. The interviews ended after I had expressed how grateful I was for their valuable time and participation.

### 3.1.4 Anonymising the interviews

After interviewing the respondents, the large quantum of data took the form of sound, which made it challenging to start analysing. To be able to use the respondents' answers, it was necessary to transcribe the interviews, which is a time consuming process. When an interview is transcribed, the voice of the informant and their natural reactions are lost (Kvale et al., 2015, p.205). I decided to indicate significant reactions such as laughter, pauses, and change in tone through brackets, and expressions such as "hm", "eh" and "mhm" to avoid the transcriptions became monotonous reproductions of the conversations. Kvale et al. (2015, p.205) express the view that the person who transcribes the interviews must take the purpose of the data into account before starting the process so they are aware of what the data will be used for. In this way, they can be deliberate with their style of transcription. A direct transcription of the interview might cause the informant to sound repetitive and incoherent (Kvale et al., 2015, p.205). In this study, the point was not to analyse the informants' language, but rather analyse their experiences and encounters with education related to sustainable development. This meant that there was an opportunity to discard verbatim citations with repetition and hesitation, and instead focus on what the informants were trying to convey and construct whole sentences. At the same time, my aim was to make the fewest possible changes to answers so that the data would be authentic. Since the informants spoke different dialects, the most efficient way to anonymise the data was by transcribing it in Norwegian Bokmål.

### 3.1.5 Interpretative Phenomenological Analysis (IPA)

The process of finding out how to analyse such a large amount of data was challenging. Luckily, the interpretative phenomenological analysis (IPA) showed up early in my attempt to select an appropriate analysis approach. As explained by Alase (2017, p.11) the IPA study can establish commonalities between several individuals' experiences of a concept or phenomenon. IPA is "concerned with the detailed examination of human lived experience." (Alase, 2017, p.11). It allows research participants to tell their personal stories related to a topic and enables researchers to make sense of reality through investigating these peoples' perspectives. In contrast to the general inductive approach, the interpretative phenomenological research approach generates more in-depth data and analysis (Alase, 2017, p.11). Postholm and Jacobsen (2018, p.76) provide examples of different research projects in education where the IPA method can be applied, such as finding out what experience educators have with competence development, school leadership, or tension between old and new practice. One could argue that they make a case for why this method is applicable in this research project.

The starting point for applying the IPA method was to write down personal preconceptions of the chosen phenomenon to suspend them from the collection and analysis of the data (Alase, 2017; Postholm & Jacobsen, 2018). Therefore, I wrote down my assumptions and prejudices regarding the relationship between education and sustainable development. Moreover, I wrote about my personal experiences with implementing sustainable development in teaching and my perception of other educators' habits. This made me aware of my presumption that society is failing to transition to sustainable practices effectively enough to cope with climate change and other challenges. My preconception was that there are large differences between schools, where some implement sustainable development in an effective way and others only meet the minimum requirements, if at all. Postholm and Jacobsen (2018, p.76) emphasise that it is difficult to be aware of one's own subjectivity in research, but that it is something one should attempt to do, nevertheless. The goal is to be open-minded and to enable participants to express themselves in their own terms without colouring their data with the interviewer's own biases (Alase, 2017, p.15).

“[Phenomenology] seeks to uncover the meaning that lives within experience and to convey felt understanding in words” (Alase, 2017, p.12). In theory, it is quite easy to understand what education for sustainable development is, but to find out how it looks and if it works in practice, we need to talk to the people who have experienced it. The IPA method is an appropriate approach to “examine convergence and divergence in some detail” within a homogeneous selection of individuals (Alase, 2017, p.12). In this case, educators.

The data material from the interviews was quite overwhelming since the transcriptions amounted to approximately 30,000 words. The qualitative analysis process is one of the most important parts of the thesis, and in most cases researchers find it to be the most time consuming and frustrating part to work with (Alase, 2017, pp.15-16). The first step of the analysis was to read through each of the transcriptions to identify common themes that were discussed by the respondents. This step had to be repeated several times to ensure that I had found the words, sentences, and concepts that were most frequently expressed. The way in which I separated the different themes was through colour coding. From the very first read-through, topics such as interdisciplinarity, teaching material, and specified competencies appeared.

The next step was to systemise and categorise the blocks of text. The sentences and paragraphs were put into code-labelled tables with a brief explanation of their connection to the code in the sidebar. This first attempt to categorise the data was not as successful as I thought it would be,

since the division of the material was not detailed enough. For instance, all the teaching material that the participants mentioned was put into the same category, except for the ones related to interdisciplinarity. Consequently, I did not know how to approach the large data material to write a well-structured analysis chapter in the thesis. Even so, I began writing about the content from each table to highlight the most important findings, such as similarities and contrasts in their responses. When I had written about interdisciplinarity, it became clear that the text would not be viable as there was too much data and no intended structure. The text highlighted significant aspects of their experiences, but these findings were surrounded by unnecessary data. So, I went back to the tables and decided to make more specified meaning units in a new document. By “meaning units” I mean the participants’ statements that relate to the same core essence or central meaning (Alase, 2017, p.16). These were more suitable to determine the veracity of what the respondents were trying to convey. The new meaning units seemed to tie to several of the themes in the literature I had read beforehand, so the categories were named after them. Alase (2017, p.16) explains that this is a natural part of using IPA since the researcher ought to gather information and statements about a phenomenon, group them into larger units of information, and in the end establish single words or a phrase to precisely describe the category. Luckily, some of the work that I had already done was helpful since it showed me how I could categorise the data differently and what material I could omit. For instance, I discovered how I could break up the category with teaching material and put them into the new meaning units. The new tables with specific topics made it easier to approach the data when writing out the analysis.

### **3.2 Ethical considerations**

This subchapter will account for the reliability and validity of the thesis. The reason why this is important is because it assists in quality checking the research. Both the researcher and the readers have an important role in reflecting critically on the way the study was conducted (Kvale et al., 2015, p.277).

When someone discusses the validity of a thesis, their aim is to find out how suitable the method is for researching the chosen topic (Kvale et al., 2015, p.277). In other terms, to what extent is the method measuring what we want to study? Validity is evaluated to see if there is a correlation between the two, or if the method is inadequate for the specific research. I explained why the method was chosen for this project above. Therefore, it might be more appropriate to discuss some of the risks of using the IPA method that I tried to be conscious of during the research process. Kvale et al. (2015, p.277) discuss how validity relates to qualitative research

since it generally aims to discover the subjective views of a selection of informants. The question then becomes, is it possible to remain objective when most of the generated data is subjective? Even so, they argue that validation should be part of all phases of the research process so that the researcher knows their own prejudice and biases along the way. As stated earlier, this is especially important when using the IPA research method. Researchers must continually ask themselves whether there are any sources of error to be discovered and self-reflection is important to be able to detect any biases.

Reliability considers the consistency and credibility of the research results (Kvale et al., 2015, p.276). Kvale et al. (2015, p.276) raise the question, would be possible to reproduce the same results if the study was conducted by another researcher? Earlier in the method chapter, the reliability of the transcription was referred to, since it is probable that another individual could transcribe it differently. Another part of the thesis related to reliability is the interview questions and the power distribution between the researcher and the informants. The researcher can easily manipulate the answers of the informant by asking leading questions to get the answers that they seek (Kvale et al., 2015, p.276). To ensure that the answers were the informants' own authentic views, I explained through the consent form, the correspondence, and the beginning of the interview that the purpose of the study was to find out how the informants experienced working with the interdisciplinary topic of sustainable development. To avoid asking leading questions I developed a set of open questions that allowed the respondents to choose different angles when they attempted to answer them, and I emphasised that they could express themselves unreservedly.

I have already accounted for the ethical aspects related to the research participants. To summarise, these consisted of the information they got about the project before they decided to participate, the consent form they received, the opportunity to withdraw their consent, and the anonymisation of the data to ensure their privacy. Before I could conduct the interviews, I had to apply for approval (Appendix 1) from the NSD which is the Norwegian Centre for Research Data. The project was approved, which meant that it met the requirements for privacy related to the processing of personal data (Postholm & Jacobsen, 2018, p.252).

## 4.0 Analysis

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The previous chapters presented relevant theory and the methodology of the thesis, so now it is appropriate to move on to the findings from the interviews. To conceal the identity of the respondents, I have given them new names: Olivia, Daphne, Jonathan, Oliver, and Eloise. The empirical data will be accounted for through division into different themes that appeared through the conversations. The core essence of each category is represented in the headings of the subchapters. Many of the issues I discuss throughout the analysis chapter are interconnected. It was challenging to divide them into separate subchapters. For instance, the beach cleanings that most of the educators mentioned are related to several chapters, such as action competence, interdisciplinary teaching, and forward thinking. I have decided to place the data where I find it suitable and most relevant, and only mention them briefly where I found that they interconnect.

### 4.1 Defining sustainable development

Olivia and Daphne took the view that the essence of sustainable development was that the present human generation had to hand over the earth to the coming generations in the same state as it was now with all its' abundant resources. They referred to how the way we live must meet the needs of everyone today as much as the needs of those tomorrow. For example, their data expressed that there was no excuse for the current waste of valuable resources and that we had to consider our descendants. They illustrated how our actions today would affect future generations' quality of life. There was a unanimous agreement among all the respondents that this was the core of sustainable development, and they took various angles to articulate this view.

Oliver concentrated on how we must change from exploitation of the earth's resources to caretaking. He articulated that, "how we treat the sea and the earth, and how we exploit the large natural resources we have instead of using them sustainably opened my eyes to how much we actually need to get it on the agenda." Daphne supported this since she focused on how we could minimise our carbon footprint in the present to lessen the impact on those who will take over when we are gone. With regards to resource management, Eloise pointed out that we must become more aware of our consumption so that we do not exceed the earth's biocapacity. Reducing, reusing, and recycling were her associations with sustainable development. This was similar to the statements of Daphne and Olivia, who were clear about the fact that the consumption of the West had to be reduced. They argued that we were in no way living

sustainably. In their eyes society was not doing enough to become sustainable, and the future was very uncertain. As Olivia states: “Consumption. That is very, very important. Our consumption especially here in the West must be reduced. And our energy use. There are many things that need addressing, but consumption is essential.” When the respondents addressed how sustainable development was a part of their daily lives, they focused on their consumption and their food habits. The informants agreed that practicing sustainable development included awareness of issues such as diets, recycling, water use, and second-hand purchasing. As one informant put it: “We have to develop technology that makes food production more sustainable, and we have to focus on reducing our meat consumption” (Jonathan).

Moving on to the next finding, Jonathan expressed the view that, “the key to sustainable development is less greed and equal distribution of resources.”. Four different aspects of sustainable development were commonly referred to: social, cultural, environmental, and economic. Jonathan, Oliver, and Daphne touched on this topic directly, while the others were connected to it through interpretation of their data. Oliver and Daphne stated that it was easy to think that sustainable development only encompassed the fight against climate challenges and the climate crisis and that it was important to understand that it was a much more complex issue. As Daphne explained:

“It’s those four aspects, right. Many people associate sustainable development with nature, but there are more aspects than that. [...] When it comes to sustainable development it is common that people think about the climate and the environment, but for something to be sustainable it has to take into account the economic and social conditions too. And there I feel like we have a long way to go. One has to put all the dimensions together to say that one is sustainable.”

Oliver and Jonathan suggested that to ensure the needs of the coming generations, it was crucial that we found solutions for issues within humanitarian needs, technological development, and natural resource management that served all life on earth. Jonathan talked about injustice in relation to these different aspects. He was convinced that sustainability issues were so difficult to solve because industries still benefit economically from continuing their destructive practices. For instance, he believed that those who produce fossil fuels have too much power, and very often disregard human rights and climate destruction when making decisions that impact the world order. This meant that economic prosperity for a small percentage of humanity happened at the expense of the majority. Also, he saw that most of those who ran countries and companies were quite old, so they often lacked the future perspective that the generation that

grows up today had. Jonathan meant that we needed politicians who had a 50-100 year perspective on sustainable development. In association with this, Oliver emphasised the importance of an interdisciplinary undertaking where he expressed how sharing experiences and knowledge across borders and disciplines could effectuate sustainable development.

Olivia believed that it was urgent that we started protecting wildlife, domesticated animals, and nature, and she hoped that the IPCC's climate report would inspire change in people's values and actions. Both Jonathan and Olivia expressed that they wanted to become vegetarians, but that it was challenging to live that lifestyle to the fullest due to planning meals with friends and demanding children. Eloise and Oliver also expressed a wish to reduce their meat consumption.

## **4.2 Education for sustainable development**

### **4.2.1 Interdisciplinary approach**

“My wish when it comes to sustainable development is that it is not about the teachers. It should be like ‘this is how we do it in our school regardless of what kind of teacher you are.’. That’s my wish.” (Daphne)

Interdisciplinary and whole institution approaches were discussed several times throughout the interviews, arguably because two of the questions from the interview guide dealt with these topics. However, it was interesting to see how these issues naturally reappeared through the respondents' answers even when we were not discussing them directly.

Undoubtedly, the issue of consistency was important to all respondents. For Daphne, it was clear that the only way to succeed in working in an interdisciplinary way was by using the method repeatedly. She explained that if interdisciplinary methods became the main way of teaching throughout the whole school, all the teachers would quickly become accustomed to that way of teaching. To her, it was a matter of habit and mindset. She expressed dissatisfaction with the way her school worked holistically with sustainable development, which was quite a contrast to Eloise and Jonathan's experiences with their school. The latter had incorporated an interdisciplinary approach to the school's way of teaching which made it a more natural part of their workday. Both respondents voiced the opinion that their administration aspired to remain updated on the latest knowledge and trends in education, which made the transition into the new curriculum in 2020 more natural than it could have been seeing that they had already found ways to implement the new interdisciplinary topics. Their approach was to divide each school year into three segments, where each section focused on one of the interdisciplinary topics for approximately nine weeks. The first section was focused on democracy and citizenship. After



Christmas, sustainable development was the new topic, and at the end of the semester the focus was on life skills and public health. The idea was that all teaching was to build on the goals of the assigned interdisciplinary topic. It can be argued that all research participants in this study recommended that sustainable development be implemented through coherent practice. Oliver illustrated this point through an amusing metaphor:

“And what I notice about sustainable themes is that you have to work with them over time. That's what's important here. It cannot be just one lesson, because that will quickly be forgotten. If we do that, it's like a ‘spray-on’ method where you just assume that the knowledge is going to stick to them like a sunscreen. But this sunscreen will fade away pretty quickly, so you have to reapply it regularly. That's the most important thing about those type of topics. The interdisciplinary topics.” (Oliver)

He suggested that such an incorporated practice would facilitate in-depth learning and predictability for the learners, especially for the learners with special needs or those who found school difficult. In-depth learning would emerge through the continuity of the topic in every subject. Oliver mentioned several times how a cross-curricular approach would make sure that the learners “get to work on a topic over time.”

Related to interdisciplinary teaching approaches for sustainable development all respondents presented specific projects that had run across different subjects, including English. Three out of five respondents explained that their classes had participated in ocean clean-ups or beach cleans. Daphne's school had adopted a beach close by that they had studied over time. They had examined the wildlife that lived there and the kind of waste that had ended up there. She used the learners' experiences to discuss topics in different subjects back in the classroom. Similarly, Jonathan had brought his learners to a beach cleaning and later they had discussed the human impact on animal life through examples from other places in the world such as in India, where people had brought a beach back to life by cleaning away the garbage. This showed the learners the larger picture since it exposed them to actions and pollution's local and global impact. Olivia explained how their school had arranged a large, interdisciplinary project about plastic from 2017 to 2020, where one of the activities was to travel by boat to clean a beach. She had been involved through her subjects; English and social science. This project was motivated by the whale that was stranded in Hordaland in 2017 with its' stomach filled with different sorts of plastic. Moreover, they had just started a project that involved the whole

school, and that targeted the UN's sustainability goals. Since the project had just begun, she did not have any specific information about what it would look like in practice. I will discuss these projects later in the paper.

Jonathan and Eloise expressed that even though the competency aims in English did not say anything about sustainable development, their school's interdisciplinary approach gave them the opportunity to work with it in all subjects.

“When teachers in each subject set up the annual plan for teaching, they have to consider the interdisciplinary topic that is in focus. The idea is that everything should have a connection. That the topics we focus on are recognisable in the themes we teach. And then again, you don't need to have interdisciplinary work as its own class, you just implement it in each subject through relevant themes.” (Eloise)

It was apparent that all the respondents believed that it was strange that the sustainable development topic was not a part of the English subject when it clearly had to be implemented through interdisciplinarity. Oliver explained that “what is a bit strange is that sustainability could have been included [in English] since many of the elements of democracy and citizenship are central to sustainable development.”. Almost identical to Oliver, Olivia voiced that she did not see the problem with implementing the core values of the curriculum in English lessons and that the teachers' awareness and imagination was the decisive factor in how much focus the topic got. She pointed out that the interdisciplinary topics were of such importance that they had to be included in all subjects. She also expressed that “even though [sustainable development] is not specifically mentioned as a topic in English, I think it should be included anyway.”.As Daphne put it:

“I'm not sure why [sustainable development] is not in English. To get the generation that goes to school and grows up today to change we need to have it in all subjects, a red thread, to get it implemented. So that's what I'm thinking, just a clear common thread in Norwegian schools. (Daphne)

Daphne was one of the respondents who had experienced that a whole institution and interdisciplinary approach was difficult to put into practice. The issue she talked about the most was a lack of collaboration between colleagues. She also mentioned that her school's

administration was quite new and that ESD was deprioritized as a consequence. There seemed to be significant differences in the individual teachers' motivation and engagement in working in an interdisciplinary format, and problems arose from the teachers' uneven familiarity with working this way. Several times when her school had suggested a change in practice to keep abreast of the progress in education, they met resistance from the staff. This happened both in the preparation for the professional renewal that started in 2017 and when Daphne had held lectures after attending several courses and conferences with The Sustainable Backpack (Scheie & Stromholt, 2019). She found that some colleagues saw all the issues and limitations while some managed to focus on the possibilities. The level of commitment depended on what kind of person the educators were and what ownership they had of the teaching method, she explained. Still, through her following statement, it was clear that she understood why some teachers were frustrated with the constant change and development in education:

“[I]t is quite challenging because a teacher's weekday is very intense. There are thousands of things happening all the time, so it can be overwhelming when we are told to do something new over and over again. When we discuss this interdisciplinary way of working it's always like: ‘When are we going to have time for this and that project?’ It's not that we need to have the time, it's a new way of working! It's still all the same competency goals, we just need to implement the new way of reaching them.” (Daphne)

In addition to dividing the school year into three parts to implement the interdisciplinary topics, Eloise and Jonathan's school had also decided that two hours would make up its own class called “tverrfag” (in English: interdisciplinary). Two teachers in each grade were responsible for filling these hours with content that could be qualified as interdisciplinary. Eloise explained that this way of working offered several challenges. Firstly, the question was what this class should include regarding content. She found it quite embarrassing that they struggled to find content that reflected the intention of the allocated time. She explained that the administration had ambitious intentions for the interdisciplinary class, but the execution was not as successful as hoped. This led to the second challenge with this approach. The learners tended to discard the importance of this class. The learners saw an opportunity to be uncommitted since they were graded in the other subjects but not in this class. It was more of a free period for them since it would not affect their average grade. Additionally, she mentioned that only two teachers in each grade were responsible for teaching this class, so the combination of subjects would not

necessarily cover all the subjects. This meant that the teachers used the lessons to teach only their own subjects and that other subjects were precluded.

#### 4.2.2 Updated knowledge

As presented in the previous section, some educators found it hard to keep up with rapid development in education. This was also mentioned in connection to knowledge. One of the questions in the interview guide addressed how the participants kept their knowledge and practice updated. Perhaps the most significant similarities that were found in their data were (1) the individuals' ability to sort out accurate information, and (2) the teaching material that the educators used for teaching prevalent knowledge in English.

##### 4.2.2.1 *How educators teach facts*

The way we teach sustainable development is constantly evolving. (Oliver)

As Oliver expressed above, we have yet to establish what the best way of teaching sustainable development is, and educators' choice of teaching methods and materials changes regularly. The findings in this study indicated that there were no problems finding up-to-date teaching materials, and the most used were from online resources. Films and videos such as documentaries from National Geographic, NRK, TV2, and the UN were quite popular to use during the instruction. Jonathan explained that it "was all about finding good videos, preferably from organisations that one knew was reliable". Daphne described YouTube as "gold" since it was available for everyone and one could find all kinds of videos.

Another interesting finding was that all respondents used the news to keep the learners updated on what was happening around the world. Oliver said that it was important to talk about real issues related to sustainable development. Eloise shared an enjoyable metaphor for what the news could do for the learners, which was that it could "practically take the temperature of the world". She referred to TV2's educational website "Elevkanalen: News in English". The website provided updated news each week in video and text format, followed by a quiz and tasks they could work with. Online resources were the main material used in teaching, and Daphne clarified that the way she knew that she had found up-to-date teaching material was that it had been developed or published in connection with the professional renewal in 2020. She often used Facebook groups for educators and teacher blogs to find teaching plans. Jonathan discussed the reliability of organisations, and he found the UN to be a good source since they are considered some of the pioneers of sustainable development. In similarity with

all the other respondents, he often used the SDGs in the instruction, where they explored the connections between the different goals.

Naturally, online textbooks were used during English instruction. Eloise explained that she found it strange that most of the English textbooks had their own chapter on sustainable development, while the curriculum stated that it was not relevant to the English subject. Oliver demonstrated the same through his statement in the quote below. He added that he and his colleagues brought sustainability topics into their teaching through textbooks such as Gyldendal's *Explore* and through literature about people facing different challenges related to the three aspects of sustainable development. He believed that the generations that are growing up today needed to be able to be critical of and comprehend the information they came across since it made up such an extensive amount. In Oliver's words:

“What is a bit problematic with sustainability in the new curriculum is that it is not in the English subject. That in the English subject there is a stronger focus on literature and language. It is understandable that, as a language subject, we should focus on language and language development. But I also feel that the English the next generation will benefit the most from is the one who goes on to gather information, understand information, be critical of the information they see. So maybe, based on that, I feel that the new curricula have, at least in relation to the English subject, put it a bit aside. That it should not be so central in this subject.” (Oliver)

“For the textbooks, either regular book or if you have it as a digital platform, have topics that suggest that you go into the topic. And since we, as I have mentioned before, have the overall interdisciplinary approach for the school, why should we not have it in English? That's weird.” (Eloise)

#### 4.2.2.2 *How educators obtain facts*

“I stay updated by being curious about what is happening around the world. But at the same time as you find out what is happening, you must be critical. If you really want to find out what's going on you need to dive deep into it, and you need to read different perspectives. I think that as a teacher, keeping up to date on what is happening around the world is important, because you are supposed to open the world to the students in a way. You have to give them tools, strategies, and information that can help them make up their own opinion about things. There are often two sides to an issue.” (Oliver)

All respondents discussed how they keep their own knowledge updated. Most of the knowledge was acquired through online resources by reading and viewing videos. Olivia explained that she used a variety of platforms to educate herself, such as newspapers, periodicals, organisations' newsletters, and the IPCC report. Similarly, Jonathan explained that when he read news and other informational sources online, he tried to filter out what was correct and incorrect information. Jonathan, Eloise, and Daphne mentioned that a source of information they visited regularly was the core curriculum and the competency aims of their subjects. They used it as a base to work from when they planned how to implement the sustainable development topics.

“But yeah, I often use the curriculum. Most recently yesterday. It’s like, you’re supposed to plan a lesson, and you check the curriculum since it’s a bit like “What are the competence aims now?” When you’ve been a teacher for a long time, and especially in the same subject, you run the same lessons over and over because you have positive experience with them. But then, “Can I use these now? Do they fit in? How can I use them while at the same time reaching the new goals of the curriculum?”. And then you have to make some changes.” (Eloise)

Olivia accentuated the need to stay updated and engaged with the topic to teach it correctly. The data of Jonathan, Daphne, and Oliver proved this argument too, since it accentuated how their natural curiosity for a sustainable lifestyle had been a motivator to gain updated information about the topic and helped them teach the topic. Olivia and Jonathan had kept up with sustainability issues since before they started studying, especially on the topic of pollution and consumption. For Oliver, sustainable development was something that had regularly been discussed in his family home, which meant that he had a lot of knowledge and a good starting point for when he started working as a teacher. One of his hopes for the future was that he could read more books about sustainable development. He enjoyed watching documentaries that highlighted different aspects of how we treat the earth. He saw it as an easy way to stay informed, but he did not find them suitable for his learners since they were not produced for that audience. As stated in the quote at the beginning of this subchapter, Oliver’s most important tools for keeping updated were curiosity and critical thinking.

“Our administration is very development-oriented, and they try to introduce the latest development and trends in education. So, we get the opportunity to update our knowledge while being at work. And, of course, we can do some research on our own. Sometimes we do. Other times we don’t find the time for it.” (Eloise)

Eloise and Daphne explained that their administrations had aimed to facilitate professional development during work hours, but that it did not work as intended. Due to the pandemic, Eloise's school had encountered challenges when it came to prioritising the improvement of interdisciplinary practices. She expressed how their administration had planned to collaborate with other schools to discuss the curriculum reform. This would give their staff pedagogical insight into how to use the new curriculum to plan lessons, and test new methods that would help them reach the new goals. They managed to have a few online meetings, but Eloise did not find this sufficient to prepare them for the new approaches to teaching. As she explained:

“But then Covid came, right? And suddenly, there was the new curriculum. This is entirely my own experience of the situation, but I felt like it was like: ‘Here’s the new plan. Now you have to follow it.’ So all of the preparations we envisioned linked to planning and testing new methods just vanished and there wasn’t any more focus on it. Of course, there was some focus but it was more general, as if they figured that we had learned what we needed to learn.” (Eloise)

Daphne also illustrated an issue that arose due to practical challenges:

“You send someone [to attend courses], then they will come back and transfer it to the others. But there was no doubt, when we were traveling through the Sustainable Backpack, that some things they (her colleagues) have to be present to learn from, and actually attend those lectures, see those exhibitions and hear about others' projects.” (Daphne)

Daphne expressed that she understood that it was not possible to send the whole staff to attend courses, but she believed that it would have a much greater effect if they did. She and the others who had attended the course had been very motivated to implement sustainability when they returned but did not get through to their colleagues when they presented what they had learned.

#### 4.2.3 Focused competencies

The previous subchapter accounted for the data that addressed the importance of educators' updated knowledge. In this chapter, I will present the data that focused on learners and how the respondents tried “to give them tools, strategies, and information that can help them make up their own opinion of things.” The following sections will present the important competencies that the research participants meant learners needed to become active contributors in the global society.

#### *4.2.3.1 Critical thinking*

As discussed previously, critical thinking was one of the properties one could use to handle the large quantity of information about sustainable development. It was not only important for teachers so that they could teach the right content, but also for learners so that they had the tools to retrieve reliable information and could make up their own opinion of things as Oliver explained. Enabling learners to think critically was also important to Jonathan since he emphasised that most of the information on sustainable development was in English and that they should learn both the language and to establish whether a source is reliable or not. He saw it as crucial that the learners became conscious and selective about sources since filtering out misinformation in such a large quantity of material could be challenging. A notable method Eloise used to empower her learners was to make them do individual or collaborative research. She explained that they needed individual training, but that she also assisted them by locating sources of error in advance to show and compare to reliable ones.

The information on sustainable development was described as large as well as complex. For Oliver, it was important that educators strived to demonstrate different aspects of certain issues so that the learners could see the problem from various angles. Likewise, Daphne angled in on the topic of complexity and critical thinking by addressing the four aspects of sustainable development. She said that there was a need for discussion and reflection throughout the instruction so that the learners could get acquainted with the problems with some of our current solutions. She wanted to open their eyes to how society often characterised something as sustainable when it was not necessarily the truth. It became clear that she believed no one could live sustainably since there are so many factors involved. Consequently, exploring as many dimensions as possible of something was an approach that Daphne had quite a taste for so that her learners could develop their critical reasoning. Likewise, Jonathan had facilitated criticism of industries and their way of running business through his instruction. He wanted his learners to reflect on the ethical aspects of consumption so they could ask themselves questions such as “Do I really need to buy these pants?” and “How would I solve the issues regarding electrical cars?” He said that they often had wise answers to his questions. Daphne expressed:

“So, so much reflection is needed. And you have to have so many class conversations. There is so much talking that has to happen for them to think differently.” (Daphne)

All educators in this study explained how they wanted to make the learners reflect through their teaching. One approach to this was to show pictures or quotes and ask what the learners associated with it so they could reason around what they were observing. It would also reveal



their opinions of things and make room for conversation about their shared and contrasting ideas. It was important to Oliver and Olivia in particular, that the learners had room to discuss the issues they saw as relevant. This would also give them the opportunity to decide the direction of the instruction.

#### *4.2.3.2 Forward thinking and faith in the future*

In chapter 4.1 Jonathan expressed that we need politicians who think up to a hundred years ahead when they make decisions. The forward thinking that he referred to was mentioned by all other respondents, too. However, they expressed it quite differently.

Olivia voiced the negative sides of thinking so far ahead. She saw it as a big disclaimer to set goals thirty years from now since most problems were already present. It seemed like she would rather have short-term goals that required us to begin the work right away. The way the world was approaching the problem now made her feel quite overwhelmed since there were so few initiatives and too much information. This also seemed to be the case for the younger generation, since Jonathan and Eloise explained how learning about sustainable development topics, for example through the SDGs, often worried their learners and made them concerned about their future. Eloise had exposed her learners to various future scenarios through literature. On several occasions, she had experienced her learners as anxious about the world's development.

“‘Are those facts? Will it really be that bad?’ They were quite upset. Probably thinking: ‘What will happen to us? Is it our fault? It’s your fault, you adults who have used all our resources and make us pay for it?’. So, I can see that it affects them.” (Eloise)

By contrast, Oliver said that he endeavoured to remain optimistic about the future so that his learners could also become optimistic. He believed that optimism was fundamental to succeeding with sustainable development, especially since a lot of the terminology related to sustainable development appeared to be negatively charged. He exemplified this through terms such as “climate crisis” and “issues”. He was also concerned with the capacity building of learners and explained that his wish was to enable them to approach the challenges of the climate crisis proactively and with confidence:

“It's a battle you can choose to take. We have to fix this together. We shall not give up. If we cannot make it happen, then we have to work harder to make it happen. And that's also the mindset I want as a teacher, right. Even if [...] challenging things happen all

the time, we must dare to stand in that storm, and ride it out. You will learn a lot along the way.” (Oliver)

He emphasised that an optimistic view of the future is an important part of succeeding with sustainable development. Educators were role models for learners, and Oliver meant that it was critical that we facilitated optimism about the future since they were the ones who would live in it. As mediators, educators had to believe in what they were teaching. Daphne agreed with Oliver. However, instead of using the term optimism, she described it as enthusiasm. She explained how it was essential that educators expressed enthusiasm when teaching the sustainable development topic so that it could spread to the students. She believed that learners were to a large degree affected by the teachers’ emotions. If educators ever wanted to get learners motivated about reaching the goals of sustainable development, it would require them to be internally motivated themselves. Daphne continued:

“[You need] creativity in how you do things. Being curious. Wanting to find out things! Getting the learners involved is really all about your own enthusiasm. I could stand in front of the class with a monotone voice and talk about it, but they wouldn’t be able to remember a thing.” (Daphne)

They all recognised that it would be a tragedy to send out an apathetic or disheartened group of learners into the world after ended education. To Oliver, it was important that educators continually reminded themselves that we were working with the future generation and that we needed them to be optimistic about the things that were coming.

#### *4.2.3.3 Living lifestyles without overconsumption*

Specifically, what we have spent most time on is to wake up the part inside them that knows what sustainable development is and how we can live in the best possible way as long as we are here. (Daphne)

Daphne expressed that her sustainable development teaching was mostly focused on how to manage ecological footprints. She had tried to get her learners to reflect on what they could do both individually and collectively to reduce their environmental impact. She wanted to encourage them to change into new habits that were better for the environment, such as bringing a bag to the grocery store to potentially decrease plastic bag production. Equal to this, Jonathan wanted to show his learners that small actions could have a large impact. As mentioned earlier, one of the things he did was show them a video from India where a trash-covered beach was cleaned, and eventually sea life began to return. He believed that content such as this showed

them that all our actions impact the planet. Jonathan also introduced the terms freshwater use and 3 Rs, which involved reducing, reusing, and recycling. He and Oliver both talked directly about these topics. Oliver had discussed the three Rs in the English instruction and taught his learners about reusing the things they had either by repairing them, making new things out of them, or giving them to second-hand shops and people who needed them more than they did. He liked to include the humanitarian and ethical sides when they talked about consumption. He found it helpful to work with the sustainable development goals since the UN had abundant information on the topic. This can be illustrated through an English instruction he had where they looked at the distribution and consumption of water around the world. They discussed how they used water personally and tried to connect freshwater use to their daily habits. Oliver underlined the applicability of teaching about lifestyle when he expressed that “water nourishes everything on the planet, so water is a topic that will always be appropriate to talk about in the English subject.” Jonathan had taught this topic in English through Gyldendal’s textbook, *Enter*. The online textbook addressed sustainable development in all three grades of middle school. Other than the textbook, they had worked with water use through watching documentaries from the clothing industry, where they could see how freshwater springs that people relied on had disappeared because of cotton production. In the English and mathematics subjects, they had worked with freshwater use related to food habits. Jonathan was hopeful that this would make them reason around their own consumption. He enjoyed asking the learners open-ended questions to explore such complex issues.

#### *4.2.3.4 Action competence and relevance to learners’ context*

Let us now turn to one of the competencies that will probably shape the future the most, whether we succeed or not: action competence. It is perhaps the concept that the respondents wanted the most to be the result of their teaching. In addition, this chapter will account for an aspect that is highly related to action competence; relevance to the learners’ reality. These will be discussed hand in hand since they were described in that way by most of the respondents.

Activism was an important part of the respondents’ data on action competence. Olivia asserted that we must engage youth in sustainable development matters. She referred to the “school strike for climate” that Greta Thunberg instigated, and which many of her students participated in. The teachers in her school encouraged all students to take part in the event. She emphasised that enthusiasm and engagement were very important, both in public and private. She saw it as valuable to have an inner drive to contribute to creating a better future. Greta Thunberg was not the only prominent person to be mentioned by Olivia. She was a huge fan of Sir David

Attenborough. In her descriptions of him, she highlighted how he had been captivated by nature and wildlife from a young age, and now at the age of 96, he still dedicated his life to our beautiful planet. His life's work had contributed to creating awareness of the state of the earth. She was moved by his passion for the environment, and she wanted her learners to see the significance of his personal contributions to inspire them to make a change themselves. That is why she had given them assignments in English that required them to reflect on the importance of him speaking out about the rapidly changing environment.

In some of her assignments, Olivia focused on how youth relate to environmental challenges. These assignments were often written tasks that the students had to solve individually in silence. She used a chapter in the textbook *Enter*, which focused on sustainable development. More specifically, there was a text about a young boy's life, and how he had been given a carbon quota that he could use. The text demonstrated how much our daily life impacts the earth's resources. Olivia followed up the text with assignments that were presented under the title "Get involved! My generation does give a damn!" Students could choose between writing about a young person's involvement in environmental issues, what challenges we are facing and how to solve them, or how they were personally engaged with sustainable development and the impact of their individual contributions. The reason she wanted to expose her learners to thought-provoking assignments such as these was that she knew that they needed to learn how to alter their world views and behaviours due to increasing environmental and societal change.

Oliver touched the surface of learner context when he explained that it was important to choose authentic issues connected to sustainable development so that the learners could relate to them. In a globalised and digitalised world, it was important for Oliver to show the learners what was happening locally as well as globally. He said:

"We have learners with different challenges so it is important to talk about topics that they can understand and topics that affect their daily lives regarding sustainable development. It will affect their daily lives anyway, right." (Oliver)

Oliver urged educators to use local resources and circumstances to illustrate how sustainability issues are affecting the learners' lives. He meant that their daily lives must be considered when preparing to teach a topic like sustainable development. Something that resurfaced here, which was discussed earlier, was critical thinking. Oliver clarified that an educator's role is to open the world to the learners and help them critically evaluate the situation we are in, both globally and locally.

I have discussed some of the projects that the respondents mentioned earlier in this paper. Having defined how these projects were related to interdisciplinarity, I will now move on to consider how they relate to learner context and action competence. An approach to exposing the learners to activism was through organising projects and activities related to plastic consumption. Daphne and Olivia explained that their schools had comprehensive projects that focused on raising awareness around plastic pollution. Daphne had focused on how our everyday choices imprint nature. For instance, around the time when there was a large focus on banning single-use plastic such as straws and cutlery in 2019, her learners got the opportunity to make their own shopping bags and they had to meet with operational managers in local stores to encourage change to more sustainable suppliers. As mentioned earlier, they had adopted a beach which they would supervise. She expressed “It does something to them. It raises their awareness in a completely different way than I could by telling them about it.” Likewise, Olivia and Jonathan had visited beaches and outdoor areas that needed cleaning, so the learners could be directly involved with the problems with pollution. Based on the educators’ answers, it seemed to be an effective way to help them understand the impact their small actions had on the planet. It appeared to be important among the respondents to use other learning arenas than the classroom to make the issues realistic to the learners. To quote Daphne describing her experience with outdoor education, “I believe that to do something very concrete with the learners to increase their awareness is what we need.”

With respect to animal wildlife, Olivia mentioned a plastic project that was motivated by the whale killed by plastic waste that was found in Hordaland in 2017. It inspired the school to participate in a project where they got experience with the plastic pollution along the coastline to understand the impact it had on the animals who lived there. Similarly, Daphne’s descriptions focused on the effects of outdoor education. She reported that an educator could take hours to teach the learners about the whole cycle of plastic pollution and the impacts it had on wildlife, but their awareness would still be most substantial after a short while of studying the wildlife outdoors themselves. There was no doubt that she believed that the learners’ own experience with removing waste and seeing birds’ nests built from plastic was the most effective way to enlighten them. Additionally, they had visited a local exporter of Red King Crab and a tourist centre that educated them about the species. These sites showed them some of the processes behind food production. Furthermore, since their school was located right by the sea, they could experience the species up close when it moved in towards the shore to change shells. After these visits, they made brochures about the sustainable aspects of Red King Crab production in

English and handed them out to tourists on Hurtigruten. Daphne thought that through these experiences it was easier for them to comprehend the extent of the situation and start the process of change making.

There are many positive descriptions of outdoor education in the respondents' data. Even so, the educators had met several challenges. For instance, Eloise explained that the class that now is in tenth grade had not gotten to experience other teaching environments than the classroom due to Covid-19. They were in eighth grade when the pandemic started and were home-schooled for an extended period during lock-down. When they were able to attend school again there was no room for visiting external partners due to restrictions. Eloise found it difficult to generate creative solutions to this issue when she knew she would face continual limitations that made them unfeasible. She had a wish to give these learners the same experiences as earlier classes had gotten, but she did not see that happening. Another limitation that was mentioned other than Covid was financing. In Eloise's words, "if you want to do something practical, there's not a penny you can spend if you need funding due to the municipality's budgeting." In her eyes, one of the consequences of the lack of outdoor education was that learners would not get to see the importance of English in the daily operation of most companies. Eloise wanted them to understand the significance of English as a global communication tool, and how their skills could come in handy in different professions.

To summarise, all respondents talked about how they wanted the learners to understand that environmental challenges were not just occurrences that happened far away, but also concerned people in the north of Europe. They wanted the content of the instruction to have relevance to the learners' context. They tried to illustrate how it impacts our lives and the nature which surrounds us so that they would understand that their actions made a difference. It was important to make issues such as pollution, resource exploitation, individual consumption, and social injustice real to the learners.

At the same time, it was clear that the educators wanted to encourage action through teaching about locally relevant problems. Jonathan and Daphne underlined the importance of giving the learners credit for the actions they were doing individually so that they got confirmation that it made a difference. Likewise, Oliver explained he wanted his learners to become empowered instead of indifferent. At the same time, the respondents wanted the learners to understand that most of the responsibility was in the hands of global industries and that we needed to begin by changing our own actions to pressurise them.

#### 4.2.3.5 System understanding

This part of the thesis moves on to describe how the respondents' data depicted learners' ability to understand systems. Many of the examples in the subchapters about interdisciplinary approaches, critical thinking, future thinking, action competence, and living sustainably aimed to give learners a deeper understanding of what sustainable development was. This could begin to see the whole picture and hopefully possible solutions. We have already seen that interdisciplinarity and authentic experiences were important to the educators. These were examples of pedagogical choices that allowed learners to explore many aspects of issues. Moreover, the respondents saw the importance of making the learners reflect on how the SDGs were connected. In doing this they directly described how important system understanding is. There are many sides to issues related to sustainable development, and as Daphne and Oliver explained, learners need to see as many of them as possible to be able to make up their own opinion.

Related to the interdisciplinary project they participated in, Olivia explained how she had facilitated deeper learning by going further than she felt the project did. She focused on questions related to why there is so much plastic and what consequences plastic pollution had for countries that received the EU's waste. This was something Eloise also addressed when she introduced the learners to Cappelen Damm's teaching material about a South American school that was built from recycled plastic. Through this, students had the opportunity to work with the connections between terminology related to the plastic cycle.

#### 4.2.4 School as an arena for learning to live sustainably

Throughout the previous chapters, I have discussed several different sustainable development-related aspects of the respondents' data. This final chapter of the findings will account for how the schools that the educators were employed by worked as whole institutions to set examples for learners when it came to living sustainable lives. This goes way past teaching *about* sustainable development. It also entails teaching *in* and *for* sustainable development.

Some of the data that was related to a whole-institution approach was discussed in the chapter about interdisciplinarity. Eloise and Jonathan for instance highlighted that their school had chosen to approach the sustainable development topic with interdisciplinarity so that it would be included in all instruction. They divided the school year into three sections, as explained earlier. This was an attempt to involve the whole staff and make it the regular operation of the school. Eloise explained that they had allocated time for meetings every Tuesday where they would discuss various issues in education. This was an open space for questions and idea

sharing. During these meetings, she would regularly be reminded that she had to implement the interdisciplinary topic in her teaching. Jonathan voiced that they had team meetings both with the whole staff and in teams. In those meetings they would discuss how the nine weeks would be carried out and what topics they would focus on.

Even though their school had at least nine weeks of attention to sustainable development, Eloise expressed that the quality of the interdisciplinary approach varied since it depended on the teachers' effort and initiative. Some years they had exciting projects related to the interdisciplinary topics, while other years they found it hard to be creative. For instance, one year during the Christmas break the learners had to log their families' food waste. The project included the whole school. Notably, this met some resistance from the parents since many saw it as homework. They had several projects on food waste reduction. Another example was their sustainability week where they visited local stores to ask for the food that had expired but that could still be used. The learners made different dishes and served them to their classmates and teachers. Eloise said that many of them were very excited to see how it tasted since they saw it as nasty food. Before she was done discussing this topic, she wanted to add that their school had removed all single-use cutlery and plates. She said that the replacement was linked to sustainable development, but that it mostly concerned resource management. They wanted to save money long term.

Olivia did not necessarily describe how her school operated, but she was concerned with the importance of adults and educators facilitating for youth to live sustainably. She believed that sustainable development would become a much greater part of education over the next years, due to the importance of the new core curriculum and the urgency for people to change to sustainable lifestyles. Even though she knew that the interdisciplinary topic was not part of the English competence aims, she expressed that she felt like it was meant to be implemented because of the core curriculum. She mentioned that their school had comprehensive projects that involved the whole school or were going to involve the whole school, but she did not elaborate any further.



## 5.0 Discussion

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In this thesis, I have addressed the research question “How do Norwegian EFL teachers in 5-10<sup>th</sup> grade prepare learners for the uncertain future through teaching embedded in sustainable development?”. To be able to answer this, it was helpful to divide the main question into three focus areas.

### 5.1 What aspects of sustainable development and environmental pedagogy do educators emphasise when they express their understanding of these concepts?

#### 5.1.1 Education

Since this study was conducted on five teachers, most of the data was directly or indirectly connected to education. Many of the questions in the interview guide were linked to education given that the intention of the research was to establish how educators work with sustainable development.

When the respondents are questioned about their association with the term sustainable development, parts of their answers emphasise that society as a whole needs to be educated about these issues to achieve this development. Olivia, in contrast to the others, does not mention this matter specifically. However, one can assume that she means that education is relevant since she discusses how we need to change structures and practices in society to become sustainable, and change requires learning (Sinnes, 2021). Jonathan mentions education in relation to a change to a more equal distribution of resources. He believes that it can lead to better opportunities for children across the world to attend school (United Nations, 2015, p.17.). The theoretical core of their statements is tied to Misiaszek’s (2015) goal of ecopedagogy, which is to enable individuals to take action for social justice for all individuals, societies, and the natural world. Their answers illustrate how education can provide necessary knowledge, understanding, values, and skills needed to participate in developing solutions to global issues (UNESCO, 1978; Didham & Ofei-Manu, 2018).

Both scholars and the respondents explain that solving global issues requires people being educated to change their lifestyle choices. Daphne’s data implies that sustainable development involves life-long learning both for school children and adults. To her, the process of becoming educated is not restricted to thirteen years of school and higher education, it is something that individuals experience throughout their life. She exemplifies this through her experiences with professional development as a teacher and her concerns with keeping updated on topics. Eloise voices a similar opinion since she explains that her school’s administration facilitate

advancement of teaching practices. This can also be argued in Oliver's case since he underscores how different sectors of society have to share their experiences and knowledge with each other to achieve absolute development. Additionally, Eloise and Daphne believe that people have an individual responsibility to learn how to live more sustainably.

### 5.1.2 Social, economic, and ecological sustainability

As stated, the data demonstrates that the respondents understand the correlation between the ecological, economic, and social aspects of sustainable development (Klein, 2020; Sinnes, 2021; World Commission on Environment and Development, 1987; UNESCO, 1978). It seems possible that this finding is due to the frequent consultation of issues that connect to "impact". For instance, impact is discussed related to how the human species is affecting the earth's biocapacity, natural resources, wildlife, and climate. All respondents refer to the WCED's (1987) definition of sustainable development since they emphasise the importance of giving future generations the same possibilities as people have today.

Important determinants that make it clear that the respondents connect a social aspect to sustainable development are properties such as compassion, justice, empathy, less greed, cooperation, and fair distribution of resources. This has theoretical grounding in William Stapp's phrasing in Kahn (2010) where it is underlined that environmental education will help overcome social conflicts in society through raising the knowledge about the natural environment, conducting interdisciplinary exploration, and encouraging critical thinking through an inquiry-based, student-centred framework.

The economic aspect is emphasised through some of the respondents' data since it reveals their belief that it is challenging to influence wealthy peoples' and international leaders' choices, and that this is unfortunate since corporate actions often lead to ethical problems. The respondents want their learners to become advocates for positive change and be critical of norms and customs in society that increases problems such as poverty, injustice, pollution, and environmental destruction. Jonathan emphasises the economic aspect in two examples: the interdisciplinary plastic project where most of the waste they removed from the beach was from the fishing industries, and the instruction he had where he encouraged his learners to criticise corporate interests in the textile industries (Klein, 2021; Sinnes, 2015). More positively, Oliver and Jonathan emphasise that technological development is important for sustainable development. Furthermore, all the respondents want their learners to criticise and create potential solutions to flawed societal systems, which shows that entrepreneurship is encouraged through their teaching (Scheie & Stromholt, 2019).

The ecological aspect got the most attention since the respondents consider it to be the core of sustainable development. In line with the historical background provided in chapter 2.2.1, their data illustrate that the casualties that the natural environment has suffered in the last decades are the driving forces behind the emergence of sustainable development. Oliver describes how documentaries about the exploitation of the world's natural resources have opened his eyes to how urgently we need resource management that serves all life on earth. Also, Daphne addresses the ecological aspect by explaining how we must minimise our individual ecological footprints to fit into the earth's biocapacity.

Their interpretations of sustainable development are harmonious with the UN's descriptions (Rieckmann, 2018b). All of them explain that sustainable development requires time to be comprehended and has to be taught through all subjects in education to facilitate in-depth learning. Oliver believes that interdisciplinarity will make it easier for struggling learners to reach the goals of the curriculum since it provides more opportunities to understand the content of the instruction (Meld. St. 28 (2015-2016); Ministry of Education and Research, 2017). These findings demonstrate that the respondents know that sustainable development is a complex issue that needs to be implemented in all levels of education and other disciplines (Bjørndal et al., 1975; Klein, 2020; Sinnes, 2021; United Nations, 2021).

## **5.2 Which teaching methods and materials do the educators use to implement sustainable development?**

### **5.2.1 Interdisciplinarity and outdoor education**

A major finding shows that the respondents believe that interdisciplinary approaches have to be implemented in order for education for sustainable development to be achieved (Aaslid et al., 2019; Bjørndal et al., 1975; Klein, 2020; Sinnes, 2015, 2020; 2021). All the respondents describe their learners' participation in interdisciplinary projects that facilitate use of teaching environments other than the classroom. Outdoor projects such as ocean clean-ups and wildlife explorations indicate that the schools involved in this study understand that learners need to be exposed to real issues and situations. Such projects provide activities that give learners opportunities to see how their actions make a difference and enhance in-depth learning and holistic understanding of sustainable topics (Breiting et al., 2005; Klein, 2020; Scheie & Stromholt, 2019; Sinnes, 2020, 2021). When learners experience real situations that challenge their perception of the world, they are put in a position where they must overcome cognitive conflicts and become self-aware through internalising the consequences of their own and other's actions (Stølen, 2015). Hence, these activities are examples of how the school's mission

of creating global citizens through all-round development (Bildung) can be carried out. When learners get personal experiences with humanity's impact on nature and animal life, skills such as critical thinking, emotional intelligence, system understanding, problem solving, and action competence are exercised.

Through such plastic projects, learners get to reflect on their role as consumers and activists in the local and global community (Rieckmann, 2018, p.44). Scheie and Stromholt's (2019, p.17) findings report that the Sustainable Backpack program supports the idea that community collaborations provide authentic, local issues that motivate learners to engage in sustainable development. Breiting et al. (2005) also emphasise this. Daphne talks about how learners have to talk to daily managers in local shops about changing suppliers and make brochures to hand out to tourists about the seafood industry. These activities share similar properties with Sinnes (2020, p.68) recommended teaching materials. Moreover, Cates (1991) expresses how authentic situations where critical thinking and action is encouraged benefit the global community, in contrast to activities that promote passivity and obedience.

Outdoor school and local collaboration are useful ways to show learners how their abilities can be used in society (Sinnes, 2021). However, the findings show that because of financial challenges and the pandemic, there is limited room for bringing learners to learning arenas other than the school environment. Eloise explains that it is challenging to come up with new ideas when her solutions are limited by economic restrictions, and Olivia explains that trips planned for learners at her school were not possible due to Covid. Even so, both the curriculum and literature require education to facilitate interdisciplinary collaboration and open doors to the world (Ministry of Education and Research, 2017). The goal of the professional renewal in Norway was to transform education so that it gives learners important tools to understand and handle global issues, and because of this, in-depth learning has a prominent place in the reviewed curriculum. Outdoor education puts the learners into the real world and allows them to establish personal relations with society and nature, which implies that it is a strategic didactic method to use to achieve in-depth learning (Sinnes, 2021). According to the theory in chapter 2.2.2, perhaps the most profound disadvantage of the lack of visits to the local environment and other learning arenas is that learners are deprived of a great opportunity to understand the reality of the things they learn in school. Moreover, since education's purpose is to prepare learners to handle complex and uncertain problems, it is fascinating to see that when schools meet such issues they do not necessarily find solutions to them. Despite the

challenges due to the pandemic, it seems like the educators experience outdoor education as something positive.

### 5.2.2 Reflection through thought-provoking activities

All the educators in this research project explain that they like to encourage and enable learners to think systematically and reflect on sustainable development topics, which is positive since legislated targets of education in Norway require educators to facilitate critical thinking (Meld. St. 28 (2015-2016); Ministry of Education and Research, 2017). The research participants do this in various ways.

Jonathan explains that he wants the learners to develop their critical thinking for instance through watching documentaries about textile industries or electric cars. He emphasises that his learners must think about and articulate their own opinions on topics related to sustainable aspects of consumption. Jickling and Wals (2008) and Öhman (2007) criticise environmental education's risk of indoctrination through teaching preconceptions of what is wrong and right, but all the respondents avoid this through their openness to learner opinions. In line with Sinnes (2020) recommendations, Jonathan also provides his learners the opportunity to give answers from a variety of angles by asking open questions. To answer questions regarding the consequences of their consumption or how they would have solved problems related to electric cars, they must to reflect on topics such as consumption, interdependence, poverty, economic injustice, global citizenship, and child labour (Klein, 2020, p.68). These kinds of activities can promote systematic understanding of consumption, insight to other peoples' suffering, and respect for others' perspectives. Similarly, Daphne and Oliver discuss the ethical sides of consumption with their classes to "wake up the part inside them that knows what sustainable development is and how we can live in the best possible way". They want their learners to consider as many sides of their ecological footprint as possible so that they can begin to understand the consequences of their individual choices. According to UNESCO and Stølen (2015), this makes learners more self-aware and gives them the ability to reflect on their role as global citizens (Rieckmann, 2018, p.44). These tasks can develop action competence and more sustainable lifestyles.

Reading children's and young adult literature is something Oliver, Olivia, and Eloise underscore as a good way to encourage critical thinking. According to Klein (2020), such literature is a good base for the instruction since it provides insight into others' stories and perspectives. Khaled Hosseini's best-selling novel *The Kite Runner* is one of the examples Oliver presents. He explains that books like this can help learners appreciate the safety we take

for granted in Norway and reflect on how it must feel to live in unsafe circumstances such as war, conflict, and climate disasters. Global citizenship, action competence, system understanding, and empathy can all be developed through the exploration of literature. Also, Olivia's use of literature in her teaching can be described as thought-provoking since she makes them read about climate activists and indigenous people, among others. Eloise emphasises a point Warren et al. (2014) highlight, which is that learners need to be able to recognise different possible futures such as utopian and dystopian. Literature and science fiction is used in the educator's instruction to dive into and discuss such scenarios.

Jonathan, Oliver, and Eloise explain that one of the ways in which they teach learners to reflect and think critically is by requiring them do research and evaluate the reliability of sources. Sinnes (2021) emphasises the importance of gaining updated knowledge, and that the rapid development in sustainability makes it challenging to navigate through all the information. Hence, learners need to be familiarised with adequate strategies for doing research. Environmental education aims to "develop people's capacities and opportunities to engage with sustainability issues so that they themselves can determine alternative ways of living" (Didham & Ofei-Manu, 2018, p.91). Without the ability to do thorough research and without critical thinking competency, this aim will not be possible to achieve. According to the literature used in this thesis, the educators' large focus on promoting reflection and critical thinking is very much in line with the recommendations for succeeding with education for sustainable development (Didham & Ofei-Manu, 2018; Jickling and Wals, 2008; Rieckmann, 2018; Sinnes, 2015, 2020, 2021).

### 5.2.3 Written assignments

Written assignments are frequently used by the educators, but the one who has the most comprehensive description of her written teaching material is Olivia. She develops this material herself and makes sure that it covers all three aspects of sustainable development. Oliver, Daphne, and Olivia point out that educators must provide material that is embedded in economic, ecological, and social aspects so that the learners can expand their comprehension of sustainable issues and exercise critical reasoning. Without question, Olivia offers this through her course material.

As Kvamme and Sæther (2019, p.118) emphasise, the UN's SDGs is a good starting point for English instruction since they promote intercultural competence through respect for diversity, comprehension of other cultures' perspectives on the world, and communication across borders. Olivia says that she uses them and other reliable sources to develop her material. When her

learners work with these assignments, they have to be quiet and collaborate only with their neighbours since she is convinced that sometimes they need to work individually in calming surroundings. The material requires them to reflect and write about ethical dilemmas in issues such as pollution, wildlife, climate activism, indigenous people, and culture (United Nations, 2015, p.17). She enjoys providing quotes in the beginning of tasks that can increase critical thinking. The tasks require them to do research and write in different styles such as diaries, articles, reflection notes, fiction, and letters. These tasks can be considered investigative and can lead to a holistic understanding instead of a simple understanding of sustainable development.

#### 5.2.4 Online resources

As mentioned earlier, the most discussed materials are videos, documentaries, and movies. Klein (2020, p.68) emphasises that videos are good sources of information if they are provided by reliable sources. Five sources that are mentioned directly by both scholars and the respondents are NRK, Greenpeace, the UN, environmental blogs, and YouTube. YouTube requires some precaution since it provides numerous videos that do not come from legitimate sources. Jonathan agrees as he states that his aim is to find good videos from reliable organisations. Daphne is also careful with what teaching material she chooses to use in her instructions, especially since she uses many teacher blogs and Facebook groups to find inspiration. She does not necessarily implement the whole teaching material she finds but uses selected parts of it. This is also something Oliver and Eloise do. Additionally, Eloise uses her teaching material from before the professional renewal and updates them by cross-checking with the new curriculum. Kvamme and Sæther (2019, p.118) explain that these are reasonable ways of working since it is not expected that educators develop teaching material *ab initio*. There are abundant resources online that can be used, so teachers' task is to adapt the material to their learners.

Online teaching materials provided by corporations such as Aschehoug, Gyldendal, Cappelen Damm, Google, and TV2 are highlighted by all respondents. Even though the textbooks have not automatically been updated in pace with the professional renewal, many of them already have topics that encompass the three interdisciplinary topics. Additionally, since they are online instead of in book format, they are updated somewhat more frequently. Daphne highlights the usefulness of the Sustainable Backpack material. On the matter of frequent updates, several respondents emphasise news as effective teaching materials for sustainability topics. Eloise explains it well when she says that it allows them to “take the temperature of the world” since

the news is a source that is updated every day and lets learners to explore events and situations from all over the world. According to the Ministry of Education and Research (2017), Sinnes (2020), and Klein (2020) Eloise is correct about this, and the material provides an effective way to open the world to the learners through education.

In contrast to the recommendations, the respondents do not mention sources that come from activism networks and humanitarian organisations other than the UN. The SDGs are commonly used as the foundation for both the schools' interdisciplinary approaches and the educators' teaching material. Especially, Jonathan and Daphne find the SDGs to be helpful to connect all the aspects of sustainable development. They often make the learners study the 17 different goals so that they can understand how many issues humanity needs to address in order to become more sustainable. The SDGs can be used to explore topics such as sustainable lifestyles, human rights, gender equality, promotion of peace and non-violence, global citizenship, and cultural diversity (Klein, 2020; Leicht et al., 2018a; Sinnes, 2020).

### 5.2.5 Teacher qualities

The educators are aware of the recommendations for encouraging optimistic views on the future. The reason it is suggested as an approach is because there are overwhelming amounts of information that continuously remind us of the negative environmental impacts and issues that we have to handle. The respondents have had personal experiences with the sense of not being good enough and not doing enough, so they know how heavy the burden of solving global issues is and how important it is to empower the learners (Breiting, 2007). Most of the research participants believe that educators' emotions affect the learners' emotions, and that the optimistic viewpoint is necessary to bring into education. Oliver, Jonathan, and Eloise have seen that sustainability issues make their learners worry about what they will encounter in the future. The educators' goal is to use the learners' worries to develop the fighting spirit and action competence through encouragement to see what can be achieved if learners do not give up. According to Xu's (2012) explanation of Bandura's "self-efficacy", optimistic and positive views on the future might enhance learners' belief in their own abilities to solve challenges and issues in their lives. It is made clear that educators' behaviours and perceptions play a significant role when it comes to developing learners' self-confidence, effort, commitment, performance, and coping mechanisms for when they encounter failure and challenges (Xu, 2012).

The educators' optimism is in line with the research done by Sinnes (2021) and Warren et al. (2014). Instead of looking into the future in agony, they suggest that we look at the past to



understand how we precipitated today's global challenges. This allows us to use anticipatory thinking to find out which direction society is moving in and what we need to do to develop the future we want (Warren et al., 2014, p.6). If the learners become inundated, their ability to systematically analyse, discuss, understand, envision, and evaluate the future will be impaired. Even so, allowing learners to feel the emotions that might be characterised as undesirable can help them gain a deeper and more realistic comprehension of sustainable development systems. Since Bildung is inherent in education, learners' emotions can be seen as powerful tools to enhance individuals' process of developing a subjective self in society (Hogstad, 2021). Their feelings of being overwhelmed provide an opportunity to become free thinking and critical of society's structure. An example of school children using their anger productively is Greta Thunberg's call for school strikes for the climate and the resulting Fridays for the Future global movement. She managed to inspire four million individuals to skip school or work to join history's largest climate strike by raising the question of why young people have to go to school when no one is doing enough to save the future.

### **5.3 Do EFL teachers have the tools to use environmental pedagogies in an effective way?**

#### **5.3.1 Interdisciplinarity and whole-institution approach**

The findings show that there are different experiences with implementing sustainable development interdisciplinary in education. Jonathan and Eloise have good experiences with their school's allocation of time for staff discussions that provide the opportunity to share experiences and knowledge. All respondents explain that their schools have meetings every Tuesday to discuss development in education and educational practices. During these meetings, they often focus on the curriculum. Breiting et al. (2005) recommend that schools facilitate educators' professional development through assigned time for discussion and evaluation of the best practice in sustainable teaching, which seemed to be done by most schools in this study. Daphne reports that her administration gives her the opportunity to advance her pedagogical practice during work hours through staff discussions and the Sustainable Backpack conferences. Even if this was not the case, all the respondents would still have remained updated since they enjoy reading news, periodicals, literature, and reports about sustainable development topics in their own time. They highlight how educators have to engage with the topic in their personal lives to properly teach it to the learners. Their data reveal limitations related to shared sustainable visions since most of them do not account for their school's policy for environmental pedagogy. Initial observations suggest that there may be some ambiguities

when it comes to the institutions' implementation guidelines for educators, despite their team meetings.

The evidence of sustainable development in the institutions can be seen in examples provided by Eloise and Daphne where their schools shifted from single-use plastic to reusable plates, glass, and cutlery. However, it is mentioned that this change was due to economic reasons not because of sustainable change. Along the lines of Sinnes (2020, p.65) suggestions, these changes set good examples of how to reduce plastic waste. Moreover, serving more sustainable foods in the cafeteria, starting kitchen gardens, and measuring individual and collective food waste are suggestions for activities learners and teachers can do together to enhance the holistic understanding of food production and sustainability, and most of these are discussed by the respondents (Klein, 2021; Sinnes, 2015, 2020).

The data contributes to a clearer understanding of how the schools work with sustainable development through interdisciplinary projects. However, the five educators clearly demonstrate that there are challenges when it comes to teaching sustainable development and reaching the interdisciplinary goals. Daphne encounters challenges when it comes to professional development in her school. She finds it difficult to collaborate with a greater part of the school's staff since many of them have pessimistic and flawed views on the amount of work it requires to change their practice. She implies that it is not possible to move into interdisciplinary and sustainable practices when there is extensive resistance and a lack of engagement and motivation among the teachers. This is supported by Xu (2012) who explains that if educators are not aware of their belief systems and evaluate how much their actions reflect those beliefs, there is a high probability that their teaching targets individual aspirations instead of the goals of the curriculum. All levels of education must integrate sustainable development holistically so that learners are provided with important knowledge, understanding, values, and skills needed to participate in societal change (UNESCO, 1978; United Nations, 1992). Since education has been assigned the important responsibility of developing responsible citizens, educators must be aware of their own beliefs, values, and attitudes to check if they are in line with the goals of education. Belief systems decide what individuals use time and energy on (Xu, 2012). If the educators are not aware of their important role and their effect on learners, the aims of the interdisciplinary goals are in danger of not being reached.

Daphne demonstrates her frustration with her colleagues through two examples; one where the staff was introduced to the professional renewal in 2018 and the other when she shared her new

knowledge with her colleagues after returning from a course held by the Sustainable Backpack. She finds that many of her fellow teachers see all the issues and limitations while some manage to focus on the possibilities, and she believes that this has to do with personal experience and familiarity with the new interdisciplinary teaching method. This is a contrast to the findings in Scheie and Stromholt's (2019, p.17) study, where they revealed that teachers involved in the Sustainable Backpack programme reported positive outcomes for themselves, their students, and their schools. Similar to Summers and Cutting (2016), Daphne understands that teaching is meant to build on the curriculum and that the interdisciplinary topics decide what educators bring into the instruction. However, the transition phase into reorganised teaching practices requires them to think differently than before, which might be one of the causes of the resistance. Xu (2012) explains educators' resistance to new information as common since most of them often have set ideas about education and classroom practice. However, she emphasises that this creates challenges in improving education since it causes new information to either be dismissed as unworkable or as common knowledge. Sinnes (2021) clarifies that schools often have five phases they go through when they transition into sustainability practices and even if the administration and several teachers recognise sustainable development as important, the whole-school approach would probably not run like well-oiled machinery before phase five. Sinnes (2015, 2021) provides arguments that Daphne's school is in the third phase. UNESCO emphasises that society has to build policy support and capacity of educators both nationally and internationally so the learning institutions can feel the societal drive towards sustainable changes (Rieckmann, 2018a, p.46). To quote Daphne: "My wish when it comes to sustainable development is that it is not about the teachers. It should be like 'this is how we do it in our school regardless of what kind of teacher you are.'"

Naturally, the pandemic is also mentioned as a challenge. The difficulty with Covid-19 was that the collaboration between Jonathan and Eloise's school and other schools became heavily reduced. Eloise explains that when the professional renewal came their administration planned to facilitate professional development through meetings where educators could discuss the new curriculum, exchange knowledge and experiences, and propose a way to settle into the transformed guidelines for education. This, however, was not carried out the way they imagined. It was reduced to a few online meetings, which Eloise describes as rushed and not as useful as the physical meetings. Even though the example shows how they did not succeed, it also proves that they attempt to include the local community to develop a more effective practice (Breiting et al., 2005; Sinnes, 2021). This case demonstrates the need for better

strategies to avoid the deselection of fundamental principles of education due to unexpected challenges.

Other than the findings related to the pandemic, there are several replies in Jonathan and Eloise's data that suggest that collaboration is challenging. Even though they do not give the exact same answers, they complement each other so that the picture of their school becomes more absolute. Eloise explains that their teacher team struggles to find content for the interdisciplinary class. Moreover, both respondents says that there are concerns regarding which subjects are prioritised. They are unsure whether all the subjects are included since only two teachers are responsible for teaching that class. Put together, these results suggest that interdisciplinary topics such as sustainable development cannot be confined to a single subject but must be integrated holistically into all levels of education (Klein, 2020; Leicht, 2018a; Summers & Cutting, 2016).

Breiting et al. (2005) emphasise that schools need to prepare a shared vision for ESD, plan how to accomplish that vision, and develop a procedure that ensures that the school benefits from their own and others' negative and positive experiences with environmental pedagogies. The challenge with interdisciplinary teaching is further exemplified by Daphne through her descriptions of how the administration is quite new and just settling into their new jobs. She understands that they do not have the capacity to prioritise the application of sustainable development in school when everything is new to them. Furthermore, Daphne, Jonathan, and Eloise provide several examples of differences between teachers in their schools that make the implementation of sustainable inconsistent. The IPCC report (2022) states that most adaptations to environmental issues are fragmented and focused on planning rather than implementation, which seems to be applicable in this case. If Daphne's school had established strategies earlier, there would perhaps not be any challenges with the change of administration and the motivation among the staff. These examples also connect to what Rieckmann (2018b) says about the guidelines that are published annually for people involved in education. They are developed to support all levels of education with the purpose of making sustainable practices easier to comprehend and execute, so when Jonathan, Eloise, and Daphne express that it is not the case for their schools it is natural to assume that perhaps there is something that is not working effectively.

### 5.3.2 The English subject

Even though the interdisciplinary topic of sustainable development is not linked to the English subject through the curriculum (LK20), literature that explains the purpose of the professional

renewal proves that this topic concerns all levels of education. The three interdisciplinary topics make up the foundation on which education should build (Meld. St. 28 (2015-2016)). The data reveals that all the educators understand that sustainable development as an interdisciplinary topic should be included in the English subject. They are all aware that sustainable development requires holistic, interdisciplinary, and whole-school approaches to be implemented properly. To paraphrase Daphne, we need a “red thread” throughout education.

Unanimously, the research participants express that they choose to include sustainable development in their English instruction since they believe that all educators have a responsibility to do so. It is clear to them that the English subject has competence aims that requires learners to achieve sustainability competencies such as cultural understanding, respect for others, communication strategies, critical reflection, and action competence. This is seen in the case of Jonathan since he emphasises that most of the information on sustainable development is offered in English. To them, it is evident that the only thing stopping EFL educators from implementing it is their own lack of awareness and imagination.

## 6.0 Conclusion

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By analysing how English teachers prepare learners for an uncertain future through environmental pedagogy, this thesis has shown both how manageable and challenging it can be for educators to effectively implement the interdisciplinary topics of the curriculum.

The results from the interviews suggested that sustainable development's role in Norwegian schools depended on the administration's facilitation and educators' engagement, even though it was stated as a goal of the curriculum. The respondent's definitions of sustainable development demonstrated that they understood the interconnection between the ecological, economic, and social aspects. The data indicated that most of the methods and materials they used facilitated active participation and cognitive processes such as critical thinking, empathy, system understanding, and self-awareness. To answer the research question, it was essential to investigate if the educators got the support they needed to implement environmental pedagogy in an effective way. My assumption that there were several challenges when it came to the integration of the interdisciplinary topic was confirmed. Despite this, it was encouraging to learn about the choices the five educators made to continuously develop their school's and their own teaching practices and to facilitate learners' holistic understanding and future competencies.

The portrayed experiences reveal the need for further investigation in schools' approaches to sustainability since there are significant discrepancies between the five educators' experiences. Although both the curriculum and environmental pedagogy provide opportunities for method-freedom, there should perhaps be measurement to quality check these choices. Even if it is not possible to draw any general conclusions about ESD in Norwegian schools through this thesis, it is clear through these five cases that sustainable development is often down-prioritised when challenges arise, such as unfamiliarity with new teaching methods, vague or inconsistent strategies in schools, the inefficient collaboration between colleagues, the lack of funding to visit local communities, the pandemic, and new administrations. Furthermore, these data indicate that their whole-institution approaches only touch the surface of sustainable development instead of diving deep into it and that the four schools are currently in the third or fourth phase in the transition to become sustainable. However, according to literature, one can infer that the five educators did an excellent job in creating opportunities for in-depth learning even if their schools did not. Most of the activities and methods they chose to use in their teaching were in line with recommendations from previous research. However, the participants'

colleagues and administrations seemed to be contradictory in the ways they approached ESD. The data appears to support my assumption that there are gaps between the intentions of the core curriculum and the actual implementations of it.

Since this qualitative study was based on only five interviews it was not possible to draw any general conclusions about the application of environmental pedagogies in Norwegian schools. However, it was possible to explore the experiences of the five educators to establish what they did well and where limitations arose. Put together, these results suggested that the five educators were quite dedicated to including sustainability in their teaching, while their workplaces and colleagues' efforts had room for improvement. Besides, the English subject was described as an important contributor to giving learners a holistic understanding of sustainable development. In a more extensive project, I would have wanted to take a closer look at what is needed for sustainable development to get a defined position in schools' daily operations. Such a study would require further research on how we can standardise national evaluations of educators' implementation of education for sustainable development to ensure that it is being done in the best possible way. An extensive survey of Norway's English teachers, or teachers in general, to find out whether we are on the right path to achieve the national and international goals could perhaps be the next step.

The journey through literature and research on sustainable development has underscored how fortunate I have been to grow up during the technological revolution in one of the wealthiest countries in the world with access to free education, abundant food and fresh water, medical help, and much more. It is unfortunate that thirteen years of education did not manage to teach me this earlier. It was after I graduated that ethical questions and sustainable development issues began challenging my world view. Perhaps this means that the question, "How do Norwegian EFL teachers in 5-10<sup>th</sup> grade prepare learners for the uncertain future through education embedded in sustainable development?" could some years ago have been answered with a simple "They do not". Fortunately, the theoretical framework for this thesis suggests that the professional renewal has changed the purpose of Norwegian education. Even if learners under previous curricula are not acquainted with sustainable development, the learners in school today will be. Education has been assigned the important mission of developing creative, problem-solving, critical thinking, cooperative, and ethical and environmentally aware citizens. The question still remains; Are educators' efforts today enough to create a sustainable society?

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# Appendices

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## Appendix 1 - NSD approval:

### Vurdering

**Referansenummer**

222333

**Prosjekttittel**

How do you experience English teachers on 5-10 grade working with the overarching theme of education for sustainable development?

**Behandlingsansvarlig institusjon**

Høgskulen på Vestlandet / Fakultet for lærerutdanning, kultur og idrett / Institutt for pedagogikk, religion og samfunnsfag

**Prosjektperiode**

30.09.2021 - 15.05.2022

[Meldeskjema](#)

**Dato**

16.11.2021

**Type**

Standard

**Kommentar**

Det er vår vurdering at behandlingen vil være i samsvar med personvernlovgivningen, så fremt den gjennomføres i tråd med det som er dokumentert i meldeskjemaet 21.10.2021 med vedlegg. Behandlingen kan starte.

**TYPE OPPLYSNINGER OG VARIGHET**

Prosjektet vil behandle alminnelige personopplysninger, særlige kategorier av personopplysninger om politisk oppfatning og filosofisk overbevisning frem til 15.05.2022.

**LOVLIG GRUNNLAG**

Prosjektet vil innhente samtykke fra de registrerte til behandlingen av personopplysninger. Vår vurdering er at prosjektet legger opp til et samtykke i samsvar med kravene i art. 4 nr. 11 og 7, ved at det er en frivillig, spesifikk, informert og utvetydig bekreftelse, som kan dokumenteres, og som den registrerte kan trekke tilbake.

For alminnelige personopplysninger vil lovlig grunnlag for behandlingen være den registrertes samtykke, jf. personvernforordningen art. 6 nr. 1 a.

For særlige kategorier av personopplysninger vil lovlig grunnlag for behandlingen være den registrertes uttrykkelige samtykke, jf. personvernforordningen art. 9 nr. 2 bokstav a, jf. personopplysningsloven § 10, jf. § 9 (2).

**PERSONVERNPRINSIPPER**

NSD vurderer at den planlagte behandlingen av personopplysninger vil følge prinsippene i personvernforordningen:

- om lovlighet, rettferdighet og åpenhet (art. 5.1 a), ved at de registrerte får tilfredsstillende informasjon om og samtykker til behandlingen
- formålsbegrensning (art. 5.1 b), ved at personopplysninger samles inn for spesifikke, uttrykkelig angitte og berettigede formål, og ikke viderebehandles til nye uforenlige formål
- dataminimering (art. 5.1 c), ved at det kun behandles opplysninger som er adekvate, relevante og nødvendige for formålet med prosjektet
- lagringsbegrensning (art. 5.1 e), ved at personopplysningene ikke lagres lengre enn nødvendig for å oppfylle formålet.

**DE REGISTRERTES RETTIGHETER**

NSD vurderer at informasjonen om behandlingen som de registrerte vil motta oppfyller lovens krav til form og innhold, jf. art. 12.1 og art. 13.

Så lenge de registrerte kan identifiseres i datamaterialet vil de ha følgende rettigheter: innsyn (art. 15), retting (art. 16), sletting (art. 17), begrensning (art. 18) og dataportabilitet (art. 20).

Vi minner om at hvis en registrert tar kontakt om sine rettigheter, har behandlingsansvarlig institusjon plikt til å svare innen en måned.

**FØLG DIN INSTITUSJONS RETNINGSLINJER**

NSD legger til grunn at behandlingen oppfyller kravene i personvernforordningen om riktighet (art. 5.1 d), integritet og konfidensialitet (art. 5.1. f) og sikkerhet (art. 32).

For å forsikre dere om at kravene oppfylles, må prosjektansvarlig følge interne retningslinjer/rådføre dere med behandlingsansvarlig institusjon.

#### MELD VESENTLIGE ENDRINGER

Dersom det skjer vesentlige endringer i behandlingen av personopplysninger, kan det være nødvendig å melde dette til NSD ved å oppdatere meldeskjemaet. Før du melder inn en endring, oppfordrer vi deg til å lese om hvilken type endringer det er nødvendig å melde:

<https://www.nsd.no/personverntjenester/fulle-ut-meldeskjema-for-personopplysninger/melde-endringer-i-meldeskjema>

Du må vente på svar fra NSD før endringen gjennomføres.

#### OPPFØLGING AV PROSJEKTET

NSD vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet i tråd med den behandlingen som er dokumentert.

Kontaktperson hos NSD: Olav Rosness, rådgiver.

Lykke til med prosjektet!

## Interview guide

Red: Norwegian translation of the question.

Green: The reason I ask the question.

### Introduction:

Before I ask any questions, emphasize that the interview is voluntary and that they have a right to withdraw their consent form at any time. Also explain short what the master project is about so that they know what the scope of the interview will be.

1. Which subjects do you teach?

Hvilke fag underviser du i?

Investigates if they teach any other subjects that automatically give them more knowledge on ESD, such as Norwegian, natural science, etc.

2. What experiences do you have with working interdisciplinary?

(a) Hvilke erfaringer har du med å jobbe tverrfaglig?

(b) Ser du noen positive og negative sider ved å arbeide med et tverrfaglig emne?

3. (a) When did you first begin to learn about Education for Sustainable Development (ESD)?

(b) Is there a particular situation or event that has made you become more interested in this topic now than before?

(a) Husker du når du for første gang lærte om Utdanning for Bærekraftig Utvikling?

(b) Er det en spesiell situasjon eller hendelse som har gjort deg mer

bevisst/interessert/investert på bærekraftig utvikling?

I want to know this because I believe it is important to investigate how long they have consciously known about ESD specifically.

4. We hear a lot about sustainable development and climate change in the news. Do you have any immediate thoughts or views on this topic?

What do you associate with the concept of sustainable development?



Hva forbinder du med begrepet bærekraftig utvikling?

Intends to map their personal views on climate change. Forankrer perspektivene deres på bærekraftig utvikling.

5. In what ways do you strive to live in a sustainable manner in your personal life?  
Please elaborate.

Hvilke endringer har du forsøkt å gjøre i hverdagen for å leve et mer bærekraftig (personlig) liv? Har du noe du ønsker å endre, som nødvendigvis ikke er endret enda?

Investigates if the respondent is aware of how their personal choices affect the environment, and if they want to change their behavior.

### Colleagues, the school Institution, and international frameworks:

6. [Colleagues] How effectively does your school as a whole work with sustainable development? This might include strategies, guidelines, regular meetings, etc.

Hvor effektivt jobber skolen deres helhetlig med bærekraftig utvikling. Dette kan innebære strategier, retningslinjer, møter, fellestid, osv.

A developing topic such as SD requires updated knowledge and teamwork across subjects. This investigates if they work with a whole-institution approach towards specific targets. This question will be about how teachers interact with colleagues/peers to develop teaching that incorporates sustainable development aims/guidelines.

7. (a) [Management] How have you experienced the supervision and support from the department of education in Norway to implement the new curriculum of 2020?  
(b) Do you feel like you have received the training you need?

(a) Hvordan har du opplevd oppfølgingen og støtten fra utdanningsdirektoratet, Kunnskapsdepartementet eller andre utøvende myndigheter og offentlige rådgivere når det gjelder å iverksette den nye læreplanen fra 2020?

(b) Føler du at du har fått tilstrekkelig med opplæring og informasjon?

Investigates if the Norwegian government support schools so that they know how to implement ESD.

8. [Individual] How do you keep your knowledge and practice on this topic updated and in line with national and international frameworks?

Hvordan holder du kunnskapen og praksisen din oppdatert og i tråd med nasjonale og internasjonale rammeverk?

This question asks about how individual teachers have developed their competence in this area. The teachers own effort is crucial for the right implementation of ESD.

### Personal teaching and the English Subject:

9. Sustainable Development is a cross-curricular/interdisciplinary topic for education but is not a part of the English subject curriculum. What are your thoughts on this?

Bærekraftig utvikling er et tverrfaglig tema innenfor utdanning, men er ikke lenger en del av engelskfaget/den engelske fagplanen. Hva er dine tanker om dette?

Whole-institution approach and interdisciplinary approach is important for it to have an effect. What do they think about English being excluded from this work?

10. Teachers are not required to implement SD in the English subject. Nevertheless, teachers may be able to incorporate elements of ESD into their teaching of English, if they wish. How much freedom do you have to explore environmentally focused topics when teaching English? Please provide an example or two of how you have done this.

Lærere er ikke pålagt å undervise om bærekraftig utvikling i engelskfaget. Likevel kan jeg se for meg at dere har muligheter til å undervise om temaer som er svært knyttet til dette. (a) Hvor stor frihet har dere til å undervise om klima- og miljørelaterte emner.

(b) Kunne du gi noen eksempler på hvordan du har undervist om slike temaer?

Investigates if the school works as a whole, and encourages the teachers to work individually with the topic. Also, intends to map how much focus on SD the teacher decides to implement to their instruction, even though they are not required to do so.

11. When you or your peers have taught SD topics, was the content of the lesson mostly leaned towards action competence or towards theoretical knowledge?

Når du eller dine kolleger har undervist bærekrafts-relaterte temaer, vil du si at innholdet i undervisningen var mest lent mot handlingskompetanse eller teoretisk kunnskap? Kan du begrunne kort hvorfor du oppfatter det slik?

Investigates if the teachers aim to teach learner how to live sustainable lives or if they teach them about it. It's the matter of teaching for or about SD.

12. The topic of sustainable development is an holistic one. It touches every part of society, not only education. Have you ever visited any external partners outside the school area with you learners, or has any of you English lessons taken place outside?  
Bærekraftig utvikling er et holistisk (alt henger sammen) felt og rører alle ulike deler av samfunnet. Har du og elevene dine besøkt eksterne partnere i skoletiden, og har engelskundervisningen tatt sted utenfor skolens område noen gang?
13. In what ways do you think the English subject could contribute to reaching the interdisciplinary goals?  
På hvilke måter tror du engelskfaget kan bidra til å nå (eller være viktig for å nå) bærekrafts målene og de tverrfaglige målene for bærekraftig utvikling i den norske skolen?  
Focuses on the English subject and why it is important to include this subject in the work of ESD. What are important aspects of the English subject that can give important insight to learning for SD? Do teachers find English crucial for this topic?
14. There are many pre-made lesson plans and helpful resources available for teachers that are recommended by the UN. Could you name some examples of resources you have used during the/your English instructions?  
Det er flere ferdiglagde undervisningsopplegg og læremidler tilgjengelig på nett. Flere av disse er anbefalte eller utviklet av FN. Kan du gi noen eksempler på læremidler eller ressurser du har brukt i engelsktimene dine, og forklare hvorfor du valgte dem?  
Quality-proofed lesson plans are available out there. Are they being used?
15. [Ikke så viktig spørsmål] Do other English teachers share your values when it comes to ESD? Have you ever discussed them?  
Har andre engelsklærere noen av de samme verdiene og tankene som du har når det gjelder utdanning for bærekraftig utvikling? Hvordan har du fått dette inntrykket?  
This question addresses the collaboration of the teachers, and their individual interpretation, their value of importance on the matter, etc.
16. Did you do any individual or collaborative work in the area of sustainable development during your teaching of English before the new curriculum came into place?

Har du alene eller i samarbeid med kolleger jobbet med noe relatert til bærekraftig utvikling før den nye læreplanen kom i 2020?

17. Are there any qualities do you believe are important for teachers to have to succeed with education for sustainable development?

Hvilke personlige egenskaper føler du er nødvendig for å klare å implementere|temaet bærekraftig utvikling?

18. Imagine that we are in 2030. Do you think education or instruction will look different from what it does now, concerning sustainable development? What will we be doing differently in education in 2030 compared to the present day?

Se for deg at vi er i 2030. Tror du at utdanning eller undervisning ser annerledes ut når det gjelder BU? Hva ser du for deg at vi gjør annerledes i 2030 sammenlignet med i dag?

## Ending

19. Do you think we will be able to reach the UNs Sustainable Development goals by 2030?

Tror du vi kommer til å nå FNs bærekraftsmål innen 2030? Hvorfor/hvorfor ikke?

20. Is there anything else you would like to talk about, or any questions or topics you would have liked me to include?

Er det noe du vil legge til, eller noe jeg ikke har spurt om som du gjerne vil ta opp?

Intends to cover all the topics the respondent wants to discuss and encourages them to speak their mind if there is something unsaid

21. How have you experienced this interview? Is there anything that should have been done differently?

Hvordan opplevde du dette intervjuet? Er det noe jeg burde ha gjort annerledes?

Gives the interviewer a chance to change things that did not work for the next interview. Quality check.

Thank them for their participation, and express that you are grateful that they wanted to share their opinions with you! You appreciate the time and effort they put into the project.

## Appendix 3 – Translation of data from Norwegian to English

### Translation of data from Norwegian to English

Nota bene: The amount of data represented for each respondent in this document is not equal to the level of representation in the dissertation.

#### Respondent: Oliver

Norwegian	English
[H]vordan vi behandler sjøen og hvordan vi behandler jorda, jordbruk og hva slags store ressurser og ikke minst store naturressurser vi tar å utnytter og ikke bruker på en bærekraftig måte. Det er noe av det som gjorde meg sånn «Shit dette må vi faktisk få litt mer på agendaen» sant. Dette skader kloden.	How we treat the sea and the earth, and how we exploit the large natural resources we have instead of using them sustainably opened my eyes to how much we actually need to get it on the agenda. It is destroying the earth.
Og det jeg merker med sånne bærekraftige tema er jo at du må jobbe med dem over tid. Det er det som er viktig her, sant. Det kan ikke bare være en time, sånn «Nå skal vi snakke om bærekraft.» Det blir fort glemt. Det blir for en sånn «spray-on» metode. At du liksom bare antar at denne kunnskapen du hiver på dem, det kommer til å feste seg som en solkrem. Men denne solkremen vil jo visne ganske raskt vekk. Så du må gjerne jobbe over tid, og det er det viktigste med sånne type tema. De tverrfaglige temaene.	And what I notice about sustainable themes is that you have to work with them over time. That's what's important here. It cannot be just one lesson, cause that will quickly be forgotten. If we do that, it's like a "spray-on" method where you just assume that the knowledge is going to stick to them like a sunscreen. But this sunscreen will fade away pretty quickly, so you have to reapply it regularly. That's the most important thing about those type of topics. The interdisciplinary topics.
Hvordan jeg holder meg oppdatert er jo gjennom å være nysgjerrig for det som skjer rundt om i verden. Men samtidig som du følger med på det som skjer rundt om i verden, så må du jo være en snev kritisk av det som skjer også. Hvis du virkelig skal finne ut hva som skjer, så må du gå grundig til verks, og du må også lese fra forskjellige perspektiv. Men jeg tror at som lærer så er det å holde seg oppdatert på det som skjer rundt om i verden viktig, for du skal jo på en måte åpne verden for elevene. Og da må du jo også gi dem verktøy og strategier, og informasjon som kan hjelpe dem å gjøre sin oppfattelse av ting. Så du ikke presser på din måte å gjøre ting på, men ulike vinkler. For eksempel det med bærekraft, det er jo gjerne to sider av en sak når det går på det med matproduksjon, og det som går på miljøkrisen.	I stay up to date by being curious about what is happening around the world. But at the same time as you find out what is happening, you must be critical. If you really want to find out what's going on you need to dive deep into it, and you need to read different perspectives. I think that as a teacher, keeping up to date on what is happening around the world is important, because you are supposed to open the world to the students in a way. You have to give them tools, strategies, and information that can help them make up their own opinion about things. There are often two sides to an issue.
Vi har jo dette målet [i engelsk] som går på demokrati og medborgerskap, og det er også et viktig perspektiv innenfor bærekraftig utvikling, så det jeg gjerne syns er litt forunderlig er jo det at bærekraft kunne vært trukket inn, fordi mange av de elementene som går på dette med medborgerskap og demokrati er veldig sentrale for BU.	What is a bit strange is that sustainability could have been included [in English] since many of the elements of democracy and citizenship are central to sustainable development.
Å drive bærekraftsundervisning på er stadig under utvikling.	The way we teach sustainable development is constantly evolving.

<p>Men det jeg føler at den nye læreplanen, det som er litt problematisk rundt dette med bærekraft, er jo at det ikke står i engelskfaget. At i det engelske faget så er det sterkere fokus på dette som går på litteratur og språk. Det jo forståelig at, som et språkfag, så skal de jo ha fokus på språk og utvikling av språket. Men jeg føler også at den engelsken den neste generasjonen vil ha mest nytte av, er jo den som går på å innhente informasjon, forstå informasjon, være kritisk til den informasjonen de ser. Så kanskje, ut i fra det, føler jeg at de nye læreplanene har, ihvertfall i forhold til engelskfaget da, har kanskje lagt det litt til side. At det ikke skal stå så sentralt i dette faget.</p>	<p>What is a bit problematic with sustainability in the new curriculum is that it is not in the English subject. That in the English subject there is a stronger focus on literature and language. It is understandable that, as a language subject, we should focus on language and language development. But I also feel that the English the next generation will benefit the most from is the one who goes on to gather information, understand information, be critical of the information they see. So maybe, based on that, I feel that the new curricula have, at least in relation to the English subject, put it a bit aside. That it should not be so central in this subject</p>
<p>Men det er også en mulighet, fordi det er en kamp du kan ta. <i>Dette her skal vi fikse sammen.</i> Disse egenskapene kjenner jeg jo litt igjen ut fra bakgrunn, hva jeg holder på med utenom, at <i>Vi skal ikke gi oss. Vi skal pinadø, om vi ikke får det til, så må vi jobbe hardere for å få det til etter hvert.</i> Og det er jo også litt den tankegangen jeg vil ha som lærer, sant. At når du får [...] utfordrende situasjoner og utfordrende ting som skjer hele tiden, så må vi tørre å stå i den stormen, og ri den ut. Og så vil du jo lære masse underveis.</p>	<p>It's also a possibility. It's a battle you can choose to take. We have to fix this together. We shall not give up. If we cannot make it happen, then we have to work harder to make it happen. And that's also the mindset I want as a teacher, right. Even if [...] challenging things happen all the time, we must dare to stand in that storm, and ride it out. You will learn a lot along the way.</p>
<p>Vi har elever med ulike utfordringer da, så er det viktig å snakke om tema som de også kan forstå, og tematikker som påvirker deres daglige liv som går på bærekraftig utvikling. Det vil påvirke deres daglige liv uansett, sant.</p>	<p>We have learners with different challenges so it is important to talk about topics that they can understand and topics that affect their daily lives regarding sustainable development. It will affect their daily lives anyway, right.</p>

**Respondent: Eloise**

Norwegian	English
<p>Det er sånn, en skal planlegge en undervisningsøkt, også blir det litt sånn <i>hvordan er læreplanmålene nå?</i> For når en har vært lærer i mange år og gjerne i samme fag, så har en jo enkelte opplegg som man har kjørt som man har hatt gode erfaringer med. Men så, <i>kan jeg kjøre disse? Passer det? Hvordan kan jeg putte det inn i forhold til de nye kompetansemålene?</i> Ja, så må man kanskje endre på ting da. [Ler]</p>	<p>But yeah, I often use the curriculum. Most recently yesterday. It's like, you're supposed to plan a lesson, and you check the curriculum since it's a bit like "What are competence aims now?". When you've been a teacher for a long time, and especially in the same subject, you run the same lessons over and over because you have positive experience with them. But then, "Can I use these now? Do they fit in? How can I use them while at the same time reaching the new goals of the curriculum?". And then you have to make some changes.</p>
<p>Sånn at når oss faglærere skal legge opp årsplanen, så må vi styre ut ifra, velge emner som demokrati og medborgerskap, det skal være, tanken er at alt skal ha en sammenheng. At temaene man jobber med skal være gjenkjennelige. Og der igjen, trenger man gjerne</p>	<p>When teachers in each subject set up the annual plan for teaching, they have to consider the interdisciplinary topic that is in focus. The idea is that everything should have a connection. That the topics we focus on are recognizable in the themes we teach. And then again, you don't</p>

ikke å ha tverrfag på timeplanen, men da får man det litt inn i at fagene har planlagt relativt like emner.	need to have interdisciplinary work as its own class, you just implement it to every subject through relevant themes.
Så du kan ta tempen på verden omtrent.	Practically take the temperature of the world
For lærebøkene, enten digital eller, jeg holdt på å si manuell [begge ler], altså enten vanlig bok eller om du har det som en digital plattform, så har de emner som legger opp til at du skal innom temaet da. Og i og med at vi, som jeg har nevnt tidligere, vi har jo den overordnede tverrfaglige tanken på skolen, sant, så er vi sånn <i>skal vi ikke har det i engelsk da? Det er jo rart.</i>	For the textbooks, either regular book or if you have it as a digital platform, have topics that suggest that you go into the topic. And since we, as I have mentioned before, have the overall interdisciplinary approach for the school, why should we not have it in English? That's weird.
Men ja, jeg bruker læreplanen titt og ofte. Senest i går. Det er sånn, en skal planlegge en undervisningsøkt, også blir det litt sånn <i>hvordan er læreplannmålene nå?</i> For når en har vært lærer i mange år og gjerne i samme fag, så har en jo enkelte opplegg som man har kjørt som man har hatt gode erfaringer med. Men så, <i>kan jeg kjøre disse? Passer det? Hvordan kan jeg putte det inn i forhold til de nye kompetansemålene?</i> Ja, så må man kanskje endre på ting da. [Ler]	But yeah, I often use the curriculum. Most recently yesterday. It's like, you're supposed to plan a lesson, and you check the curriculum since it's a bit like "What are competence aims now?". When you've been a teacher for a long time, and especially in the same subject, you run the same lessons over and over because you have positive experience with them. But then, "Can I use these now? Do they fit in? How can I use them while at the same time reaching the new goals of the curriculum?". And then you have to make some changes.
ledelsen vår er veldig utviklingsorientert, og de liker å være oppdatert på det nyeste som skjer, sant. Sånn at gjennom jobb, da, så får en de mulighetene man egentlig trenger for å oppdatere seg. Også kan man jo lese mer på egenhånd. Av og til gjør man det, og andre ganger så har en ikke tid til det.	Our administration is very development-oriented, and they try to introduce the latest development and trends in education. So, we get the opportunity to update our knowledge while being at work. And, of course, we can do some research on our own. Sometimes we do. Other times we don't find the time for it.
Og så kom korona. Sant. Og plutselig, der var læreplanen. Så. Dette er jo helt og holdent min personlige opplevelse av det, men jeg følte at det liksom var sånn <i>der er planen satt i gang og nå er det bare til å følge den.</i> Så alt det arbeidet som man egentlig hadde sett for seg i forhold til planlegging, i forhold til utprøving, det er akkurat som om alt bare forsvant, også var det ikke mer fokus på det. Selvfølgelig var det fokus på det, men det var mer sånn overordnet, akkurat som om de tenkte at nå kunne vi dette.	But then Covid came, right. And suddenly, there was the new curriculum. This is entirely my own experience of the situation, but I felt like it was like "Here's the new plan. Now you have to follow it." So all of the preparations we envisioned linked to planning and testing new methods just vanished and there wasn't any more focus on it. Of course, there was some focus but it was more general, as if they figured that we had learned what we needed to learn.
<i>Er det fakta? Skal det virkelig bli så ille?</i> Det var nettopp besøk av den kulturelle skolesekken, der de egentlig hadde litt fokus på det her også. Og da også, det var bare sånn, de var litt oppgitt etterpå. Det føltes så.. så.. <i>Hva skal skje med oss? Er det vår feil? Det er jo deres feil, dere som er voksne som har brukt opp alt, så skal vi betale for det?</i> Så jeg ser jo at det går inn på elevene.	"Are those facts? Will it really be that bad?". They were quite upset. Probably thinking "What will happen to us? Is it our fault? It's your fault, you adults who have used all our resources and make us pay for it?". So, I can see that it affects them.
Det har jo vært innkjøpsstopp i kommunen. Det kom to uker etter drift i høst. Så å gjøre noe	If you want to do something practical, there's not a penny you can spend if you need funding due to the municipality's budgeting

praktisk, det finnes ikke ei krone du kan bruke hvis du trenger noen midler, sant.	
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**Respondent: Olivia**

Norwegian	English
Så forbruket vårt, spesielt her i den vestlige verden, det er nødt til å reduseres. Og energiproduksjonen vår, i det hele tatt. Det er jo mange ting, men forbruk er litt essensielt.	Consumption. That is very, very important. Our consumption especially here in the West must be reduced. And our energy use. There are many things that need addressing, but consumption is essential.
Selv om [bærekraftig utvikling] ikke står spesielt som et tema i engelsk, så tenker jeg at det skal være med likevel.	Even though [sustainable development] is not specifically mentioned as a topic in English, I think it should be included anyways.

**Respondent: Jonathan**

Norwegian	English
Nøkkelord for mer bærekraftig utvikling er mindre grådighet og likere fordeling av ressurser.	The key to sustainable development is less greed and equal distribution of resources.
Det må også utvikles teknologi som gjør matproduksjon mer fornybar og satse mer på mindre kjøtt i kosten.	We have to develop technology that makes food production more sustainable, and we have to focus on reducing our meat consumption.
En oppgave de hadde var at de skulle gå gjennom hva de hadde spist og hvor mye vannforbruk en vanlig dag hadde hvis de har spist kjøtt eller sånne ting. Hvor mye vann de må bruke for å få den middagen, rett og slett. Så at de blir litt mer bevisst på matforbruk og sånne ting.	A task they had was to go through what they had eaten during a normal day and find out how much water it required if they had eaten meat or things like that. Simply how much water they have to use to make that dinner. So, they become a bit more aware of their food consumption.

**Respondent: Daphne**

Norwegian	English
Det er de her fire aspektene, sant.. Det er så mange som tenker når de hører dette med bærekraftig, det med natur, men det er jo flere andre aspekter også. [...]For, sant, i det her med BU, alle de dimensjonene, så er det jo sånn at de fleste tenker på klima og miljø, men for at noe skal være bærekraftig er det jo dette med økonomi og de sosiale forholdene, og der føler jeg vi har en lang vei å gå. Alle dimensjonene satt under ett, for å si at man er bærekraftig.	It's those four aspects, right. Many people associate sustainable development with nature, but there are more aspects than that. [...] When it comes to sustainable development it is common that people think about the climate and the environment, but for something to be sustainable it has to take into account the economic and social conditions too. And there I feel like we have a long way to go. One has to put all the dimensions together to say that one is sustainable.
[D]et er nok litt utfordrende, for i en lærerhverdag så er det ganske heftig, og det er tusen ting som skjer, så man kan nok bli litt overveldet hvis man tenker at man, igjen, skal gjøre noe nytt. Det har man jo også sett når vi snakker om det her med tverrfaglig arbeid, så	[I]t is quite challenging because a teacher's weekday is very intense. There are thousands of things happening all the time, so it can be overwhelming when we are told to do something new over and over again. When we discuss this interdisciplinary way of working it's always like



<p>blir det sånn <i>Når skal vi ha tid til det og det prosjektet?</i> Det jo ikke det at dere skal ha tid til det, det er jo en annen måte å jobbe på! Det er fortsatt de samme kompetansemålene, bare en annen måte å gjennomføre dem på.</p>	<p>“When are we going to have time for this and that project?”. It’s not that we need to have the time, it’s a new way of working! It’s still all the same competency goals, we just need to implement the new way of reaching them.</p>
<p>Mitt mål og mitt ønske når det gjelder bærekraftig utvikling er jo at det ikke skal handle om lærerne. Det skulle vært sånn at <i>Sånn her er slik vi gjør det på vår skole</i> uavhengig av hva slags lærer man er. Det er mitt ønske.</p>	<p>My goal and my wish when it comes to sustainable development is that it is not about the teachers. It should be like “this is how we do it in our school regardless of what kind of teacher you are.”. That’s my wish.</p>
<p>Jeg er veldig usikker på hvorfor det <u>ikke</u> er. For jeg tenker at det burde være over hele linja, sant. [...] Så nå <u>må</u> vi jo få den her generasjonen, som går på skolen og vokser opp i dag, at vi må <u>endre</u>, så må vi jo ha det i alle fag i en sånn rød tråd for å få det implementert. Så det er jo egentlig det jeg tenker da, bare en tydelig rød tråd i den norske skolen.</p>	<p>I’m not sure why it’s not in English. To get the generation that goes to school and grows up today to change we need to have it in all subjects, that red thread, to get it implemented. So that’s what I’m thinking, just a clear common thread in Norwegian schools.</p>
<p>Man sender noen, så skal de komme tilbake og overføre det til de andre. Men det var ikke tvil om, når vi drev å reiste gjennom den Naturlige Skolesekken, at noen ting må man faktisk være tilstede for selv, og delta på de foredragene, se de utstillingene eller høre om andre sine prosjekte</p>	<p>You send someone [to attend courses], then they will come back and transfer it to the others. But there was no doubt, when we were traveling through the Sustainable Backpack, that some things they have to be present to learn from, and actually attend those lectures, see those exhibitions or hear about others’ projects</p>
<p>Mye, mye reflektering som må til. Og man må ta så mange klassesamtaler, det er så mye snakking som må skje for at de skal tenke på en annen måte.</p>	<p>So, so much reflection is needed. And you have to have so many class conversations. There is so much talking that has to happen for them to think differently.</p>
<p>Kreativitet i forhold til det å ville gjøre ting, være litt nysgjerrig. Ville finne ut av ting. Hvis du er det sant, det handler egentlig om <u>ditt</u> engasjement for å få elevene engasjert. Jeg kan stå der framme med helt monoton stemme og snakke om noe, så har de ikke fått noe med seg.</p>	<p>Creativity in how you do things. Being curious. Wanting to find out things! Getting the learners involved is really all about your own enthusiasm. I could stand in front of the class with a monotone voice and talk about it, but they wouldn’t be able to remember a thing.</p>
<p>det vi har brukt mest tid på, er det å skulle vekke denne delen inni dem som har en tanke om hva BU er og hvordan vi på en måte kan leve best mulig så lenge vi er her.</p>	<p>Specifically, what we have spent most time on is to wake up the part inside them that knows what sustainable development is and how we can live in the best possible way as long as we are here.</p>
<p>Det gjør noe med dem, og det øker bevisstheten deres på en helt annen måte enn at jeg bare skal stå å fortelle dem om det.</p>	<p>It does something to them. It raises their awareness in a completely different way than I could by telling them about it.</p>
<p>Men jeg tenker, det å gjøre noe helt konkret med elevene for å øke deres bevissthet, det er det som må til.</p>	<p>I believe that to do something very concrete with the learners to increase their awareness is what we need.</p>