

Education for Sustainable Development

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Education can serve the purpose of trying to mitigate catastrophes, from the climate change education perspective. Therefore, understanding how teachers are engaging with sustainability issues can help to reveal how they cope with it. In a school context, teachers can have a role in enacting an interconnection between critical thinking (CT) as a potentially useful tool and education for sustainable development (ESD), in terms of educating and communicating the importance of sustainability to future generations.

critical thinking

education for sustainable development

discourse analysis

positioning theory

functions of education

1. Introduction

Global climate change is being recognized as a serious threat and is, therefore, causing an insecure period for humanity (Maslin, 2014 ^[1]). The threat to climate has created the need for common actions toward tackling climate change both at local and global levels (United Nations, 2015 ^[2]). In addition, communication about climate changes and the mitigation of the negative effects of these changes have attracted increased attention, and a deliberate human response is required to address these challenges (CRED, 2009 ^[3]). Understanding how climate change issues are communicated in public is, therefore, important, as the communication patterns influence how further actions addressing the challenges of climate change should be taken (Clayton et al., 2016 ^[4]).

Discourses around climate change can reveal ways in which sustainability issues are being framed within broader social, political, economic, and daily-life contexts. Public awareness of climate change has also led to an increased focus on education for sustainable development (ESD). Since education is expected to provide the competences required to deal with sustainability issues, teachers' communication about sustainability within schools, as part of the educational enterprise, plays a significant role, as emphasized in UNESCO's report (2018) ^[5].

The researchers believe that ESD assumes a critical role in terms of creating communication actions that generate possibilities for teachers and students to engage with environmental discourses (Harré et al., 1999 ^[6]). One of the key aspects of teachers' communication in such discourses is how they decide and take actions. Critical thinking (CT) has recently been considered a useful tool for decision-making in sustainability contexts (Hasslöf and Malmberg, 2015 ^[7]) and can (in an educational context) be conceptualized as a combination of skills and dispositions (Ennis, 2015 ^[8]; Lai, 2011 ^[9]; Lai et al., 2017 ^[10]). A broader understanding of CT includes: (i)

purposeful judgement, considering skills and dispositions; and (ii) civic participation and social justice, contemplating independent opinion and critical action (Jiménez-Aleixandre and Puig, 2022 ^[11]).

CT discourses, as well as sustainability in education, can start from early childhood (Davis and Elliott, 2014 ^[12]). Yet, CT in relation to ESD has only been explored at higher-education levels, but not at lower-school levels (Choy and Cheah, 2009 ^[13]; Santos, 2017 ^[14]). Therefore, there is a need to explore teachers' engagement with CT and ESD at primary-school level. Teachers' engagement with CT can be understood as an analytical tool used to capture sustainability issues. Sustainability issues create potential discourses in which teachers engage with communicating practices and actions around climate change in the school context.

Studies of sustainability discourses demand a theoretical lens that can capture the complex interplay of teachers. To this end, this research aims to use positioning theory (PT) to explore the possibility of apprehending discursive patterns that indicate how different "functions of education" (Biesta, 2014 ^[15]) are being communicated within sustainability issues and CT. PT is a social theorization that tries to capture dynamic analysis of conversations and discourses (Harré and Van Langenhove, 1999 ^[16]). Furthermore, it allows us to see how teachers position themselves in their "speech act" as performances when they interact (Harré and Van Langenhove, 1999 ^[16]). Harré (2012) ^[17] defined an act as the social meanings of an action, and speech as a meaningful, intended performance. PT is well-suited for the discourse analysis since it brings attention to teachers' positions through the way they pursue their rights and duties. These rights and duties are shared assumptions about ESD, and CT can be revealed through teachers' communication acts.

Primary teachers' engagement in discourses regarding sustainability is further analyzed through Biesta's (2014) ^[15] functions of education; namely, qualification, socialization, and subjectification. *Qualification* can be characterized through skills, dispositions, and knowledge; *socialization* refers to political, social, and cultural orders; and *subjectification* refers to the subjective, as opposed to others' actions. The dynamics of conversations and discourses based on PT help us understand this action of "others".

2. Climate Change and Communication

During the last 30 years, the importance of public awareness about climate change has been highlighted in public discourses (UNFCCC, 1992 ^[18]). This communication has been instrumental in terms of public access to and participation in discussions around climate change.

As part of the United Nations' (UN's) 2030 Agenda for Sustainable Development, quality education (goal number 4) and climate action (goal number 13) highlight the role of teachers in developing students' awareness about climate change. This way, sustainability development goals (such as handling climate change) reinforce the role of teachers in implementing ESD within the school context (UNESCO, 2018 ^[5]). A report by the American Psychological Association Task Force on the Interface between Psychology and Global Climate Change (APA, 2009 ^[19]) indicates the close ties between human psychology and attitudes toward global climate change. Based on empirical analyses, psychology can make better sense of behaviors that drive climate change by building

behavioral models. Therefore, teachers' discourses about ESD can be relevant to inform them about their own behaviors.

There is a global interest in climate change, and particularly through youth social movements (Han and Ahn, 2020 [20]). This interest has been reinforced by several governments that signed the Declaration on Children, Youth, and Climate Action on 9 December 2019, during COP25 in Madrid. The declaration acknowledged the critical roles of children and youth as agents of change and contained a commitment to acting on several youth-related climate goals (Thunberg, 2019 [21]). Therefore, social movements can be seen as a collective process where teachers and students together create a story about the future (Ojala, 2012 [22]).

In the Norwegian context, public self-image is considered to be strongly connected to environmental awareness (Norgaard, 2006 [23]). Religious beliefs can probably reinforce environmental awareness. The underlying concept is that respect through nature, sometimes even in a sacred way, helps to create a sense of belonging through the environment (Dietz et al., 1998 [24]). Additionally, in Scandinavia, and in Norway in particular, teachers' work on sustainability-related issues are often applied in outdoor education (Gabrielsen and Korsager, 2018 [25]; Sandell and Öhman, 2010 [26]; Aase, 2005 [27]), which might partly explain teachers' environmental awareness.

3. Teachers' Engagement with Sustainability

UNESCO (2018) [5] indicated the relevance of teachers' professional development for the teaching of ESD at the school level. Although such professional development is about helping teachers gain the skills and knowledge required to teach current environmental and societal issues, many such professional development programs only provide content or information about environmental issues without formulating relevant actions for the students to engage with the environment (Lee et al., 2015 [28]). Although the collectiveness is an important aspect of ESD, there is a danger of envisaging the core reasons. Young climate activists have been arguing the need for climate actions. This implies an ongoing societal consumerism criticality, but this requires a continuous exploration of the public discourse (Blühdorn and Deflorian, 2021 [29]). To this end, education can serve the purpose of trying to mitigate catastrophes when anticipating and planning for them beforehand, particularly through the empowerment of collective action (Armstrong et al., 2018 [30]). Furthermore, reducing the psychological distance from which people experience the effects of climate change through education might increase their willingness to take action to counteract it (Drummond et al., 2018 [31]).

4. Functions of Education in the Context of ESD

As noted above, the researchers use Biesta's (2014) [15] suggestion that education should be oriented toward three purposes: qualification, socialization, and subjectification. These purposes can lead to problematization of the functions of education around ESD. Hasslöf and Malmberg (2015) [7] explored these functions of education through teachers' engagement with ESD and CT at secondary and upper secondary schools in Sweden, where ESD is explicitly addressed in the curriculum. In Norway, as well as internationally, ESD has been recognized as a central

goal of education (UD, 2017, 2019 [32][33]; UN, 2015 [2]; UNESCO, 2018 [5]) Originally conceived as an idea of progress that slowly developed as a concept that emerged in the context of a growing awareness of an imminent ecological crisis (Du Pisani, 2006) [34], ESD might be a captivating field to relate with functions of education. Hasslöf and Malmberg (2015) [7] considered CT as a nodal point at which CT is challenged by the scientific discourse through the lens of qualification; however, subjectification offers the possibility for students to develop their own thinking while challenging everyday norms.

Through discourse analysis with Norwegian primary school teachers, the researchers consider teachers' perceptions of ESD and show some vivid examples of how they judge their own teaching (from their own critical stance) in light of the three functions of education. With the proposed framework of functions of education and PT, the researchers aim to shed light on the extent to which CT can help identify the purpose of education in the ESD context, and how teachers are challenged by everyday norms through CT while invoking PT to trace teachers' use of pronouns.

4.1. Qualification: CT in Relation to ESD

In Biesta's conceptualization, qualification involves providing participants with the knowledge, skills, and dispositions that allow teachers and students to "do something" (e.g., knowing why climate change is an important topic to address, and how to address it). The description referring to skills and dispositions in the qualification context aligns well with similar descriptions of CT (Ennis, 2015 [8]). So far, many definitions of CT have been presented (Lai, 2011 [9]; Meneses, 2020 [35]), including reflective thinking (Dewey, 1916 [36]) and creative thinking (Facione, 2016 [37]). Most of these fall into one of the three scholarly traditions of philosophy, psychology, or education (Lai, 2011 [9]; Sternberg, 1986 [38]). Here, the researchers draw on a revised definition that determines CT to be "reasonable reflective thinking focused on deciding what to believe or do" within the educational strand (Ennis, 2015 [8], p. 32).

Ennis is considered to be one of the founders of the field of inquiry into CT (Davies and Barnett, 2015 [39]). Over more than a decade, Ennis refined his definition of CT in such a way that it has evolved into 12 dispositions and 18 abilities (Ennis, 2015 [8]). These can be classified into six main categories: basic clarification, bases for a decision, inference, advanced clarification, suppositional thinking, and auxiliary abilities (Ennis, 2015 [8]). The researchers investigate the extent to which the interviewed Norwegian primary school teachers consider CT (through skills, abilities, and dispositions; considered mixed in the six main categories) in ESD discourses.

4.2. Socialization: Teachers' Engagement with ESD

Socialization, whether explicit or implicit, is concerned with integrating individuals into existing social, cultural, and political orders through the transmission of norms and values. According to Biesta (2014) [15], in general terms, socialization refers to the initiation of students or professional orders and cultures (i.e., integrating individuals into existing social, cultural, and political orders through the transmission of norms and values).

Civic participation and social justice, contemplating independent opinions and critical actions, have recently been incorporated into CT, extending Biesta's definition of socialization (Jiménez-Aleixandre and Puig, 2022 ^[11]). Herein, the researchers consider CT from the civic participation perspective in teachers' discourse analysis as part of socialization. In the researchers' view, the underlying socialization aligns with the idea that, through language, one accesses societal rules. Since the members of a certain society share similarities, according to Durkheim (1961) ^[40], the essential characteristics of the same ideal constitute the collective ideal. Therefore, socialization interconnected with PT can help to understand teachers' similarities when discussing CT in connection with ESD.

4.3. Subjectification: Through PT

How are the subjects of initiative and responsibility informed through an individual, rather than through objects of others' actions? This question from Biesta relates, in the current context, to understanding teachers' responsibilities, informed through the way they dynamically exercise their rights and duties through their self-positioning in ESD.

An understanding of how teachers position themselves in discourses around ESD can clarify their subjectification within ESD. However, when teachers position themselves (self-positioning), they are also influenced by others' actions, since oral conversations always imply some reciprocal positioning (Harré and Van Langenhove, 1999 ^[16]).

To conclude, the researchers suggest that the UN's sustainable development goals (such as handling climate change) reinforce the role of teachers in implementing ESD (UNESCO, 2018 ^[5]), by using a macro-approach. The macro-approach reveals the rights, but mostly the duties, and herein lies the contribution of PT when considering functions of education. The functions of education can help reveal how CT, as a concept defined with skills and dispositions, is recognized by teachers. However, when dealing with some intricate and complex issues, teachers locate the complexity of relational aspects as part of the subjectification function. The use of PT can be considered a starting point for understanding how different aspects underlie teachers' discourses in ESD context.

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