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Margaretha Häggström

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Utilizing a storyline approach to facilitating pupils' agency in primary school sustainability education context

Margaretha Häggström 🔴

University of Gothenburg, Goteborg, Sweden

ABSTRACT

This article presents a six-week long action research study in two primary school classes, with the aim of exploring how a Storyline approach can facilitate learning and acting on sustainability issues, and how this approach might enhance pupils' agency. This study is underpinned by and analyzed through theories of relational pedagogy, in which communication processes and interaction are central aspects of the learning process. The empirical material consists of video observations from classroom situations. The results show relational aspects of the teacher's work in a Storyline and highlight the importance of the teacher's caring role Storyline instruction. Further, results suggest that the reflective process entails critical thinking and has potential to support development of pupils' democratic capabilities, including a civic dimension. This action research study adds to evidence concerning how relational agency has been exercised and performed through features of a Storyline.

Introduction

Climate change and its impact on Earth is a primary issue of concern for young people today (Ojala & Bengtsson, 2019; Ojala & Lakew, 2017; Strife, 2012). This is evident in youth actions such as school strikes and protest marches, known as *Fridays for Future* (Bouilanne et al., 2020; Thackeray et al., 2020), which have been prominently reported by media worldwide (Marris, 2019; Warren, 2019). For those who work in Education for Sustainable Development (ESD), it is crucial to understand how young pupils – like those who participate in Fridays for Future activities – might become engaged in sustainability issues. Shifting course from an unsustainable toward a sustainable future will require considered strategies that improve people's courage and willpower to engage and make changes (United Nations, 2015). For this to happen, we need a drive for new perspectives on education at all levels (Häggström & Schmidt, 2020; Jickling et al., 2018; Orr, 2017; Taylor & Pacini-Ketchabaw, 2018; Wals, 2015).

As argued by Jickling (1992), the aim of education is to scaffold, inspire and empower students, and thus to encourage independence and critical thinking (Jickling, 1992). Critical thinking is described as a core skill that helps pupils reflect on or question information. In thinking critically, Lim (2015) stresses, pupils need to be able to relate themselves and their actions to other individuals and groups in society and the world. As such, education may enable democratic learning opportunities. This kind of education does not aim at instructing pupils in predictable directions, but instead to provide them with a sense of agency.

Hallinger and Nguyen (2020), who carried out a review of research on ESD published between 1990 and 2018, noticed a preponderance of higher education in research articles and theoretical and critical reviews (see also Grosseck et al., 2019; Redman et al., 2021; Salovaara et al., 2020). They concluded that,

CONTACT Margaretha Häggström ✉ margareta.haggstrom@gu.se 🖭 Department of Curricular, Pedagogical and Professional Studies, University of Gothenburg, Goteborg, Sweden.

"the next generation of ESD literature needs more empirical research that describes and analyses ESD implementation in diverse contexts . . . [and] . . . . that offers insights into patterns of curricular and instructional practice and their efficacy in achieving the goals of ESD" (p. 11).

As many publications have focused on defining and critiquing ESD, there are fewer empirical studies of implementation, which may lead to a separation between theoretical knowledge in academia and educational practice in schools (Viennet et al., 2017; Wals, 2015). For primary school teachers to be able to utilize knowledge generated by researchers, there is need to transform theoretical contributions into forms that will facilitate teachers in enacting applications in the contexts and with the ages they teach. This article contributes an empirical action research study that examines practice in a primary school, based on the Storyline approach. This is also a response to meet the call for an educational shift regarding ESD. In addition, this study employs a theory of relational pedagogy to analyze the pedagogical method used by teachers in the study, which is a way to change perspective on the pedagogical method of Storyline.

This six-week long study, conducted in Sweden in spring 2021, examined how Storyline instruction may support empowerment of primary school pupils. The school's pedagogical approach is based on holistic pedagogy regarding issues related to sustainability. The curriculum integrates environmental, social, and economic issues into teaching; involves pupils in the learning process; and aims to prepare them for the future. The school emphasizes interdisciplinary teaching and learning and promotes education for democratic empowerment. The ambition is to provide pupils with a sense of agency, and to enable opportunities to question and collaborate through democratic processes that include environmental encounters.

The Storyline approach provides a pedagogical means for facilitating this curricular vision (Høeg Karlsen & Häggström, 2020). Storyline is an instructional approach that facilitates learning activities through a narrative developed by the teacher and the pupils in cooperation (Bell & Harkness, 2013; Omand, 2017). It is problem-based and cross-curricular, and based on an active, dynamic and flexible pedagogy that combines multimodal methods (e.g., visual, auditory and tactile engagement) (Jewitt et al., 2016; Kress & van Leeuwen, 2001). To set the story in motion, the teacher uses didactic tools, including key questions, incidents and relating activities. Key questions are powerful driving forces for Storylines; they offer pupils opportunities to reflect, discuss, and respond in several ways, which in turn opens various solutions for problem-solving and constructing ideas (Omand, 2017). Incidents give rise to contextual learning and make the story move forward (Høeg Karlsen & Häggström, 2020). These are planned in a line of episodes (Omand, 2017). The incidents trigger relating activities, which can be of a generic kind that can be applied in any topic, and/or of a topic specific kind (Harkness, 2007).

The objective of the Storyline approach is to support pupils' sense of agency, to acknowledge them as creators of their individual as well as collective knowledge, and to provide opportunities to take part in democratic processes (Bell & Harkness, 2013). Social interaction is viewed as crucial for learning processes, as are affective experiences, creativity, play, and stimulating pedagogical environments. The Storyline approach is also informed by Freire's emancipatory pedagogy (1968/2001).

Since 2006, the study school has used the Storyline approach to develop students' conceptual understanding and ability in problem solving. The teachers have gained experiences and facility with the Storyline approach, and their practice has been documented, shared, and tested in a collegial context. Their ongoing practice provided an opportunity to explore how instructional application of the Storyline approach may intersect with the school's complementary pedagogical focus on sustainability.

Aim

The aim of the study was to explore how the Storyline approach used in the school facilitated pupils' learning and acting on sustainability issues, and how this approach might enhance pupils' agency. The overarching research question is: what pedagogical means and methods are used during Storyline work and, consequently, how is pupils' agency enhanced? Based on sociocultural theories, Sairanen et al. (2020, p. 2) define children's agency as "an interaction process between a child and other people and the material and sociocultural context." Agency is thus situated and develops over time. Sairanen et al. (2020, p. 2) argue that agency "is a relational achievement which creates opportunities for children not only to copy

or repeat the activity, but also to transform it." The relational nature of agency highlights interaction as crucial since interactions evoke individuals' previous experiences of situations when a sense of agency occurred, which in turn form their agency character. This study aims to add to understanding through providing an illustrative example of the use of a Storyline approach in primary school instruction concerning issues of sustainability. It is also a contribution to the theoretical discussion on Storyline's learning processes by the use of relational pedagogy theories.

Background

Multiple scholars have identified a need for pedagogical approaches to Education for Sustainable Development (ESD) (Gurewitz, 2000; Häggström & Schmidt, 2020; Jickling, 1992; Ojala, 2015; Sund & Lysgaard, 2013; Taylor & Pacini-Ketchabaw, 2018; Wals, 2015). In their analysis, Hallinger and Nguyen (2020) identified that research studies within ESD have moved from raising awareness and implementation of acclaimed practices toward a critical and analytical approach. Similarly, Jickling (1992) emphasized that education should promote reflectiveness, critical thinking, and a democratic perspective. Thinking critically implies that pupils need to think contextually, that is, to develop a "sensitivity to the ways in which a given situation or problem can often be understood in different and sometimes contradictory ways" (Lim, 2015, p. 7). This emphasis is also consistent with Freire's (1968) critical pedagogy, which acknowledges education's connections with politics, and puts pressure on teachers' awareness of the consequences of their didactics, i.e., *what* and *how* they teach.

Knowledge about actual pedagogical methodology and effective strategies concerning ESD are still underrepresented in research at the primary school level (Hallinger & Nguyen, 2020). Sund and Lysgaard (2013) claim that ESD research lacks focus on education, and specifically, on a clear pedagogical philosophy. Pedagogical approaches and teaching methods ought to be underpinned by clear values and beliefs, i.e., pedagogical philosophy. In addition, some scholars (Gurewitz, 2000; Häggström, 2020a; Ojala, 2015; Taylor, 2013) have recognized emotional and affective aspects as essential for engaging pupils in environmental and sustainability education.

Emotional aspects in ESD

Ojala (2015) promotes the inclusion of emotional aspects and pluralistic learning in ESD, which is consistent with affective learning theories that highlight the importance of integrating children's own environmental experiences in ESD (Gurewitz, 2000). Gurewitz argues that affective education aims to recognize and involve a range of methods that enhance pupils' understandings of natural environments through their emotional responses to them. This approach is based on a belief that emotional responses and values guide people's attitudes, opinions, and actions on environmental issues. In addition to experiencing direct meetings with natural environments (Häggström, 2020a), arts-based subjects may facilitate affective learning opportunities through art, music, drama, poetry and creative writing.

Storyline, too, orchestrates arts-based and affective learning situations, and may thus respond to what Ojala calls critical emotional awareness. The ways teachers respond to pupils' emotions in the classroom are important for how pupils will handle their feelings. Teachers should take pupils' feelings of, for example, anxiety and anger, seriously, as they are important communicative messages. Ojala and Bengtsson (2019) argue that teachers should enable pupils to put their feelings into words in the classroom. The Storyline approach allows for this to happen through the use of key questions and various opportunities for creative expression (Omand, 2020). This requires a certain level of competence and knowledge about how to respond to pupils' emotions. A relational and holistic pedagogy can support such instructional knowledge.

Holistic pedagogy

Wals (2015) reasons that ESD requires new didactical direction to enable learners to tackle so called wicked problems, which are difficult to define and do not have a one and only solution. Wicked problems

are filled with uncertainty and are often immersed in conflicts of interests (Lans et al., 2014). The concept of sustainable development (SD) itself may illustrate such a conflict – apparent in the contrast between endless economic growth (as in development) and sustainable use of natural resources (Sinakou et al., 2017). Therefore, Wals points out, teaching sustainability is challenging. Häggström and Schmidt (2020) stress that there is a need for a pluralistic perspective on sustainability based on holistic educational ideas that encompass identity formation and meaning-making processes through connections to a community as well as to natural environments (see also Bautista et al., 2016; Hare, 2006; Mahmoudi et al., 2012; Miller, 1991). These perspectives inform the need for a cross-curricular, experiential, and relational pedagogy with an emancipatory purpose. With this purpose in view, the teachers in this study tried out Storyline as a method that is cross-curricular and that may fulfill meaning-making processes and enhance pupils' agency.

Pupils' agency in relation to ESD

In work toward a sustainable future, children are increasingly regarded as potent actors (Ärlemalm-Hagsér & Davis, 2014; Bautista et al., 2018; Häggström & Schmidt, 2021; Hedefalk et al., 2014; Pramling Samuelsson & Park, 2017). During the 1992 United Nations Conference on Environment and Development in Rio, children's agency was foregrounded. Children were described as important stakeholders and actors with civil rights to participate in sustainable development, globally as well as locally, in the present and in the future. Agency is often defined as being able to make choices and decisions to influence and have an impact on one's world (Sairanen et al., 2020). However, promoting children's sense of agency is not just about providing them with choices. Children's sense of agency needs to be supported through their participation in various situations and activities. Shier (2001), who develops Hart's (1995 in Shier, 2001) ladder of participation, suggests the following five practices and levels of participation:

1. Children are listened to
2. Children are supported in expressing their views
3. Children's views are taken into account
4. Children are involved in decision-making processes
5. Children share power and responsibility for decision-making.

When we use active listening and listen to children's words and ideas, their sense of agency may be enhanced. Ärlemalm-Hagsér and Davis (2014) stress that participation has individual as well as shared components, and they argue that children are capable of exercising agency in both their own lives and in society. Like Fitzgerald et al. (2010), and Mackey (2012), they also consider that young pupils can contribute thoughts and ideas, creativity and energy, drive and liveliness toward solving issues.

Yet, young pupils need opportunities to practise and develop skills for active citizenship (Ärlemalm-Hagsér & Davis, 2014). They need opportunities to take a stand, try out different ways of solving problems, and take part in democratic processes (Hedefalk et al., 2014). Teachers' sensitivity and responsiveness are crucial in designing such learning conditions. When young pupils are given the opportunity to examine and discuss ethical issues regarding sustainability, conditions for finding solutions and action can be created. An analytic ability to act may be enhanced when pupils test their arguing skills and deductive reasoning, and when previous ideas and thoughts are challenged (Hedefalk et al., 2014).

Teachers' scaffolding is essential in these processes. Both the Storyline approach and relational pedagogy have such intentions; to scaffold learning processes in which pupils will develop a sense of agency, enhancing their democratic skills, and empowering each pupil. This study explores how these processes might work (or not) in a primary school context, and how the Storyline approach engaged pupils in various ways and enhanced their agency. Walker (2017, p. 73) argues for "greater attention to be paid to children's agency in designing sustainability education." Richards et al. (2015) suggest *relational agency* and interdependency as concepts more appropriate regarding how children, or all humans, are socially embedded in their life-worlds. The notion of individual agency has been critiqued, and attention is drawn

to the structural entanglements supporting how children practice agency through relationships (e.g., Nolas, 2015; Oswell, 2013; Richards et al., 2015). In this study, agency is viewed as something pupils can enhance through relational pedagogy supported by a caring teacher.

The Storyline approach

Storyline is a problem-based and cross-curricular approach focused on teaching and learning through a developing narrative (Bell & Harkness, 2013; Høeg Karlsen & Häggström, 2020). It is designed to be employed as an active, dynamic, and flexible approach that supports different learners in working at various skill levels. It uses multimodal teaching and learning methods, and recognizes the "power and potential of stories in learning" (Mitchell & McNaughton, 2016, p. 9). Simultaneously, it develops in pupils a potent sense of ownership of their learning process. Using the Storyline approach generates unexpected episodes in the classroom.

In short, the Storyline is based on the dramaturgy of stories, and is constructed as a sequence of episodes, planned by the teacher, although the story is not based on a pre-written drama script. The teacher sets the scene in a particular time and place, real or imaginary (McNaughton (2007). There are people (the pupils) in the story, who will encounter problems and dilemmas, and no one knows in advance how the story will turn out. Each pupil creates a character who experiences the dilemmas. An episode can be the beginning of the narrative, or something that happens along the way. It can also be described as lesson one, lesson two, etc.

In each episode, the teacher presents one or several key questions. These open questions encourage reflection, dialogue and communication, and negotiation of meaning (Omand, 2020). A key question often evokes certain actions. Some episodes are interrupted by an incident that requires cooperation in problem-solving activities. It is the character, not explicitly the pupil, who experiences the problems and has to solve them. The story becomes a role-play – the pupils use various sources to help them solve the problems within the specific context that has been constructed. The Story is based on a narrative framework, starting with a vibrant beginning and continuing with animated episodes involving exciting incidents that require creative work. The Story culminates with a final lively end.

Every Storyline needs modifications to be the powerful tool it has the possibility to be. Through emphasizing interdisciplinary topic-based teaching and learning, the Storyline approach facilitates a range of competences highlighted in ESD including critical thinking, problem solving, cooperation, communication, creativity, and innovation. Storyline has the potential to support such skills as stories can convey the complexity of human actions, assist in understanding concepts, and be a medium for sharing human experiences. Making and telling stories are thus – and have always been – essential activities for human life, cultures, and traditions.

Storyline work is time consuming, but when pupils are given enough time to work with a subject or phenomenon within a Storyline, the learning process can lead to critical thinking, commitment, willingness to act, and opportunities to deepen pupils' knowledge. In this sense, Storyline work can be regarded as a transformative learning approach (Mezirow 2000), which Illeris (2014) argues is suitable for working with sustainability issues such as climate change. It is essential to analyze different pedagogical approaches and teaching methods and to identify opportunities and disadvantages based on what kind of learning the designed methods aim to orchestrate. For some pupils, the Storyline approach can be quite challenging. For example, some may find it confusing if they do not know what will happen during the next episode. For others, it is difficult to talk in group conversations or in class; and for some it is hard to be *in character*. Therefore, the Storyline approach requires delicate work by the teacher to prepare each pupil for the various episodes.

Theoretical points of departure

This study is analyzed through relational pedagogy. In particular, I examine the social relationship between the teacher and the pupils, and between pupils, to explore two classroom foci: (1) how the

Storyline approach may engage pupils in various ways, and (2) the teachers' role in enhancing pupils' sense of agency. Although the Storyline approach claims to be student-centred, I suggest that it is rather *relational pedagogy*, as both democratic processes and a partnership for learning are highlighted in the Storyline approach. That is, in Storyline instruction the teacher and pupils create a meaningful and instructive story together (Bell & Harkness, 2013; Harkness, 2007).

Relationship-centred education and relational pedagogy are based on openness and sensitivity to a we in contrast to a *teacher-* or *student*-centred approach (Adams, 2018). Adams (p. 8) defines relational pedagogy as "the intentional practice of caring teachers interacting with students to build and sustain positive relationships that cognitively and emotionally support their students throughout their journeys together." Aspelin (2018) further describes relational pedagogy as a comprehensive pedagogy through which civic direction, knowledge development, and care for each pupil creates an interweaved unity.

Communication processes and interactions are central to relational pedagogy. Through an intentional relational practice that enables collaborative activities, meaningful dialogues, and interactions in small groups, the teacher can meet the pupils' affective needs on a personal level (Adams, 2018). Adams describes relational pedagogy as "the way caring teachers utilize their professional knowledge and relational mind-set to purposefully build relationships with students" (p. 145). Teachers who apply relational pedagogy intentionally build and sustain relationships with pupils as an integral part of their pedagogical methodology. Noddings (2005) argues that reflective of relational pedagogy, a caring teacher listens and responds differently to each pupil. To teach the pupils how to care by listening attentively, the teacher models through dialogues and demonstrates by confirming and responding to the pupils' contributions. Adams (2018) suggests that there is no pre-established manual to follow in enacting relational pedagogy; to be a caring teacher is to be in a dynamic and responsive relationship with one's pupils.

Relational pedagogy provides a useful perspective to study how pupils' agency may be enhanced through the Storyline approach applied to issues of sustainability. The urgency and involvedness of sustainability issues makes it inevitable that pupils' reactions and emotions will be awaked during instruction (Ojala, 2015). Thus, teachers' ways of managing emotional responses are of importance. Palmer (2007) suggests it is more likely that pupils will be able to cope with difficult and burdensome content if they have a positive relationship with their teacher. Adams (2018) points out three essential pedagogical aspects of a caring teacher: *nurturing care, interpersonal care*, and *academic care*; each of these is relevant for considering how a teacher may support pupils' developing sense of agency.

An ethic of care puts emphasis on relationships and focus on issues of "trust, cultivation of relations, attentiveness and responsiveness to need" (Adams, 2018, p. 18). It recognizes lifelong interdependency as essential and promotes the development of social relations through social practices (Held, 2005). A teacher who is motivated by relational pedagogy and ethics of care, establishes caring relationships with her or his pupils based on reliance, solidarity, and compassionate responsiveness through dialogue that empowers pupils to share their ideas and express themselves. This involves an understanding of the needs of those cared for (Noddings, 2005).

Method and empirical material

This work is part of a practise-based action research study (Carr & Kemmis, 1986) carried out by a group of six teachers, six student teachers, the school's principal, and myself as the researcher. The principal initiated this project, wanting to improve the school's environmental and sustainability education and support the teachers' professional growth in teaching methods for ESD. The guiding question was: How can we incorporate ESD in our yearly Storyline work? The teachers planned the plot of the Storyline together in response to this question. As in most action research, practices of planning, acting, observing, and reflecting were employed by all involved. My role in this action research was to be a *critical friend* through the planning phase and to supervise the student teachers' studies. We met online three times in the beginning of the project, twice during the Storyline work, and in a physical meeting during a whole day when all staff came together for a collaborative working session. Together, these meetings allowed for in-depth discussions on theory, methodology, and the concept of sustainability.

Participating observations

The research method used was participating observations (Waddington, 2004). Observations gave insight into the pupils' and teachers' actions and behaviors such as gestures, mimics, glances, what was being said, and in which situations. No specific observation form was used. Instead, notes were written down as truthfully and fast as possible. Informal dialogues that emerged during the observations were written down during the observation. However, I observed and documented the classroom work without participation or interfering. A handheld camera was used for the recordings, allowing for mobility, flexibility, and proximity. Recordings were then observed several times and transcribed into written text. It was an advantage to be able to go back to recorded material and study events in detail.

The study context

This study was conducted in a nonprofit primary school and includes two primary school grade Two (age 8-9) classes, consisting of one teacher in each class and, respectively, 24 and 25 pupils. A total of 49 children were involved in the study as well as their two teachers and two assisting after-school teachers. One of the teachers has been a teacher for Grade 1-7 since 2001, and she has used the Storyline approach for ten years. The other teacher is a Grade 1-3 teacher since 2017, when she started to use Storyline. The teachers are both female. The students were representative of both long-term residents and immigrants of different generations from various places in the world, and of different socio-economic, religious, and cultural backgrounds. There was a balanced representation of girls and boys.

This primary school has had a well-established environmental focus since 2014; sustainable development is a recurring subject in each school class, and pupils' influences on their education is essential. Democratic pedagogical methods are highlighted on the school's website. As part of that work, teachers carry out a Storyline every year, in each class. All teachers in this school participated at the time in an ERASMUS+ project. ERASMUS+ is a European programme for education that facilitates transnational and international cooperation between organizations in the fields of education. The ERASMUS project is based on a holistic pedagogical approach to ESD. The Storyline in this study lasted for six weeks, 2-3 days a week, 1-3 lessons at a time. The empirical material consists of video observations from classrooms during the Storyline work. Across the two classes, observations were carried out over 12 days, altogether 30 hours, of which approximately 6 hours were recorded.

Analysis

The empirical material was analyzed through directed qualitative content analysis (Drisko & Maschi, 2015; Hsieh & Shannon, 2005). Practise-based action research is driven by hermeneutics and an interpretative tradition (Carr & Kemmis, 1986; Haakedal, 2015). The empirical material was analyzed accordingly; analysis and interpretation alternated between whole and part, between preconceptions and understanding, emerging from the students' and teachers' actions and interactions. Thus, relational aspects were the focus. Data analysis was carried out through four steps: 1) I viewed the recordings several times to become acquainted with the content. 2) Data were organized in representative sub-sections that emerged from the reading, revealing main activities, didactics, and pedagogical organizations. 3) The sub-sections were reflected on through the theoretical framework and the concepts *academic care, nurturing care, interpersonal care*. 4) The analyzed data were grouped by activity and pedagogical organization into three main themes: *teacher leads the work, pupils work independently,* and *teacher and pupils work in cooperation* (see Table 1).

Ethical considerations

Research involving children is vital for understanding children's lives and experiences and perspectives, and children's involvement in research is vital in ensuring their right to participate in matters that affect them (ERIC, 2013). This study follows ethical principles described by Ethical Research Involving Children

Table 1. Analysis overview.

Theme One: Teacher leads the work			
Activity	Didactical question	Pedagogical organization	Theoretical interpretation, Focus on
Key Questions	What, how	Whole class management, teacher controlling	Academic care
Dialogue	What, how	Whole class management, teacher guiding	Interpersonal care
Theme Two: Pupils work independently (together and alone)			
Activity	Didactical question	Pedagogical organization	Theoretical interpretation, Focus on
Discussions	What, how	Teacher initiating, Pupil interaction	Nurturing care
Constructing	What, how	Individual work, cooperation work	Nurturing care
Theme Three: Teacher and pupils work in cooperation			
Activity	Didactical question	Pedagogical organization	Theoretical interpretation, Focus on
Creating lists	What, how	Individual thinking, Pupil interaction, whole class. Pupil instructing teacher's actions	Academic care, Nurturing care, Interpersonal care
Presentation	What, how	Individual preparing, teacher supervising pupils' doings	Nurturing care

(ERIC, 2013), a collective international concern that children's rights and wellbeing are respected in all research, regardless of context. The principles are respect, benefit, and justice. Both protectionist and participatory standpoints need to be considered in research involving children. It is important to be aware of the power dynamics between pupils and the researcher. The fact that pupils may want to please the researcher rather than act and speak freely could affect children's behavior during the observations (Ponizovsky-Bergelson et al., 2019).

Participating pupils, their custodians and the teachers approved participation, and the adults confirmed their consent in writing. The pupils were informed why I was there and that I was interested in how their teachers plan and conduct lessons. The study is also pursuant to the requirements for research ethics in Sweden (Swedish Research Council, 2011) and to general data protection regulation GDPR.

The plot of the Storyline

The study Storyline starts on a boat, far out on the Atlantic Ocean. The characters, created by the pupils, are escaping from their various countries for different reasons. They find an uninhabited island, go ashore, and must plan for building a new sustainable society. They must start from nothing, learning how to be autonomous, as they have no contact with the rest of the world. They have to grow food, produce sustainable electricity, and agree on what they need to live their lives. They have to build 3 D models of important buildings and decide on the social functions to include in their society. During the expedition, they encounter different problems and dilemmas for which they must develop solutions. One serious problem to solve is a ship leaking oil, which they encounter one morning. The teacher has a rough plan to proceed from in which main events, key questions, pupil activities, and organizations are described. However, during a Storyline, unplanned things will happen and the Storyline may change direction or take unexpected detours before returning to the original line. A "Storyline principle is that the teacher holds the 'line' while the pupils tell the 'story'" (Harkness, 2007, p. 20).

Results

Analysis of the empirical material demonstrates that the pupils who took part in this Storyline were given opportunities to enhance agency through six main classroom activities. The activities were: *key questions*, *dialogue*, *discussions*, *constructing*, *creating lists*, and *presentation*. These activities are presented under the three themes that emerged from the analysis as three different pedagogical organizations during the Storyline work (presented in Table 1), which are *teacher leads the work*, *pupils work independently*, and

teacher and pupils work in cooperation. Some obstacles that may hinder enhancement of agency were also identified. In this section, the results are presented through the three themes that emerged from the material. The two didactic questions of *what is happening* and *how* is the work organized in ways that relate to agency guide each section together with the identification of the outcome of the activities related to each theme. Each section is also reflected on through the theoretical lenses and the concepts of *academic care*, *nurturing care*, and *interpersonal care*. In some cases, the results are also connected to a Storyline reference and to previous research.

Teacher leads the work: Key questions and dialogue

Two salient activities that were led by the teacher were *key questions* and *dialogue.* After the Storyline introduction, the teacher introduced the first key questions. One was, "Why do people leave their country?" The teacher asked the pupils to first "think for yourself, inside your head, and then discuss with the pupil next to you." Pupils wrote a note, in pairs, describing reasons for leaving one's country. The teacher walked and listened to the pupils' reasoning. After a while, she rang a bell to get the pupils' attention: "Now, I would like to hear what you have come up with."

Every pair reported their suggestions and explained their thoughts. Pair 1 said, "We think they want to build a new country to explore, it will be an adventure." Pair 2 agreed, "they want to see if they can find new animals, no one knows about." "We think that people were forced to escape, maybe there is a war in their country." pair 3 explained. Pair 4 followed that thought, "they do not feel safe at home, and maybe their relatives are cruel." Some of the pairs suggested weather-related issues, poverty, or opportunities to find new friends. The teacher listened carefully, asked follow-up questions and let each pupil reflect, think again, and explicate. All contributions were treated equally – with respect, curiosity, and consideration.

Each key question was followed by a teacher facilitated dialogue. She told the pupils to discuss a certain dilemma or phenomenon, first in pairs and then in smaller groups, and then she asked them to share the ideas from their dialogue with the class. One dialogue was about what is important in life and human needs. As with other key questions, the teacher listened to all suggestions, and then asked the pupils to discuss in pairs things that human beings do *not* need. During the dialogue, the teacher stopped to offer new perspectives for the pupils to ponder, or asked additional questions. Again, she walked and listened to the dialogues. She encouraged them, commended their reasoning, and asked them to choose one thing they could live without.

Academic and interpersonal care

When working with key questions, the teacher's focus was directed toward what Adams has identified as academic care. This implies an interest in the topic of the key questions and the teachers' intention to teach certain content. In this Storyline, sustainability and energy sources were such content examples. However, as the Storyline work is relationship-centred, no activity was focused on one aspect of caring alone. Working with key questions also involved communication processes, and the creation of social relationships. Thus, interaction was central. The teacher's focus in the dialogues was on what Adams (2018) calls interpersonal care, on getting to know students' nonacademic knowledge. This includes respect, trust, listening, emotional support, and a friendly approach. It is also about having an active presence in the dialogue and being available. Interpersonal care is received when teachers are open, show feelings, sharing their own stories, and value pupils' contributions. In this Storyline, interpersonal care was repeatedly demonstrated, not the least when the teacher and her pupils shared laughter.

Pupils agency enhanced by dialogue

Following Sairanen et al. (2020), agency was promoted through ongoing interaction between the teacher and pupils. The teacher responded to the pupils' suggestions with respect and honest interest and

curiosity, which supported pupils' self-esteem. The teacher's encouraging attitude created a positive learning environment, which contributed to raising pupils' expectations of themselves (Omand, 2020). The dialogue evoked the pupils' creative, critical, and thoughtful reflections. Working with key questions and associated dialogue can evoke pupils' previous experiences of situations of sensing agency, which in the view of Sairanen et al. (2020) in turn may form the pupil's agency character.

Pupils work independently: Discussions and constructing

Before the pupils constructed buildings for their new life on the island, the teacher urged them to discuss in small groups of three. These groups were created (thoughtfully) by the teacher and lasted the whole Storyline. Through these discussions, the pupils practised negotiation of meaning, arguing, finding agreements, and seeing things from each other's perspectives. One example of group discussion occurred after a Storyline episode aimed at finding a solution to rescue the sea from a leaking ship off shore of the imagined island. Each group discussed many possible solutions, but had to decide on one. This learning process enabled pupils' rational thinking and empowered the ability to carry out rational actions, which created a foundation for autonomous actions (Biesta & Tedder, 2006). One pupil explained, "All of us tried to talk together and to find solutions. There were a lot of good ideas from all groups, for example that we could limit the area, or soak up the oil. We had to act fast, because if the oil would sink deeper, it would be more difficult to capture it."

Group members could choose to work in cooperation through the whole process or to split the work between them. The groups did this in several ways. The teacher was present and monitored the work to make sure it was proceeding and that every pupil knew what to do and was happy with the process. When appropriate, she supported groups through asking pointed questions about their decisions rather than through directing them with ready solutions. One example was the construction of sustainable buildings and renewable energy resources. The pupils used their creativity together and made drawings before constructing. New ideas arose as the creations developed. Drawing on their agency, pupils learned how to deal with environmental problems in a playful way, and to be compassionate. This positive, compassionate, and solution-oriented approach allowed pupils to face their fears of and ease their worries about environmental circumstances (Biesta & Tedder, 2006; Sairanen & Kumpulainen, 2014). In this part of the Storyline agency served as both as an educational means and as an outcome. This implies meaning making as well as identity building.

Academic, nurturing, and interpersonal care

Both discussions and constructing work imply teacher's nurturing care (Adams, 2018). This dimension of care indicates that the teacher cares about the pupils' well-being and treats the pupils in a positive and respectful manner. It also entails protecting the emotional safety of the pupils and leaving pupils with a feeling of being cared for. This was shown in the teacher's effort to provide the pupils with a lot of material for building their models of sustainable houses and renewable energy sources. The teacher's meeting each pupil with approval, listening to their ideas, and confirming their thoughts are examples of this dimension of care.

Pupils' agency enhanced through the teacher's nurturing role

The pupils' sense of agency was scaffolded by the teacher's nurturing role; the activities were well planned, and as Omand (2020, p. 304) describes, helped the pupils to "value themselves and others, and how to give positive feedback as a means of promoting respect, thinking and questioning skills." Pupils' interactions with each other, although monitored by the teacher, provided a means for pupils to transform the activity (Sairanen et al., 2020). When constructing their buildings, the pupils could sense the ownership of both ideas and the buildings. As a result, they could feel that they grew and prospered, and that their effort gave rise to further success. This scaffolding process has potential to empower students.

Teacher and pupils work in cooperation: Creating lists and presentation

During key questioning, all the pupils' suggestions were put into common lists. In this Storyline, they first created a list with all suggestions, ideas, and solutions. Later, they revisited the list, discussing which suggestions to keep; what would be relevant, realistic, and most important; and what was considered to be sustainable. Through this work, the teacher asked tough questions, urged the pupils to take a stand and explicate their thinking, and challenged the pupils in different ways. At the end of this activity, the teachers and pupils decided together which suggestions from the list to keep. One example list consisted of things they wanted to bring to the island. Pupils suggested anything from toys and electric gadgets to food and medicine. They then shortened the list, deciding which items were necessary. Accordingly, they had to distinguish between what they *wanted* and *needed*. The discussions were animated and the pupils were very active. They had to argue well for each decision. For example, one pupil wanted to have a gym at the island. The teacher asked, "Do you really *need* a gym to survive?" The pupil replied, "Yes, because if I don't have anything to do, I might die from boredom." Then the other pupils argued against that statement, offering solutions to counteract boredom.

Nurturing care

Although this activity relied on the teacher's mixed attention to nurturing, interpersonal, and academic care, focus was on nurturing. This was evident when the creative and artistic work was accomplished and the pupils presented their work to each other. First, the pupils introduced their character to the class. As this was the first presentation, pupils had three choices: to present in front of the whole class, half of the class, or to prepare the presentation through a video recording. The teacher scaffolded each pupil to make a presentation and gave advice on how to prepare the presentation and practise at home. Nurturing care was shown through the help and encouragement the teacher gave and the fact that the pupils could decide how to perform the presentation.

Pupils' agency enhanced through the relational-centred approach

Altogether, these activities had great potential to enhance pupils' sense of agency. The relational-centred approach involved activities of thinking, talking, listening, arguing, and negotiating. As endorsed by various scholars (Nordström & Wales, 2019; Percy-Smith & Burns, 2013; Walker, 2017), educational setting in this study allowed the pupils to be agents of change within the arc of the narrative, with consequent potential impacts on their imagined selves as future agents of change.

Discussion

This article has provided an example of how the Storyline approach may facilitate learning and acting on sustainability issues - exploring ways activities might engage pupils and enhance their sense of agency. Given that calls for new pedagogical approaches to ESD foreground *relational agency* (Richards et al., 2015), and in light of my argument that Storyline work utilizes a relationship-centred approach, relational pedagogy was employed as an analytical lens. Results suggest that the relational aspects of the teacher's work and the teacher's caring role may be more profound in Storyline work than has been suggested in previous publications, which generally have described Storyline as a student-centred approach (Bell et al., 2007). The two teachers created an open and friendly atmosphere in their classrooms and guided the work in a democratic way. The three aspects of pedagogical caring (nurturing, interpersonal, and academic care) together supported a positive climate of connection, affinity, openness, security and collaboration. A *we* was created. Within this atmosphere, pupils were willing to expose their feelings, ideas, thoughts, opinions, and indeed their identities. The atmosphere nurtured creativity, developed social skills, and strengthened pupils' self-confidence. All these aspects built a foundation for pupils' sense of agency. In the following, three aspects of the teaching methods described in the Results section are further discussed.

Activity for reflection

In our study, questioning was suitable, or rather exceptional, for supporting pupils in reflection. First, pupils reflected alone for a minute, then in pairs or small groups, and finally with the whole class. When hearing their classmate's thoughts, pupils received new perspectives to contemplate, and may have seen their own perspective in new ways, encouraging growth. The results show that the reflective process entails critical thinking consistent with Lim's (2015) suggestion that connectedness with others in society develops pupils' democratic capabilities. This perspective is also consistent with Jickling's (1992) democratic requests of curriculum and Freire's (1968) pedagogical emphases. The pupils are plunged into discussions, which evoke their feelings in various ways. It is essential to include emotional aspects in ESD, Ojala (2015) argues, as values are grounded in emotions and values guide attitudes, opinions, and actions regarding sustainability issues.

The results also showed how the key question method could provide a knowledge foundation for problem solving strategies for pupils when they encountered wicked problems and conflicts of interest (as in the leaking ship incident). This pedagogical method is an example of a new didactical direction, as Wals (2015) calls for.

Activity for cooperation

The Storyline work offered pupils many opportunities for cooperation and practising teamwork skills. As with the activities for reflection, the cooperation activities also supported engagement in democratic processes, providing context for pupils to develop their argumentation skills and deductive reasoning – ESD outcomes promoted by Hedefalk et al. (2014). In both discussions and constructions, the pupils worked together to solve problems.

The findings were consistent with Ärlemalm-Hagser and Davis's (2014) claim that participation has both shared and individual components. When pupils sorted out difficulties together and proudly shared their proposals, a sense of belonging was enhanced. In turn, this strengthened pupils' individual self-esteem. The cooperation activities were shown to be a powerful way for the pupils to practise agency, consistent with Richards et al. (2015), who suggests that children practise agency through relationships. Storyline work centers cooperation. This includes cooperation with classmates, with small groups, between groups, and with the teacher. The ability to cooperate is an essential skill for academic work, professional work life, and adult life in general. Collaboration and prerequisites for collaborative work such as communication, social skills, and problem solving were emphasized in this Storyline, as were negotiation skills, creativity, and relational critical thinking.

Activity for empowerment

Although this Storyline built on collaboration, each pupil was given many opportunities to establish individual self-confidence. The results demonstrate that pupils, through the collaboration work, were practising their assertiveness ability, i.e. standing up for their own and their group members' opinions and in the long run for their rights. They did this through arguing for their suggestions without taking issue with others' suggestions, which is acting respectfully. This was the result of the relational pedagogy used by the teachers; both teachers constantly encouraged the pupils to be open with their views, emotions, and wishes. They used active listening, concentrating on what each pupil had to say, and gave feedback accordingly. By this behavior, the teachers demonstrated how to act.

The results also show that this Storyline work included Shier's (2001) five levels of participation, which empowered the pupils: they were listened to, encouraged to express themselves, their thoughts were taken seriously, they were involved in decision-making, and through cooperation they shared responsibility and power. This is consistent with critical pedagogy (Freire, 1968), and shows that how the teachers designed the activities to empower the pupils was important. As a pedagogical approach, Storyline work has significant potential for empowering pupils in general and in ESD contexts in particular.

The pupils tried out ideas, mentally as well as physically through their construction work, tested their hypotheses, and argued for their points of view. Such work is essential for empowering and for pupils' agency. This is not, as I regard, a way to abdicate adult responsibility or to offload environmental issues on children, or to merely foster environmental awareness as *Agenda 21* (United Nations, 1992) promoted. Neither is environmental awareness refuted here, quite the opposite. Instead, I would like to draw attention to the emancipatory aspects of empowering pupils, such as that their awareness builds on experiential knowledge of the planet's resources, human impact on the same, and agency, in contrast to approaches that direct pupils' attitudes toward a *right* moral thinking and acting.

Concluding thoughts

Walker (2017) argues for a conscious consideration relating to pupils' agency when designing sustainability education. Incorporating a Storyline has been shown here as an appropriate design, building on a holistic pedagogy, and including philosophies of freedom and hope (Freire, 1968). In line with Freire's suggestions for problem posing education, and a view of education as a communion between pupils and between teacher and pupils, Storyline encourages exchange of thoughts and emotions through dialogue characterized by reflexive and reciprocal discussions. The reciprocal meetings imply that teachers and pupils educate each other during actions and reflections.

In this study, I have adopted a relational pedagogy to analyze the empirical material, which is a way to reinforce this philosophy and make a contribution to Sund and Lysgaard (2013) call for a developed and clear educational philosophy for ESD. The interdependency of the Storyline approach may contradict an individualist approach to understanding pupils' agency, and can serve as an example of a relational agency and interdependency, which Richards et al. (2015) put forward as more applicable to understand children's agency. This study has shed light on how relational agency has been exercised and performed through features of a Storyline; by participating in the process of key questioning as a member in small group, which includes arguing, negotiating, and reaching agreements; and by the teachers' interpersonal caring. When moving from an individual perspective on agency to relational agency, pupils are considered as interactive agents rather than as individual agents. Relational agency places emphasis on interrelationships and social interdependency. In ESD, such a pedagogical and philosophical perspective is worth striving for; this requires a well-educated, compassionate, and skilled teacher, who hold such goals.

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ORCID

Margaretha Häggström http://orcid.org/0000-0001-9744-6532

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