

Learning About And Through Sustainability: Relational Pedagogy And Storyline As A Teaching Foundation

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Abstract : *This article studies how environmental sustainability is integrated in a Storyline, which include learning about and through sustainability, conducted in two primary school classes, Grade 2 (children's age 8-9) in Sweden. It examines the significant aspects of the Storyline approach in relation to democratic values and young pupils' sense of agency. In addition, it examines how pupils comprehend the concept of sustainability, and the Storyline approach itself. The empirical material consists of classroom observation and individual semi-structured interviews with 20 pupils and 2 teachers. Theories of relational pedagogy are used to analyze the material. The results show that Storyline work depends on a skilled, compassionate and caring teacher, who creates an open climate in the classroom. It is argued that both a pedagogical theoretical foundation, such as relational pedagogy, and a deliberate teaching and learning approach, such as Storyline, are crucial when implementing issues of sustainability in primary school education.*

Keywords: *Storyline approach, Teaching methods, Relational pedagogy, Education for Sustainable Development (ESD), Pupils' sense of agency*

I. INTRODUCTION

“The climate crisis is both the easiest and the hardest issue we have ever faced. The easiest because we know what we must do. We must stop the emissions of greenhouse gases. The hardest because our current economics are still totally dependent on burning fossil fuels, and thereby destroying ecosystems in order to create everlasting economic growth. ‘So, exactly how do we solve that?’ you ask us – the schoolchildren striking for the climate” (Thunberg, 2018-2019, p. 65-66).

Greta Thunberg is a young environmental activist from Sweden, who has created headlines around the globe over the last years for challenging the world leaders on their shortcomings regarding climate change actions. She started a protest by sitting outside the Swedish parliament, with a simple placard, stating ‘School strike for the climate’. This inspired young people all over the world to do the same, which initiated an international movement called Fridays for future (Bouilanne, Lalancette, & Ilkiw, 2020; Thackeray, Robinson, Smith, Bruno & Kirschbaum, 2020).

Thunberg's interest in environmental issues began at school, where she was shown to a documentary about the pollutions of the seas. Her response to the worries, concerns and hopelessness she felt after seeing this documentary, was to act, by putting pressure on politicians. To all of us, who work in the fields of education and schooling, is it both interesting and necessary to understand how young pupils might become engaged and passionate about sustainability issues, and to find ways to encourage pupils to take a stand and to make their voices heard. One aspect to consider is how teachers could or should act when young pupils want to use their democratic human rights to speak out and to demonstrate against injustice or any matter they believe in. The curricula in many countries (e.g. Utdanningsdirektoratet 2017; Utbildningsstyrelsen, 2019; Ministry of Education, 2014) stress that education should lead to strengthen pupils' ability to make their own decisions, to have the courage to express their opinions and beliefs and to “exercise influence and take responsibility”, as the Swedish Curriculum emphasizes (Skolverket, 2011/2018, p.6). Democratic values are described as “The inviolability of human life, individual freedom and integrity, the equal value of all people, equality between women and men, and solidarity between people” (p. 5). “This is achieved by fostering in the individual a sense

of justice, generosity, tolerance and responsibility” (p. 5). The Swedish National Agency for Education (Skolverket) stresses that it is not sufficient that teaching only address knowledge about democratic values. Democratic pedagogical methods should also apply in practice, in order to prepare pupils for active participation in society. Education through democracy implies that students will experience democracy (Biesta, 2007), and develop a sense of agency (Hultin, 2020). If the educational system want pupils to act on social injustice amongst the whole world’s populations as well as on sustainability issues, including all organisms, they need to feel that they have mandate to do so.

The national curricula in the Northern countries are in line with UNICEF (2019), which claims that education at every stage should include environment-related topics in the curricula. In Sweden, environmental education has been included in the curricula since 1969 and outdoor education has had a strong position in the curriculum for more than a century (Öhman, 2011). Care for the natural environments has been emphasized. Vital influences on environmental education came from the first major international environmental meeting, held in Sweden 1972 (known as The Stockholm Conference). Education has since then been highlighted as a key aspect of environmental conservation, in Swedish curricula as well as in international policy documents.

One educational approach that claims to work through democracy is the Storyline approach. The objective with the Storyline approach in general is to arrange for pupils’ sense of agency, to acknowledge them as creators of their individual as well as collective knowledge, and to give them the opportunity to take part in democratic processes (Bell & Harkness, 2013). In the Storyline, examined in this study, the aim was also to let the pupils encounter issues of social, ecological and economic sustainability subjects. Thunberg may serve as an example of how education can be the starting point for engagement and life-changing decisions according sustainability, as well as the facilitator of a student’s agency. The intention with this article is to contribute to the discussion about the teachers’ role in Education for Sustainable Development, and through the empirical material to shed light on some didactic tools used to orchestrate teaching and learning situations.

1.1. Aim and research questions

This study is based on the pedagogical work that took place during the spring 2021, in a Swedish primary school (years 6-13), containing 340 pupils and 40 teachers, including special pedagogues, where the school’s democratic task, environmental perspective and issues of sustainability are clearly emphasized in the school’s policy documents. This primary school has had an established practice regarding environmental education since 2014; sustainable development is a recurring subject in each school class, and pupils’ influences on their education is essential. This non-profit private school is located near a forest area and outdoor pedagogy is integrated in the everyday work. Teachers and pupils has been involved in re-creating parts of the schoolyard as a result of a previous Storyline work, to take in plants and to make the place less urban. They are part of the international network Eco-schools, which aiming at “engaging youths of today to protect the planet of tomorrow” (Ecoschools.global). Democratic pedagogical methods are highlighted and used. As part of that work, teachers carry out a Storyline every year, in each class. Storyline as a pedagogical approach is based on democratic values, such as inclusion, participation freedom of speech, equality and diversity. It is a cross-curricular and problem-based approach that contextualizes teaching and learning through a proceeding narrative (Bell, Harkness & White, 2007; Bell & Harkness, 2013; Høeg Karlsen & Hægström, 2020).

The aim of this study is threefolded. Firstly, it will shed light on how environmental sustainability is integrated in a Storyline, conducted in two primary school classes in Sweden, Grade 2 (children’s age 8-9). Secondly, to examine the significant aspects of this pedagogical approach in relation to democratic values, as described above, and young pupils’ sense of agency, and thereby to contribute to the theoretical discussion on Storyline’s learning processes. Thirdly, to bring in some of the pupils’ voices on this specific Storyline, focusing on their comprehension of sustainability. Guiding questions are:

- How is sustainability integrated in this specific Storyline, and what kind of sustainability is in focus?
- In what ways are democratic values and working forms employed, and how do they manifest through the classroom work?
- How do the participating pupils comprehend the concept of sustainability, and the Storyline approach itself?

The plot in the Storyline in this study is in short that the characters (the pupils) have to escape from their countries for various reasons, in a boat together. They find a desert island, disembark, settle down and build a new society. They have to start all over from scratch and learn how to be self-sufficient, that is to grow things to eat, create electricity and vehicles and decide on what they need to live a decent life. They have to solve different problems they encounter during this expedition. One pupil explains it like this “We were in a boat on the ocean; we came to an island, where we built a city, and everything ought to be environmental friendly”.

II. The Storyline Approach

In this study, the Storyline approach is examined as a means to teach both about and through sustainability, or to integrate sustainable development into education and to integrate education into sustainable development (Leicht, Combes, Jung Byun and Agbedahin, 2018). This twofold approach is in line with the 2030 Agenda for Sustainable Development (UNESCO, 2015), and the adoption of Sustainable Development Goal 4. There is a broad consensus that environmental education requires a shift towards participatory teaching and learning methods that empower pupils to change human behaviour and take action (see e.g. Wals 2015; Jickling & Sterling, 2017; Orr 2017; Jickling, Blenkinsop, Timmerman, and De Danann Sitka-Sage, 2018; Author & x, 2020). Pedagogical methods need to transform in the direction of empowering pupils to “lead sustainable development as agents of change” (Leicht, Combes, Jung Byun & Agbedahin, 2018, p. 32). Such education enables critical thinking, stimulates the ability of imagining future scenarios, and promotes collaboration skills. By using pedagogical methods that support and empower every pupil, environmental education may encourage independence, reflectiveness and critical thinking. Using Storyline comprehensively is one way to utilise these aspects of a holistic pedagogy and pluralistic perspective on sustainability.

The Storyline approach developed in 1965, in Scotland, by the scholars Harkness, Bell and Rendell, as a response to the Scottish Education Department’s demand for a developed Primary School Curriculum (Harkness, 2007; Ahlqvist, 2011). The scholars developed a learner-centered approach, active and discovery methods, differentiated group work, integration of subject areas and skills based on a holistic perspective on teaching. Storyline is now considered a sustainable comprehensively worked out teaching and learning approach.

Through a Storyline, a fictive world is created by the teacher, in collaboration with the pupils, in the classroom. The pupils become characters in a story, which develops as pupils work together with open key questions, planned by the teacher, based on curriculum content. A Storyline often lasts 4-6 weeks, practical and theoretical work is interwoven. The Storyline approach are used in countries with less restrictive curriculum, and where teachers are allowed to choose their own materials and teaching methods (Ahlqvist, 2011). Although the Storyline approach is created to be learner-centered, to promote activity and experiential learning, variance group work in integration with different subject areas (Harkness, 2007), the approach does not fit all pupils, for example pupils that need a clear structure and routines, or need to focus strictly on one subject at a time. One critic is that Storyline work may accept unrealistic solutions, which will not enhance pupils’ knowledge. On the other hand, Håkansson (2004) claims that rational thinking and knowledge of the world interlinked with imagination, seems to connect affective and cognitive engagement, which Ojala (2014, 2015) highlights as essential for education that includes issues of sustainability.

III. Education for Sustainable Development (ESD)

As can be understood as a critique of former educational agenda regarding integrating sustainability into education, a reorientation of existing pedagogical methods to address sustainability has been called to attention (Leicht, Combes, Jung Byun & Agbedahin, 2018). Rieckmann (2018) argues that ESD aims to develop competencies that both enable and empower learners to reflect on their own actions. This implies, Rieckmann (2018) reasons, giving pupils opportunities to explore new ideas, and to participate in democratic (socio-political) processes. There is an on-going debate about ESD and its motives and underlying principles (Kopnina, 2012; Knutsson, 2013; Jickling & Sterling, 2017; Holfelder, 2019; Sjögren, 2019). Sund and Lysgaard (2013) argue that more focus on education, and educational philosophy is needed, since learning processes seem to be taken for granted in the field of environmental and sustainability education. In addition, developed teaching methods needs to be scrutinized. In this article, such task is undertaken.

It is obviously a precarious and delicate task to suggest yet another perspective or recommendations on how to conduct or integrate sustainability education, and to avoid predetermined behavior change and at the same time advocate commitment, engagement and environmental actions. There are several educational challenges for those who want to integrate ESD in education. One dilemma is how to educate for survival amid climate change and other global crisis (Besley & Peters, 2020) and simultaneously maintain hope and a sense of action competence (Dahlbeck, 2014; Ojala, 2015). Wals (2015, p. 11) points out that educators and people in general already know a lot of what is unsustainable, when continually learning about what is more sustainable, and that there are bodies of knowledge and experiences to draw from. This includes sustainability competence and related abilities (Wiek, Withycombe & Redman, 2011; Cebrián & Junyent, 2015; Guia, 2020). Wals (2015, p. 11) defines sustainability competence as “a relational, contextual and emergent property”, which refers to “a way of knowing, doing, being and transforming in action”. Sustainability education is concerned with group dynamics, dialogical interaction, social movements and co-creations – the same aspects that Storyline work entails.

IV. Interpretative lenses

Storyline is often referred to as a student-centred approach (Harkness, 2007; Omand, 2014; Kocher, 2020). One reason for that is the shift from the mainstreamed teacher-centred education that prevailed in the mid-1960s. In the seminal document from the Scottish Education Department (1965, in Harkness, 2007), the learning child was highlighted: The pattern of education in the primary years must have regard for the nature of the child and for the way he grows and develops during this period. The purpose was to include pupils’ identity, culture and language, by encouraging pupils’ engagement, involvement in real decisions, letting each pupil be heard, relate content and methods to the pupils’ lives and preunderstandings, facilitate discussions on what has been learnt and focus on democratic processes. However, I will argue that the role of the teacher in a Storyline, has been pushed into the background, and diminished into the role of an instructor, who ‘only’ leads the story without participating. Therefore, I will use theories of relational pedagogy, in order to examine the social relationship in relation to learning opportunities through Storyline work.

4.1. Relational Pedagogy

A democratic pedagogical approach, such as the Storyline approach, builds on a permissive attitude in the classroom, and on creating good relationships between teacher and student, based on the assumption that learning is a social process. A climate of openness is a prerequisite for pupils’ willingness to participate, engage and act (Noddings, 2005; Almgren, 2006; Aspelin, 2018). Relational pedagogy, and relational-centered education relies on receptiveness with a “we” emphasis, as opposed to a teacher- or student-centered 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”.

Relational pedagogy is based on a comprehensive view on education, in which care for the pupil, civic orientation and knowledge development form an intertwined unity (Aspelin, 2018). Communication, interacting and dialogue are central. Through dialogue and modelling, the teacher illustrates what and how to care by listening, confirming and responding, and by, as Freire (1968/2001) points out, reconsidering herself, remaining curious, and making possible for pupils to critically reflect.

Regarding ESD, and the dimensions of sustainability competences, mentioned earlier, relational pedagogy may play a crucial role. ESD will inevitably involve pupils’ emotions in one way or another, due to the seriousness and complexity of the global environmental crisis (Ojala, 2014). If the relationship with the teacher is positive, it is more likely that pupils will manage to deal with onerous and burdensome content (Palmer, 2007), as for example climate change. Ojala (2015) argues that focusing on hope about the global future should be a vital part of ESD, as well as promoting critical discussions, including ethical aspects, value conflicts and uncertainties. Nurturing care, interpersonal care, and academic care are three themes that Adams (2018) highlights as pedagogical aspects of the caring teacher, which are of interest in this study. In Adams study, she saw that caring teachers had a purpose for teaching that was aligned either with student growth, or with societal change. In ESD in primary school, I claim, both these aspects need to be intertwined.

V. Research methods and empirical material

This study is part of a larger action research, conducted by a group of six teachers, six student teachers, the school's principal and myself as the researcher, in order to develop teaching methods that includes issues of sustainability in a more profound way than previous. The research was inspired by both practice-based and critical action research (Carr & Kemmis, 1986). The former is motivated by hermeneutics and an interpretative tradition, and the latter is driven by emancipative purposes, in which change is central. In action research, the process usually begins with problem identification, by asking 'What needs to be developed or changed?' In this study, the question was: 'How can we, as teachers, integrate issues of sustainability within our annual Storyline work?' Then, actions were planned in response to this question. The incentive for this project was the principal's declared mission to improve the school's environmental and sustainability education, and to develop teaching methods. My role in this action research was to be a 'critical friend' through the planning phase and to contribute a theoretical point of view on The Storyline Approach, and to supervise the student teacher's studies. For this to happen 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 and methodology, and the concept of sustainability. In line with Carr and Kemmis (1986), the principle stressed, that the practices of the teachers need to be grounded in educational theory, but also that teachers' autonomy has to include participating in decisions regarding their educational context, on both a collective level and an individual. During the implementation of the Storyline, I observed and documented the classroom work, without participation or interfering. It was crucial that the teachers owned the process, and to learn how to reflect on and analyse the practice. By this procedure, they learned to look at their practice with a critical view, to find critical aspects to develop further. The teachers kept a logbook to document the process.

Action research encompasses several steps, including developing a plan to address the problem, implementing this plan, collecting data, organizing and analyzing the data, evaluating the results, identifying new problems, repeating the process (Somekh and Zeichner 2009). The Storyline lasted for six weeks, 2-3 days a week, 1-3 lessons on each occasion.

Data was collected by classroom observation, in two school classes, Grade 2 (8-9 years), 24-25 pupils in each class, and individual semi-structured interviews with 20 pupils and with 2 teachers. The observations occurred during 12 days and for 30 hours, of which approximately 15 hours were recorded. Informal conversations emerged during the observations. Observing and following the pupils during their performances allowed for a closeness, which together with conversations, made it possible for me as a researcher to grasp students' meaning-making and learning processes. Through observation, I could capture data on what both the pupils and the teachers actually did, in addition to what they said they did. The observations answer research questions one and two.

Through the interviews, open-ended and loosely structured questions were used, which allowed for follow-up clarifying questions. Following Gillham (2012), and Kvale and Brinkman (2014), the flexible approach was used to grasp the core of each pupil's perception, reasoning and thoughts, and to allow new ideas to emerge during the interview. The interviews with the pupils lasted from 5 to 13 minutes (2 hours and 6 minutes in all). The teacher interviews were one hour long. All interviews were audio-recorded and then transcribed verbatim. In addition, three on-line meetings with the teachers were conducted, each of one hour, in which teaching, and its opportunities and obstacles were discussed to put the work forward. When the Storyline work was completed, the two teachers were interviewed together, and video-recorded, for 45 minutes. Teacher interviews answer research question two, while pupil interviews answer research question three.

Interviews with young children is a delicate task. There is always a power difference between the child and the researchers, which needs to be considered. Children may want to 'please' the researcher, rather than speak freely (Ponizovsky-Bergelson, et al, 2019). Although an interviewee needs time to reflect and think about the question asked, they may be impatient and easily distracted. The interviews in this study were located in relation to the classroom, in which several activities were carried out, which sometimes caught the pupils' attention. When the pupils answered a question, some of them did not want to explain their answer further, and I did not want to put pressure on those. The researcher has to take into account children's verbal competence, which may be a restraint, and the situation's vulnerability (Kutrovátz, 2018).

The study follows ethical principles described by Ethical Research Involving Children (ERIC, 2018), which are respect, benefit and justice. Participating pupils, their custodians and the teachers have approved participation, and confirmed their consent in writing. The pupils were asked continuously during the study if they wanted to participate, if it was all right to ask them questions during their work and if they wanted to be interviewed, and if their creative work could be photographed. The pupils were informed why I was there, and that I was interested in how the teachers conducted lessons. No names are included. The study is also pursuant to the requirements for research ethics in Sweden (Swedish Research Council, 2011).

The empirical material contains transcriptions of interviews, field notes, video recordings (including transcribed notes taken from video observations) and photographs from observations. In addition, pupils' work such as various artwork, constructions and texts are used as empirical data, together with the teachers' planning templates. Pupils' different actual work answers research question two, and indirectly question three. Teachers' planning templates answer question one.

5.1. Analysis and coding

The data material was analysed through qualitative content analysis (Hsieh and Shannon 2005; Drisko and Maschi, 2015). Based on the study's aim and research questions, the analysis searched for themes and categories, which then were reviewed and refined (see table 1). Data analysis carried out mainly through three key steps: 1) transcriptions were read thoroughly, and themes within the core contents of sustainability and Storyline were identified 2) data were organized in categories that emerged from the reading, revealing existential and caring aspects regarding sustainability and main features of this particular Storyline work, 3) these categories were reflected on through the interpretative lenses i.e., relational pedagogy, and in relation to the aim of the study.

Table 1. Examples of analysis process

Theme One: Sustainability		
Categories	Examples	Empirical material
Existential aspects	"The most important thing is that we have food and water."	Field notes, planning templates, interviews
Caring aspects	"We need to take care of the planet, the animals and people".	
Theme Two: Storyline		
Categories	Examples	Empirical material
Activity	"I love to build", "I like to talk about important things".	Field notes, planning templates, interviews, pupils' creative work and multimodal texts
Learning objects	"I have learnt how to create electricity".	
Pupil's agency	"We decided everything ourselves".	

VI. Result

6.1. Sustainability

The main subject in this Storyline was sustainability and the teachers had planned how and when to include various aspects of sustainability. Here, I include two main aspects of this sustainability work. First, there is an existential aspect that deals with humans' needs and moral thinking, next there is a caring aspect that deals with the planet and the natural environment and its resources. Field notes, transcripts, planning templates and pupils' texts, images and construction work are all interweaved in the following result description.

6.1.1. Existential aspects

One of the first key questions was “What do we need on the island?” Pupils reflected on their own for a while before turning to a class-friend to exchange ideas, and then shared their thoughts. The teacher wrote all suggestions down on a sheet, and then placed it on the wall in the classroom. Next day, they had to decide which of all things that they considered as necessary to survive, which led to lively discussions. Pupil 1 argued that they needed underfloor heating. The teacher asked “Do you need it to survive?”. The pupil answered “if the floor is freezing cold, I will get too cold and might die”. They argued back and forth about all things, to decide on which suggestions to keep or not, in relation to if they were crucial for surviving or if they were luxury. Pupil 2 said: “The most important thing is that we have food and water”. Pupil 3 added “and trees, so that we can breathe”. This activity led to discussions on sustainability, so that luxury was understood as aspects of life that people may like and want, but not really need, on the basis that the characters had to be careful with the resources they had on the island. The teachers then compared this with the planet’s resources, and human activities and impact. When I asked pupil 4 if he could name anything that is sustainable, he said “To have a peaceful time! That's good. And that you can do whatever you want, but also that all animals can live, and that there is freedom, without Corona. I want Corona to go away!” This aspect included both fear and hope. Several pupils mentioned the possibility of war and that they (as the characters) would have to escape the island once again. A possible cause for war could be the oil spill in the sea, outside the island. Pupil 5 explained “if we pollute nature, we will all die”. When I asked how the characters’ life would be now that they were settled, all of them thought that they would have a “good life”, a “better life”, “a really good life”. Pupil 2 said “they will have more fun, but also more strenuous, due to food and electricity”. Pupil 6 girl clarified “it will be fine, we have to be satisfied with what we have achieved and what we have”. Pupil 4 explained “My character is already happy and pleased, because he has already got friends”.

Next key question was about innovations and human efforts and ambition to make life better. They looked at some short films to show the development from peasant society to today’s technological society. They saw several films about energy sources. Then they discussed what kind of sources they should use at the island and agreed on renewable sources.

6.1.2. Caring aspect

When the pupils reflected on humans’ impact on the planet, most of them became compassionate, concerned and emotionally engaged. Pupil 5 said “I was quite shocked when I realised how flying, only from Sweden to Thailand during one year, affects the climate and melting glaciers, which I think is almost as much as 800 soccer fields of ice. Then I also got angry because we can't live well, there's quite a lot of exhaust fumes and you don't live well”. Pupil 4 talked about the desertification and said “By the way, should I tell you what I've heard? Desert wasn't really desert in the first place! It was rainforest”. I asked “How did it become a desert then?” Pupil “They cut down all the trees, and everything went dead”. “What do you think of that?” I asked. “It is bad”. “For whom?” “Everyone! Monkeys who may live there will die, all zebras will die, giraffes, if there are any, will die, the lions, who have gathered so much food in vain. It is bad for water supply. I'm thinking it's not good at all!”

When the pupils discovered that there was a tanker, which leaked oil in the sea, they were upset, both as themselves, and as the characters. The teacher let them meet in a mingle section, in which they discussed their feelings and thoughts, before she asked them to sit down in small groups to discuss how to handle the situation. Pupil 7 described the situation, “Today we found a damaged ship close to the island, with a lot of oil in the water.

Everyone tried to discuss different solutions on how to get rid of it, and many very good suggestions and ideas emerged from all. For example to block and hedge, or to suck it with something, since oil does not sink but stays at the surface. I think we soon will have a solution!”

6.2. The Storyline Approach

All pupils but one were familiar with the Storyline work since Grade 1. They were all very fond of this teaching and learning pedagogy, although on different grounds. According to the teachers, one virtue of using Storyline when incorporating sustainability was the role of the characters. “The character can be the person with great qualities you wished for yourself. And you don’t have to take responsibility for the characters behaviour,

which in this case can be a relief”, teacher A claimed. “Storyline makes it more lively and concrete, compared to working with sustainability as a separate content”, next teacher (B) said.

In the following, I present three prominent features of this approach that are significant in the empirical material. The pupils frequently mention the first activity. The second, learning objects, are naturally in focus for the teachers, and the third, pupils’ agency, which is one emerging effect relating to both the pedagogy and the content. All have been noticed through observations and are also shown in the pupils work, and are subjects that are discussed in the interviews with both pupils and teachers.

6.2.1. Activity

When the pupils talk about Storyline in general, they all mention one activity first, namely, to construct and build. This is the strongest association they do with Storyline. Some of the students foreground the building part all along. I asked; can you describe this Storyline?” Pupil 8 answered, “We have built things”. “What did the characters do on the island?” “They built different things”. “What do you think of this particular Storyline?” “It has been good, I like to build things”.

Despite the pupils’ focus on building, I have noticed through the observations, that the main body of activities was related to the key questions and the discussions that followed. Several pupils highlighted these activities as interesting and enjoyable. These excerpts illustrate this: “I think it was fun and good that we discussed with each other, so we could get started quicker” (Pupil 9). “It’s nice to hear what the others think; sometimes it is the same as my thoughts” (Pupil 10). “I’d rather build, but we have to discuss to get ahead, so well, it’s hard but still fun” (Pupil 11). The teachers’ way of facilitating these discussions shows that they are very skilled and used to challenging the pupils’ thoughts. They encourage the pupils to develop their thoughts: “explain how you think”, “argue”, “listen to your class mates”, “what do you mean by this? Please tell me, I want to know more”. After one session teacher A asked “How did the discussions work out?”. “Really well”, pupil 12 said. “What went well?”. “We cooperated and listened, and were helpful” (pupil 9). “Did you disagree with anything?”, the teacher asked. “Yes” (pupil 1). “What did you do then?” “We solved it”. “Is it anything we need to think about before tomorrow?” “Yes, to listen better to each other”. Then the teacher echoed, “I will say something about the work today. Everyone has participated; no one has said anything unpleasant. You have been creative, gain ideas from each other. You think in various ways and are good at different things. This makes it so good!”

Working with key questions and the discussions led most of the time to different activities, other than building things. These activities often included writing and drawing, and aimed at deepening the pupils’ understandings of concepts and processes, or to visualizing pupils’ ideas.

6.2.2. Learning outcomes

Storyline work is always cross-curricular. In terms of subject content and achievement, this Storyline entails Swedish, Art and Natural Science. The planning template, used by the teachers, shows a focus on environmental sustainability, and thus a focus on natural science. The methods used to develop the pupils’ knowledge rely on artistic practice, and on literacy practices, which thereby integrate Art and Swedish. The pupils reason in various ways regarding learning, “I think I’ve learned a lot. Before, I didn’t know that exhaust gases took up a lot of space in the world and in nature and stuff” (pupil 13). Pupil 14 stated that his envisioning skills improved. Pupil 15 said, “I have learnt to observe which country the food comes from, to see if we’re wasting oil. And to keep nature in good condition and not to put exhaust gases in the water, on the ground, because then, it will be much worse, for the environment, animals and nature”. Pupils’ answers address human behaviour; either what we as humans ought to do, or what we should not do. Humans should be more environmental friendly, take care of the planet and think more about animals and nature, to live in a sustainable way. People should not throw garbage in nature, overuse the planet’s resources, or destroy the environment in any way.

Both the teachers experienced that this Storyline engaged the pupils more than previous Storylines did. Teacher B said, “They were more engaged this time, and I think that the pupils felt that it was more important”. The other teacher (A) added, “Since this was about their environment, I think it was easier for them to relate to”. “I think that they believe that they can contribute, to improve things, take care of the planet and the future, and

that they matter”, the other teacher said. “They realized that they already do many good things, and they have seen what they could do more of, and that they have the capacity to invent new things”.

Sustainability is a complex concept to grasp, which the teachers confirms: “At the beginning, when we discussed the concept, it was hard for the pupils to understand, so we used quite some time to discuss this. To them, it meant that something does not break. Therefore, we had to expand the notion, to talk about the environment and the social aspects, as well as the economic perspective” (teacher A). In addition, the pupils watched films and read some articles to broaden their understandings of sustainability. One pupil (14) explained sustainability in a short concise way “It means to do good things”. When the pupils had a picture of sustainability – vague or clear – the teacher spent time to explain and talk about electricity, and how it can be created, and they let the pupils discuss why people should decrease the use of electricity. Then, they introduced renewable energy sources, and advantages and disadvantages with different energy sources. “It was quite challenging for such young pupils”, teacher A stated. “It was also hard to find the right study material and the right level for the students”, she added.

According to the teachers, the pupils have developed new knowledge about electricity and energy sources. They highlight the pupils’ abilities to reflect on their own work and on their environmental awareness. However, some of the pupils find it hard to cooperate, which can be difficult, and problematic from time to time, teacher B said. “Reserved pupils, may fall behind in group work”, teacher A confirms. “This is also good for the other pupils to practice their skills to invite these pupils, and learn that it is the responsibility of each individual in the group, to make sure that everyone is participating”, teacher A argues. “Since we know our pupils well, we know who needs scaffolding in certain situations, and we know who we may put more pressure on to help them develop in the best way”. “It is essential how we form the groups”.

6.2.3. Pupils’ agency

One of teachers (B) described that pupil’ opportunities to show other sides of themselves enhances through Storyline work and its different features. Some pupils appear more self-confident than in other settings. “They have to cooperate a lot, listen to each other and reflect on their role as a group member. Much democracy” (teacher B). The pupils, on the other hand, reflect on this from another perspective, which is evident in following excerpts: I like that we (the pupils) decide everything ourselves” (pupil 14), “Storyline is great, because we decide more than the teacher” (pupil 15). Teacher A describes their role in a Storyline “Our role is to push and spur the story ahead, and at the same time make way for the pupils to take the lead”. “Sometimes, this is difficult, because you want to move forward, but it is crucial to listen to the pupils’ ideas, and give them the space, and often, to give them more time”.

The pupils’ agency is not only about deciding, but also about making learning fun, enjoyable and interesting. One pupil put it like this “I like to solve problems. I don’t want oil in the water, and now we have to find ways to fix this” (pupil 16). Sometimes, agency relates to time “It was so good, we had the whole day to create our characters, and I had even time to play with the character! We had this hair salon and started to fix the other characters’ hair” (pupil 17). For some pupils, agency was embodied and became part of their identity: “I have decided not to buy new things. I don’t need anything, only a new phone. But I can buy it on second hand” (pupil 4).

The Storyline empowered the pupils in many ways. From the start, many of the pupils did not want to talk in front of an audience. At the end of the Storyline, they all did. During the work, they have reasoned argued, convinced each other, and sometimes persuaded or rather talked friends into agreeing to their own ideas. By listening to each other, they have met other views on things, learnt about others’ circumstances and taken in others’ ideas. On some occasions, they have voted. Altogether, this has been a democratic training, a training in using their human rights. Regarding scaffolding, the teachers agree on the importance of being flexible and directing specific help individually. “Since the Storyline work is very varied, the pupils can work in a way that suits them, and they can be successful”, teacher B explained. “We offer different ways to present their work, for example if they want to talk in public in front of the whole class, in smaller groups or if they want to prepare a video recording. I think they feel a sense of co-decision”, teacher A clarified. “I think that the pupils are aware of the flexibility the Storyline approach offers, and that they play a crucial role to develop the story”.... “When they see that we follow their ideas, they dare more; they know that they are allowed to do things, which gives them the feeling that they can”... “When we see the pupils’ engagement and the fun they have, we sort of get

carried away". I asked the teachers if the pupils have taught them something during the work. Teacher A answered "I have learnt that we will manage this environmental crisis, we will find new solutions, because the pupils have so many ideas, they believe and have hope, and say: we can be part of the solution, we can solve this!...To hold on to the pupils' engagement, I will integrate sustainability more now, in the daily work". "I have realized", teacher B said, "that it is not as complicated to work with sustainability issues, as I thought it would be". "It does not have to be so intimidating and dark, there can be light, and faith in a good future", teacher A added. "Thanks to the pupils".

VII. Discussion

In this section, I will discuss the results in relation to the interpretative lenses of relational pedagogy, and to a pedagogy that seeks to teach both about and through sustainability, and the didactics used. This will be done with the research questions in mind. The section ends with concluding remarks on the study's contribution to the field.

As the results show, social relationships have been essential throughout the work. The teachers are very skilled in creating an open climate in the classroom. Consequently, their pupils show that they trust their teacher and they trust the processes that this Storyline work allowed for. This, in turn, led to a multipurpose education; pupils learnt social skills and simultaneously subject content from at least three different school subjects. The findings also show that the pupils in these two classes, especially the class led by teacher A, are building their discussions on trust in each other, which can be one essential outcome of the teachers' methodology. This is also interesting regarding the theoretical foundation of relational pedagogy, which put emphasis on the relationship between the teacher and pupils. The teacher serve as a raw model by active listening, and by asking challenging questions to make pupils reflect deeper and deeper. The pupils in this study show that they do not only learn to reflect and deepen their comprehensions about a content, but also learn to listen to each other and be critical. This was evident for example in the discussion about the underfloor heating. Pupils' interactions and relationships needs to be elaborated on regarding ESD, since ESD moves towards the future, in which interaction and collaboration might be more needed than ever. The analysis indicate, however, that the social work itself, such as cooperating and dialogue, does not be valued as a learning outcome. It is not something that is difficult to measure, or to check as an achieved objective, even though such skills are essential to 'life knowledge', and to ESD. Here, it should also be noted that not every pupil seemed to take part in the discussions, and that the teachers had to help some groups to function. According to many researchers and scholars within the ESD field (Wals, 2015; Jickling & Sterling, 2017; Maxon, 2018) and indeed the Swedish curriculum (Skolverket 2011/2019) education ought to promote pupils' engagement, will to act, their empowerment, and even to be agents of change. But both researchers and teachers need also to understand how that can be done, when it is possible, and how do the educational system take care of the pupils when they want to act and use their power and change, not only their behavior, but the world. The risk is that education evoke emotions they are not prepared to take care of.

7.1. The role of democratic based relational pedagogy

The main subject content in this Storyline was to learn what sustainability is or is interpreted as, and then why humans need to understand and talk about sustainability, and why humans need to change their lifestyles. Using the Storyline approach seems to be a successful way, in terms of sustainability pedagogy. Through the caring approach, the civic orientation and interactive pedagogy, the teachers practiced as they preached to use a metaphor. This is essential, especially regarding ESD with young pupils, who relate complex processes and abstract concepts to their concrete thinking. The logics of the teacher's acting may therefore connect directly to the pupils' understandings. In other words, a caring teacher makes the significance and effects of the word caring comprehensible and concrete. The specific case in this study may serve as an example of concrete pedagogical methodology that builds on a rather complex foundation. Each feature of the Storyline was planned intentionally, it seems, and included nurturing care, academic care and interactive care, and simultaneously an openness for the process' movement. This openness means that the well-planned lessons can end up in various ways, and take directions that the teachers cannot plan. In turn, the intentions and goals may be diminished and cease to fulfil its main objective. Therefore, the teacher needs to be experienced, to have strategies for either pulling the pupils back on track, or to embrace the new path the narrative are taken.

The pupils are in center, just as the Storyline approach originally intended, but as this study shows, the methodology has a 'we'-focus (Adams, 2018). The teachers let the pupils take the lead through communication and interaction, with dialogue as a means for moving the work forward. All activities were designed for collaborative actions. Besides this, within the planned events, the lessons were organized for equipping each pupil individually, and the teachers could meet the pupils' different personal needs, and respond accordingly to each pupil, which Noddings (2005) highlights as significant for a caring teacher. In this aspect, sustainability was taught through sustainability pedagogy. These findings shed light on a couple of aspects, crucial to ESD, and crucial to the discussion about knowledge. Firstly, ESD is very complex, which is challenging, especially when taught in early years; where content need to be concrete. Orchestrating education about sustainability through various interlinked pedagogical methods, such as discussions evoked by key questions, practical and creative work to follow up the discussions and included incidents, which make pupils act, seems to be a way to hold on to the subject, and to make sustainability incorporated in pupils' life-worlds. It seems that content that can be transformed in a tangible way, such as the creative and art-based artefacts, the pupils constructed, is easier to understand in terms of sustainability, than the social work. Abstract concepts and intangible aspects of sustainability could therefore be processed in a similar way. For example, energy source was a new concept for most of the pupils, which was processed intellectually as well as practically in several steps. The class watched information films, read facts about different energy sources, made sketches and drawings, wrote about it, discussed and argued for advantages and disadvantages, before decided on what to build. This was a deliberate methodology, without parallel regarding social parts of sustainability.

Although ecological perspectives, and mainly anthropocentric ones, were in focus as the main content in the Storyline, the working forms employed, were carried out as examples of sustainable social manners. The pupils learnt substantial social abilities, which could be treated more, elaborated on and discussed as a content. Democratic values characterized most of the work, and was highlighted by the teachers, but not in relation to ESD. This might depend on the context; in Sweden democracy has not been seriously endangered for the last century, and is therefore much taken for granted. In other parts of the world, social sustainability has a more profound position. Economical sustainability was brought up when the pupils discussed what kind of buildings, transportations and energy sources they wanted on the island.

This study shows how ESD through the Storyline approach represents a reorientation of existing pedagogical methods to address sustainability, as many researchers call for (Leicht et al., 2018; Wals & Kieft, 2010; Sund & Lysgaard, 2013). Research on ESD tends to be theoretical and learning processes are hardly examined or discussed within the ESD field, Sund and Lysgaard (2013) claim. This article is an attempt to contribute to the on-going debate by providing an empirical study, which has young primary school pupils in focus. In this study, the relational pedagogy has proven to be a path to avoid a normative approach. The study shows that sincere and open pedagogy does not only enhance the pupils' knowledge regarding sustainability, it also enhanced the teachers' knowledge, attitude and thoughts about future practice. This shows the moral aspect of educational practice that did not direct the pupils, but the teachers, which confirm Biesta's (2004) claim that education is less technical but moral. However, implementing a Storyline is time consuming, difficult to measure and require a very skilled teacher if the outcome should meet the goals. One way to learn the method could be to start with a shorter compact version with less complicated content, and to expand the Storyline next time. The risk could be that the Storyline will be all about the building and the 'fun stuff', and less about sustainability on a deeper level. The skilled teacher though, knows how to balance and adapt the various aspects to make the Storyline interesting, challenging, educational and instructive, and how to lead pupils to imagine future scenarios.

7.2. Concluding remarks

My point of departure for this article is the call for a holistic pedagogy (Wals, 2015; Jickling et al, 2018; Author & x, 2020) and for empirical studies, with the intention of expanding the quite loose discussions on pedagogy and ESD, and in specific regarding primary school education. This study has shown the work in two school classes, in which the teachers were experienced, dedicated and skilled regarding the chosen teaching and learning method. This seems to be especially important when integrating sustainability in primary school education. This study shows only one example of how to engage pupils, how to encourage them to take a stand and express their thoughts and ideas, but could give some ideas about the strengths and weaknesses of including

a Storyline, which integrate ESD in primary school. Regarding ESD today, when all life on the earth is endangered, the pedagogical approach needs to be well reasoned and deliberate, especially when integrating issues of sustainability in primary school education. The caring aspect of relational pedagogy has therefore been a central theme in this article, as it emphasizes the concerns and responsibility the teacher has when bringing in difficult topics, such as global warming and climate change. Especially when much of the discussions is about changing one's life style, which the characters in this Storyline had to do. Change can be worrying, and the teacher has to handle the pupils' fear, anxiety and other emotions.

Transformative learning theory has emerged as the most relevant departure regarding ESD (Qablan, 2018). This focus on transforming individual perspectives through psychological, convictional and behavioral dimensions. However, transformative learning is a very hard and demanding process, which has to be handled gently, which in turn requires psychological expertise that teachers do not have been trained for. Relational pedagogy, by contrast, may serve as a fostering approach, which can help pupils to enhance the knowledge and abilities necessary to recognize the need for change. Pupils' combined products of imagination and rational thinking through a Storyline work that includes sustainability might be transformative enough for pupils in Grade 2. Learning about sustainability through a Storyline seemed to develop pupils' knowledge about ecological sustainability through social sustainable teaching and learning methods. That could mean that the democratic processes the Storyline work allowed for developed the pupils' understanding of both ecological and social sustainability. It had the potential to do so, but the teachers did not evaluate this.

The results have shown that the democratic pedagogical methods, used in the Storyline, are sufficient as didactical tools to achieve an open classroom atmosphere. This is a prerequisite for preparing pupils for active participation in society and for developing a sense of agency. The Storyline approach can be one way of starting such processes. When such methods are employed, pupils are given the opportunity to develop sustainability competence, which implies "a way of knowing, doing, being and transforming in action" (Wals, 2015, p. 11). The pupils included in this study have just started their learning to know, learning to critique, learning to make change and learning to be and care.

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