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## Title

Actions for Sustainable Development Through Young Students' Eyes

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## Abstract

Young students have raised their voices in debates on what action for sustainable development (SD) is necessary. Nevertheless, research that gives voice to 10 to 13-year-olds while looking into SD issues in all their complexity of interrelated environmental, social, and socio-economic perspectives, is scarce. This study aims to give voice to these youngsters, asking them directly how they suggest they can contribute to SD. Building on the concepts of action and SD, this qualitative study reports on early adolescents' own suggestions for action. Participants suggested direct, indirect, individual, and collective actions both in the private and public sphere. Their actions targeted SD issues with interconnections between areas concerning the planet, peace, people, partnership, and to some extent also prosperity. We compare our results with findings of earlier studies to further the discussion on how young people feel they can and want to contribute to SD.

**Keywords:** Action; sustainable development; primary and secondary school students' SD actions; interconnectivity of SD areas; qualitative research

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## Introduction

*“The past few years I went to the beach with my mum and dad. And then I saw a lot of dirt. And I wanted to do something about it, but I didn’t know how. And now I got the opportunity to explain this.”* (11-year-old girl)

In 2015, the United Nations described 17 Sustainable Development Goals (SDGs), targeting issues such as poverty, inequality, the right to decent jobs and quality education, and climate action. Sparked by underage climate activists from across the globe, such as Greta Thunberg, Autumn Peltier, and Ayakha Melithafa, who recently addressed the World Economic Forum Annual Meeting (World Economic Forum, 2020), young students are raising their voices, wanting to be heard on sustainability issues. With their weekly school-climate strikes that urge politicians to get informed by knowledgeable scientists and to implement measures for mitigating climate change, they are drawing attention to the current risks we are facing globally (for coverage see e.g. The Guardian on 24 May 2019). Getting involved in similar actions, sometimes within the boundaries of their schools and local communities, 10 to 13-year-olds added their voices to this growing choir. This illustrates findings that the function of role models shifts from parents to peers at this age (Smetana et al., 2006). These young activists’ calls for action concur with several scholars’ view that education should foster action in times when the natural world is at risk (e.g. Chawla, 2009; Kumler, 2011). *Action* is behavior decided upon by who acts, and induces change or contributes to solving problems (Jensen, 2000) or issues. The latter are problems that incite controversy when possible solutions are discussed (Hungerford & Volk, 1990). Since sustainable development (SD) is a process in which interests of a socio-cultural, environmental, and socio-economic nature are interlinked or even in conflict (UN, 2015), SD issues are examples of such controversial problems (Sass et al., 2020).

Research has focused on environmental actions to be carried out by young students, such as switching off lights, recycling (Cincera & Krajhanzl, 2013), or social actions, such as doing something “to help poor people” (Gericke, Boeve-de Pauw, Berglund, & Olsson, 2019). SD actions put forward in research are initially drawn from the literature. Students are then consulted in the validation process. As Cincera and Krajhanzl (2013) suggest, youth may not have been given enough opportunity for independent participation in complex problem-solving tasks. Studies that offer more ample room for participating students’ views and engagement, focus on environmental problems and climate issues (e.g. Connell, Fien, Lee, Sykes, & Yenken, 1999; Connell, Fien, Sykes, & Yenken, 1998/2014; Fisher, 2016; Kumler, 2010; Strandbu & Skogen, 2000), environmental behavior and pro-environmental consumption (e.g. Cincera & Krajhanzl, 2013; Erdogan, Ok, & Marcinkowski, 2012), political activism (e.g. Soler-i-Martí, 2015), or social issues such as global justice (e.g. Juris & Pleyers, 2009) and human rights (e.g. Činčera, Skalík, & Binka, 2018). These studies provide valuable insights into specific isolated aspects connected to but not covering the complexity of SD issues. Studies interested in the complex phenomenon of SD in its entirety, with its interconnectivity between environmental, socio-cultural, and socio-economic perspectives, are facing a challenging task. Those that take on this challenge start from an adult point of view based on SD literature (e.g. Gericke et al. 2019). Others focus on locally embedded problems (e.g. Baptista, Reis, & de Andrade, 2018), and are interested in older (e.g. Connell et al., 1999; Connell et al., 2014; Kumler, 2010; Strandbu & Skogen, 2000), or younger students (Baptista et al., 2018; Cincera et al., 2017). In sum, studies that take on the challenge to research actions covering the complexity of SD, study younger or older participants, or take an adult perspective. Since we are interested in young students’ own perspectives on SD action, we want to capture how 10 to 13-year-olds themselves imagine they can contribute to SD in all its complexity. We are especially interested in 10 to 13-year-

olds because civic involvement is shaped in childhood, while social reference shifts from parents to peers at this age (Smetana et al., 2006). The current study wants to explore what actions for SD these students suggest they can carry out.

## **Theoretical Background**

Acknowledging the challenges we are facing globally, the UN called for action in order to find sustainable solutions to environmental, economic, and social problems without compromising future generations' wellbeing (UN, 2015). As solving SD issues involves action (Chawla, 2009; UN, 2015), this concept is central in our study. In what follows, we first define *action* and *sustainable development issues*, before discussing some *studies regarding SD actions*, and outlining this study's central research questions.

### ***Action***

We first define the concept of action, including different types of action, and the spheres in which they may occur. Secondly, we discuss inaction, i.e. the (apparent) absence of action.

*Action* is a behavior decided upon by who acts (Jensen, 2000). Moreover, it is targeted at solving an issue (Hungerford & Volk, 1990; Jensen, 2000), which is a problem that incites controversy on how to solve it. Drawing from the work of the original authors of the concept of action (e.g. Breiting & Mogensen, 1999; Jensen, 2000) we distinguish between direct, indirect, individual, and collective actions. As these actions can be performed in the private and public sphere (ENEC, 2018), we also focus on these contexts in this section.

*Direct actions* involve a direct contribution to solving an issue by the actor, whereas *indirect actions* seek to make others contribute (Bandura, 2001; Jensen and Schnack, 2006). So, when climate activists go on a school strike, they are performing an indirect action aiming to make politicians take adequate climate measures. When politicians consequently (fail to) implement an agenda to mitigate climate change, they take direct action (Sass et al., 2020). Other

examples of direct action are behaviors such as recycling, treating others respectfully, and helping “poor people” (Gericke et al., 2019).

*Individual action* has individuals performing a behavior that is directed toward a goal they selected by themselves. Conversely, *collective action* involves a voluntary behavior of a group of people, aimed at a common goal (Clark, 2016). Consequently, collective action involves collective decision making regarding goals and behavior. Levy and Zint (2013) state that issues which emerge on a large scale (e.g. environmental issues on a global scale) require collective action. Likewise, youngsters taking action for human rights favored collective action (Činčera et al., 2018), and also Ojala (2012) found evidence for collective problem-focused coping when investigating youngsters’ coping strategies concerning climate change.

Another aspect of action is the *sphere* in which it is taken. This sphere can be *private* or *public* (ENEC, 2018). There is no consensus on what behavior is private or public. Some scholars view recycling or sustainable consumption as private actions, whereas others place them in the sphere of citizen’s duties (Melo-Escrihuela, 2008; Soler-i-Martí, 2015). Hobson (2013) views actions in the private sphere as the lifestyle choices people make in the context of their private lives, whereas public actions involve behavior performed in their capacity of citizens. Likewise, Liobikiene and Simas Poskus (2019) posit that the consumption of personal and household products (buying, using, and disposing) belong to the private sphere. Conversely, civic actions such as petitioning, joining groups, and policy support occur in the public sphere (Liobikiene and Simas Poskus, 2019; Stern, 2000). In line with Stern (2000), and Liobikiene and Simas Poskus (2019), we understand private-sphere actions as resulting from personal choices concerning early adolescents’ lifestyle and private life. Public-sphere actions are civic actions. Consequently, they are set in society, involving behavior of youngsters in their capacity of citizens.

Up to this point, we have focused on action taking. Still, individuals can also decide to refrain from taking action. In her analysis of five texts regarding education that aims at fostering action competent children, Ideland (2016) problematizes the view that opting for *inaction* should merely be perceived as undesirable. She found that action-competent individuals are defined as participating, empowered, empathic, optimistic, well-planned, and reasonable, whereas the inactive ‘Other’ is thought of as powerless, pessimistic, spontaneous, and possibly angry and/or despondent. These definitions are based on implicit cultural standards, which may lead to social reproduction in terms of race and social class (Ideland, 2016). Similarly, Strandbu and Skogen (2000) found a connection between cultural capital and environmental concern, but no relation with social class. However, in their study on youngsters’ political participation, Henn and Foard (2014) found this was influenced by social class, educational history, and ethnicity. Thus, (in)action regarding sustainable development issues may involve social inequality. Therefore, Ideland (2016) calls for caution in order not to exclude the inactive ‘Other’. Moreover, Connell et al. (1999) found conflicting feelings of hope and pessimism when researching young Australians’ environmental attitudes. Still, if given opportunities for action taking, this anxiety could be transformed into hope, as experiences gained through action enhances a sense of possibility. Thus, hope mitigates frustration and anxiety and helps develop a feeling of trust in one’s own capacities for change (Ojala, 2016). This ‘language of possibility’ involves an openness toward finding inspiration in courses of action that have proven successful in other times, places, and cultures (Mogensen & Schnack, 2010, p. 71). This openness to different perspectives is in line with ‘plurality’ as explained by Arendt (1958), who saw the diversity between individuals in the past, present, or future as ‘the condition of human action’ (p. 8). However, also equality among men is important, as it allows ‘to understand each other and those who came before them’ or ‘plan for the future and foresee the needs of those who will come after them’

(Arendt, 1958, p. 175). By envisaging the future individuals create a vision of the future as it may emerge if nothing changes. When comparing that to a vision of a more sustainable future that would result from their action, they may find the hope that is needed for engaging in action (Connell et al., 1999; Jensen & Schnack, 2006; Ojala, 2016).

### ***Sustainable development issues***

Actions are targeted at solving controversial problems (Hungerford & Volk, 1990), and SD issues qualify as such (Sass et al., 2020). Although there is no consensus on how to define SD, much of the relevant research refers to definitions in UN policy documents (Barrella, Spratto, Pappas, & Nagel, 2018). In 2015, the UN described SD issues as complex problems that combine interrelated aspects from different areas, the so-called 5Ps: people, planet, peace, prosperity, and partnership. The area of *people* involves issues such as poverty, hunger, dignity, and equality. *Planet* concerns risks of ecological degradation and climate change, and consumption-production models that support present and future generations' needs. *Peace* regards peaceful, just, and inclusive societies, while *prosperity* focuses on economic, social and technological progress in harmony with nature. Finally, *partnership* emphasizes the need for solidarity and participation of all people and nations (UN, 2015, p. 2). Drawing from this definition of SD, we also consider these 5Ps as possible targets for action. By 'interrelated' we mean that action for SD can initially focus on any, but also on a combination of several of these areas. Moreover, dealing with one or a few of these areas, will often (intentionally or not) affect other areas as well. When students choose to go to school by bicycle instead of being taken by car for reasons of personal health (people), they are also reducing CO<sub>2</sub> emission, which contributes to mitigating climate change (planet).

The UN (2015) also outlined 17 *sustainable development goals* (SDGs) action should be targeting. These goals cover, amongst others, intentions to end poverty, to provide good education for all, and to treat different genders as equal. But also care for the environment (on



and offshore), the need for a sustainable economy, and the need for more sustainable production and consumption are incorporated. Consequently, the 5 Ps and 17 SDGs provide a useful framework for guiding action.

### ***Studies regarding SD actions***

In what follows we discuss studies that examined emerging kinds of action taking regarding environmental issues (Connell et al. 1999; Kumler, 2011), political activism (Juris & Pleyers, 2009), and the importance of emotions such as anxiety and hope in action taking (Ojala, 2016). Furthermore, we focus on studies that related one or several SD areas to SD as a whole (Berglund & Gericke, 2018), or focused on the connection between the area of planet with other SD areas (Baptista et al., 2018). We will compare our findings to evidence found in these previous studies in the discussion section.

Connell and colleagues (1999) explored 16 and 17-year-olds' priorities, ideas, and concerns regarding *environmental problems*. They gave the participants the opportunity to use their own words to explain what causes and possible solutions they saw, as well as how they assessed their own ability to care for the environment. The youngsters' concern often did not lead to action due to paralyzing feelings of frustration. While few of them mentioned how they could contribute through changes in their own life style that went beyond individual behaviors such as recycling, they sought possible solutions in increasing awareness and educating others. Still, the majority of them looked at the authorities rather than seeing a role for themselves in this. However, contrary to findings within social studies students by Kumler (2011) they did not seem to see solace in civic actions (i.e. actions in the public sphere) such as signing petitions to promote government action. Kumler (2011) discovered that the same environmental education course had different effects when taught in social studies than in science courses. After the course, students in social studies showed more diverse knowledge of action possibilities than did students in the science classes. In line with findings by Connell

et al. (2014) and Ojala (2012), students mentioned individual actions more than collective actions, although they reported they would find it easier to take action when others would too (Kumler, 2011). This is in contrast with evidence found by Juris and Pleyers (2009) who described alter-activism as a form of young people's *justice activism* that is highly globalized, profoundly networked, open, collaborative, and deeply shaped by new technologies. Here, we see the need for collective action when targeting global issues, which was also suggested in Levy and Zint's (2013) study on environmental political participation. Another aspect that may enhance trust in one's own action possibilities is hope (Ojala, 2016). While pointing to the need to acknowledge *feelings of anxiety and worry*, Ojala (2016) posits that hope would enhance action taking when it emerges through a capacity to envisage societal change toward a better future situation. This can be achieved by allowing different perspectives into the classroom (Ojala, 2016), providing opportunities for taking action, and thus for learning from experience (Connell et al., 2014; Ojala, 2016). Juris and Pleyers (2009) focused on young activists (aged 14 and older) who acted against influential economic organizations such as The World Trade Organization, the World Bank, and the International Monetary Fund, and their impact on social justice. These youngsters connected economic power to global social injustice. However, in line with Connell et al. (2014), whose evidence showed that the youngsters did not share a common understanding of the concept of SD, Berglund and Gericke (2018) found that Swedish 18 to 19-year-olds also lacked a clear understanding of economic concepts such as economic growth, economic development, and their effects on SD. They also concluded that some participants interpreted SD more narrowly as concerning environmental issues, while others saw the *connections between environmental, economic, and social dimensions of SD*. When aware of the interconnectivity of these different SD areas, students either focused on the challenge to integrate, or emphasized the conflicting positions of those SD dimensions. Another study that examined SD as *integrating the areas of planet,*

*prosperity, and people*, is Baptista et al.'s (2018) research into what collective action 8 to 10-year-olds would be capable of concerning the issue of decreasing honey production in Portugal. They also found a strong preference for collective action. Moreover, the children were made aware of the interconnectivity between environmental issues, such as a decrease of the bee population, and socio-economic consequences for honey producers and their families. Students saw the need for change and showed an appetite for taking (collective) action in order to make this change occur (Baptista et al., 2018).

### **Aim and Research Questions**

The studies described above all accepted the challenge either to investigate what actions young people (aged 8 to 10, or 14 and older) are willing to take, or how they understand SD. In this, early adolescents (aged 10 to 13) were underrepresented. Still, it is at this phase in life that individuals start looking to their peers for role models, rather than to their parents the way they used to in childhood. Moreover, their appetite for engaging in civic action in adult life is developed during early adolescence (Smetana et al., 2006). It is for these reasons that the current study aims to add their voices. This article reports on research that wants to complement existing studies on SD by finding out how 10 to 13-year-olds suggest they can take action for SD, and to what SD issues they want to contribute. Based on the literature, this study draws from the concepts of action and SD. The following research question is central in the current study:

How do young students (aged 10 to 13) suggest they can contribute to sustainable development (SD)?

For answering this question, two subquestions guided our research:

RQ1. What SD actions do 10 to 13-year-olds suggest (direct/indirect, individual/collective, in the public or private sphere)?

RQ2. At what SD issues (planet, people, peace, prosperity, and partnership) are the actions proposed by 10 to 13-year-olds targeted?

## **Methods**

Our study was conducted in Flanders, the Dutch-speaking community in the north of Belgium. Embracing the idea of multiple realities, we wanted to give a wide variety of young students a voice, asking them directly how they thought they could contribute to SD. Thus, we aimed to report on early adolescents' different perspectives on action for SD (Creswell, 2007; Creswell & Poth, 2018).

### ***Participants and procedures***

To achieve a rich diversity of perspectives, we allowed for different preferences of understanding and expression (e.g. through drama, drawing, verbal presentation). Consequently, we used a purposive sampling technique, seeking out collaboration with schools that offered a variety of educational approaches in both primary (grades 5 and 6) and secondary education (grade 7). The three participating schools provided education in a traditional way, a student-centered way (Freinet methodology), or put a particular focus on performing arts (i.e. dance), respectively. With this sampling method we also gave voice to students who were less verbally inclined. Participants were respected as collaborators with a voice of their own, building knowledge in cooperation with the adult researcher (Moustakas, 1994). Thus, we facilitated a realistic appreciation of young students' action abilities for SD (Alderson, 2008). In order to do this, it is important for the researcher to take a distance from earlier experiences, biases, and presuppositions (i.e. bracketing; Creswell & Poth, 2018). To this effect, the adult researcher refrained from expressing any kind of critical judgement of the young participants' perspectives and suggestions. Thus, she consciously took a fresh

perspective toward young students' capacities for SD action (Creswell & Poth, 2018, p. 78; Moustakas, 1994, p. 22).

As shown in Table 1, the current study included 75 students between 10 and 14 years old (*mean* = 12.5) in four class groups across three schools. Among them were youngsters in primary and secondary school, with different roots (ten different countries of birth, thirteen different home languages), 40% were boys, 52% girls, and 8% did not disclose their gender.

**Table 1** Description of sample

<i>n</i>		75
Age	min.	10
	mean	12.5
	max.	14
Gender (%)	male	40%
	female	52%
	undisclosed	8%
Different countries of birth		10
Different languages spoken at home		13
		69% Dutch including regional dialects; 12% multilingual; 16% speakers of other languages; 3% undisclosed

Prior to any research activities with the students, we informed parents and participants about our aims, research questions, and in what activities the teens would be asked to participate. Since the research activities coincided with the schools' learning goals that include themes such as the environment, the United Nations, and poverty, all students took part in them, but the research data were only registered when both a parent/responsible adult and the participant had actively consented. This was in line with the ethical guidelines of the authors' institution.

Wanting to stay close to the participants' daily reality, we chose to conduct our study in the classroom and integrate the research activities in the schools' teaching. Being a former secondary school teacher, the first author worked with the participants in their classroom

settings in three sessions. Each session took two class periods, i.e. 100 minutes. The sessions were between one and ten days apart. The researcher used language the participants understood, and regularly verified mutual understanding between herself and the participants, as well as between the participants. The class teachers provided useful feedback that facilitated common understanding.

In line with Davies and Dodd's (2002) suggestion to create an atmosphere of mutual understanding and trust, the first session started with the researcher introducing herself as a former teacher, now researcher in social sciences. The students were also given the opportunity to ask questions and share things about themselves if they wanted to throughout this session. No recordings were made yet, because we did not want to distract or intimidate the participants.

In a second step, a warm-up activity introduced the concept of pluralism, which means that a problem can be viewed from different perspectives (Ojala, 2016; Rudsberg & Öhman, 2010). This methodological step was necessary to create an open atmosphere through which all students were assured that every of their suggestions and opinions was valued by all present, so the research would secure and include a rich diversity of actions. The group was given statements that gradually moved from e.g. random preferences for certain food to things related to SD. For each statement the students expressed their agreement or disagreement. The resulting reality of different views on the same statements was visualized by a green and red web, connecting students that had (dis)agreed with consecutive statements by a red or green thread respectively. Students were asked whether they felt these different perspectives were problematic. For more details regarding the statements used in this activity we refer to the Appendix.

In a third step we worked up to a mutual understanding of SD as suggested by Connell et al. (2014). This was based on the 17 SDGs (UN, 2015) and put in language the students could

understand. First the 17 SDGs were discussed in a class discussion to make sure that all participants understood what they referred to. Students were invited to explain them to each other. The researcher only interfered when the participants indicated they did not succeed in explaining themselves. Then they could match the SDGs to their icon (optional task). They could compare their solution with the posters that had been put up in the classroom (see first page of ‘Worksheets’ in Appendix). The “Go Goals!” boardgame helped the participants to get a more concrete idea about the SDGs<sup>1</sup>. Finally, the researcher informed the students about what she wanted to learn from them, i.e. what they thought they could do for SD and what actions they wanted to perform to work toward their ideal world. Participants were asked to select the SDG they found most urgent and wanted to contribute to, but if they were concerned about something that they could not fit into any of the SDGs, they were encouraged to elaborate on that regardless. In the following steps, they were asked first to think of what ‘their world’ would look like if we would reach the goal they had selected, i.e. they were asked to ‘envisage the future’ (Connell et al., 1999; Ojala, 2016). Then, they could think about which steps were necessary in order to achieve what they had in mind. Finally, they were asked to describe what first step(s) they thought would be feasible for someone their age. They were encouraged to express how they proposed to act for SD in whichever way they felt comfortable with, and given the choice either to further develop their projects individually or collectively (in groups of up to four). Thus, we gave the young participants room for critical discussion as suggested by Connell et al. (1999, p. 108) and Ojala (2016, p. 51), and promoted development of hope for change as pointed out by Ojala (2016, p. 51). The materials used during this session can be found in the Appendix (see pages 2-5 of ‘Worksheets’).

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<sup>1</sup> The English version of the “Go Goals!” boardgame can freely be downloaded from <https://go-goals.org/>.

In a second session, the participants started working (individually or collectively) on their suggestions for actions and chose how they wanted to present them to the class. Meanwhile, the researcher gave them the opportunity to tell her about their work in progress. No recordings were made, yet, but field notes were kept after the session. After one period (50 minutes) during which the students could finish their presentations, the second period of the third session was devoted to their presentations, which were audio and video recorded. Interviews following right after the presentation, were unstructured, and aimed at helping students to describe their actions into more detail. They were conducted only when the participants seemed comfortable with it.

The students provided 30 presentations of SD actions, ranging from two to nineteen minutes, that were audio and video recorded unless participants or their parents had not consented to such registration prior to the time of presentation. The resulting recordings were transcribed verbatim, and these transcriptions were used for analyses in NVivo 12. The students' individual and collective written preparations (texts, drawings, mind maps,...), provided extra information along with the first author's field notes, and descriptions of the students' artwork and images shown during the presentations that were included in the transcripts. The short interviews immediately following the presentations were also included in the transcripts. Thus, the transcripts and field notes provided the adult researchers with the students' own interpretations of their drawings and artwork, which guided further analyses.

### ***Analyses***

Informed by conceptualizations of action and SD as described above, a coding tree was developed along the types of action and areas of SD issues (i.e. 5 Ps). In line with previous research, we opted for action dimensions direct/indirect (e.g. Connell et al., 1999; Juris & Pleyers, 2009), individual/collective (Connell et al., 2014; ENEC, 2018; Kumler, 2011; Ojala, 2012), and private/public (Connell et al., 1999; ENEC, 2018; Kumler, 2011). In a first stage,



the coding tree was critically discussed with a second researcher. Secondly, the two researchers collaborated to code seven random fragments (about 23% of all observations) and spent ample time validating and refining the analysis categories. Thirdly, in order to guarantee the reliability of the analyses, both researchers independently coded the remaining observations. For certain categories, the coders obtained a substantial intercoder agreement showing Cohen's kappa values between .61 and .80 (Landis & Koch, 1977), while other categories appeared to be more complex. For these categories, codes were discussed and coding decisions made by the two researchers together during analysis sessions until Cohen's kappas for each category (.68 for action, .76 for SD issues) minimally fitted a range from .61 to .73, which is considered sufficient agreement (Landis & Koch, 1977). This resulted in a Cohen's kappa of .73 regarding the final coding tree, indicating sufficient reliability for further analysis (Landis & Koch, 1977). This calculation of intercoder agreement guided our discussions and further refinement of the concepts used for coding. We refer to Table 1A (in Appendix) for the general definitions of action categories and issues the actions were targeted at as used and finetuned by the two researchers during analyses.

Rigor was attained by making our research practices visible (Davies & Dodd, 2002) through verification and validation (Creswell & Poth, 2018). Verification included literature searches, bracketing past experiences, keeping field notes, sampling for diversity, identifying contrasting evidence, continuing data gathering until saturation, and peer reviewing. For validation we used multiple methods of data collection, i.e. observations described in field notes, and verbatim descriptions of oral presentations, short interviews, and drama, which included descriptions of drawings and art work shown during the presentations (Creswell & Poth, 2018).

## Results

The current study focuses on capturing young students' suggestions of SD actions. Results are discussed focusing on action (RQ1), and issues (RQ2).

### *Action*

As can be inferred from the overview in Table 2, putting the students' suggested actions in categories was not always straightforward. We realized that categories such as direct-indirect, individual-collective, and public or private sphere may be dynamic rather than a static given.

The more the actions were thought through and elaborated upon, or the more complex, the richer they were in terms of categories of actions that were incorporated.

**Table 2** Overview of different actions suggested by young participants with relative quantities per action category (direct/indirect/mixed; individual/collective/mixed; private/public/mixed) as analyzed by the researchers

Actions suggested	Action				Sphere	
	Direct	Indirect	Individual	Collective	Private	Public
	42.8%	47.6%	52.4%	28.6%	14.3%	66.7%
	9.6% mixed		19% mixed		19%	
Donating clothes to the needy	X		X			X
Helping homeless find shelter	X		X			X
Organizing activities for promoting gender equality	X		X			X
Using eco-friendly transport, saving resources	X		X		X	
Buying fair trade products	X		X		X	
Boycotting products tested on animals	X		X		X	
Starting, supporting and/or cooperating with aid organizations	X			X		X
Raising and donating funds, food, or clothes to the needy	X			X		X
Asking authorities and nations for help or support		X		X		X
Raising and donating funds, food, or clothes to aid organizations		X		X		X

Organizing a school event to inform the public about eco-friendly behavior		X		X		X
Suggesting law creation and enforcement		X		X		X
Calling on nations for keeping peace		X	X			X
Speaking up against intolerance, bullying, and war		X	X			X
Promoting gender equality on the Internet		X	X			X
Calling for a boycott of products tested on animals		X	X			X
Promoting eco-friendly behavior		X	X		X	X
Collecting litter from streets, the sea,...	X		X	X	X	X
Informing acquaintances or the general public about aid organizations		X	X	X	X	X
Calling for action (on social media, by putting up posters, or handing out flyers)	X	X	X	X		X
Pay it forward	X	X	X	X	X	X

Both individual and collective actions were considered by the students, involving direct and indirect actions. What started as a direct action, such as opting for an eco-friendly means of transport, sometimes evolved toward an indirect action when a student's personal choice moved toward modeling/promoting the desired behavior to others. When promoting desired behavior, actions were presented as to be carried out in a hypothetical future as well as having been performed already:

*“I think there should be equality between boys and girls in other countries, too. And I would organize something here at school and so on. And that would then also*

*happen in other countries, equality between boys and girls.” (11-year-old girl, individual presentation)*

Although this girl’s action was presented as an individual direct action (spoken in first person singular; initially intended to directly treat boys and girls as equal herself), she hoped to model the desired behavior, so that ‘other countries’ would follow her country’s example of treating boys and girls as equal. We could consider this a direct action with implicit hopes to have indirect effects across nations. Still, she did not specify how ‘other countries’ would pick up on this. Other participants were more eager to put their ideas into practice:

*“Participant 58: Yes, I have. I’ve put that on Instagram... and... [shrugs]*

*Interviewer: Have you done that already?*

*Participant 58: Yes, I have.*

*Interviewer: What have you put on it then?*

*Participant 58: You know... [shrugs]*

*Participant 59: Boys and girls are equal.” (10-year-old girl and 11-year-old boy, interview following group presentation)*

The same eagerness to get started was shown during the presentation of an elaborate well thought through action, when students invited classmates to help with preparing a collective action there and then:

*“Participant 72: We now have a group task for you. We have, as you can see, a good sphere and a bad sphere. [...] There’s the good side, yes, bad’s gonna start over there, and then I’m gonna give you a pen and then you can each draw one thing in the good sphere, and one thing in the bad sphere, and... but they’ve got to be useful things, you know. I’ll take some pens now.” [Classmates start working on two*

*posters showing a bad and a good sphere for them to fill]* (12-year-old girl, group presentation by two students)

Contrary to the action just described, which was construed as collective from the beginning, the ‘pay-it-forward’ action would start from individual actions of kindness to others. Still, the aim was for this individual and direct action to spark a movement of caring and helpfulness. Thus, what started as an individual direct action, would become indirect action, eventually evolving into collective action, i.e. the ‘pay-it-forward’ movement. Four 11-year-olds explained it thus:

*“Hi, our plan’s called World Peace. It’s about collaborating with others. The concept is: we’re each gonna help three other people, and instead of them thanking us, they’re gonna help three other people again.”* (participants 25 to 28, 11-year-olds, gender undisclosed, group presentation)

When looking into the sphere in which actions were undertaken, the same action could be categorized as private as well as public, depending on the context information the participants provided. This occurred for example with the action of collecting litter. One group presented this as a possible activity when playing in the streets, whereas another team included asking for permission and logistic support from the town’s mayor. This action was felt to be either a choice of which game to play with friends (private sphere), or a task of citizens (public sphere). Consequently, the same action, i.e. collecting litter in the streets, was presented as occurring in the private sphere by the former group, and in the public sphere by the latter. Still, in the play that was performed by the public sphere team, they were joined by a friend who saw them working:

*“Participant 5: Hi girls, what are you doing?”*

*Participants 6, 7 and 8 (together): We’re collecting litter.*

*Participant 5: Can I help?*

*Participants 7 and 8: Sure...*

*[All pick up litter with the equipment they got from the mayor.]*

(four 10 and 11-year-old girls, drama, group work)

Here, the girl who joined the team while at work may have changed the sphere from public into private by stressing that they were all friends who enjoyed doing something together.

A minority of students seemed less eager to take action. One quiet 12-year-old limited the presentation of his ‘world peace project’ to describing his drawing of the New York Twin Towers. He explained that they represented a symbol of peace to him since they had been destroyed in the 9/11 terrorist attacks. To him, a drawing with an intact New York townscape referred to the pre-9/11 more peaceful world he felt had been lost and was anxious to get back.

When other participants wanted to know how he imagined to contribute to achieving that level of safety again, he shrugged and said he would *“by just telling them to stop with wars”*.

Previously, while making his drawing, he had told the adult researcher that he would really like to put a message for peace on the Internet, but that he *“most certainly”* was not going to do that. When asked why not, he answered *“because I’m afraid the terrorists will come and throw their bombs”* (conversation reconstructed from field notes). We will revisit this case in the discussion section.

In sum, categories of action were not always mutually exclusive: while some suggested actions were neatly presented as being (in)direct and individual or collective throughout, other actions could be placed into several categories. What started as a direct action could end up indirectly modeling desired behavior, and individual actions sometimes evolved into collective actions or even worldwide movements. The same happened when similar suggested actions were described in either the public or private sphere, or when a certain action evolved from public to private.

## ***SD Issues and the interconnectivity between them: Planet, People, Prosperity, Peace, and Partnership***

In line with the definition of SD as discussed in the introduction, we present an overview of issues along the 5 Ps (UN, 2015), i.e. planet, people, prosperity, peace, and partnership.

However, the area of partnership is of another nature than the other four areas. A description of partnership provides answers to the question of ‘who with’, whereas the other areas deal with the ‘what’ question. For this reason, we first discuss actions focusing on planet, people, prosperity, and peace issues, before addressing partnership. We refer to Table 3 for an overview of all categories of issues the suggested actions targeted.

**Table 3** Overview of SD issues aimed at per action (implicitly mentioned aspects between brackets) as analyzed by the researchers

<b>Action</b>	<b>Planet</b>	<b>People</b>	<b>Prosperity</b>	<b>Peace</b>	<b>Partnership</b>
Donating clothes to the needy (living in poverty or having fled war)		X			
Helping homeless find shelter		X			
Organizing activities for promoting gender equality		X			
Performing and/or promoting eco-friendly behavior (regarding choice of transport, saving resources, options for heating and lighting, reducing CO2 emission, waste, and littering)	X				(X)
Buying fair trade products		X			
Boycotting products tested on animals	X				
Starting, supporting and/or cooperating with aid organizations		X			X
Raising/collecting, and donating funds, equipment (e.g. boats), food, or clothes to the needy		X	(X)	X	
Asking authorities and nations for help or support					X
Raising and donating funds, food, or clothes to aid organizations		X			(X)
Creating opportunities for education, earning a life, and housing		X	X		

Organizing a school event to inform/educate the public about how eco-friendly behavior can facilitate wellbeing, and a fairer world	X	X		X	(X)
Suggesting law creation and enforcement for keeping the environment clean (e.g. plastic free)	X				
Calling on nations for keeping peace		X	X	X	
Speaking up against intolerance, bullying, and war		X	X	X	
Promoting gender equality on the Internet (e.g. YouTube, Instagram,...) or offline (involving friends, neighbors,...)		X			(X)
Putting a message for peace on social media				X	
Calling for a boycott of products tested on animals	X				
Collecting litter from streets (also to prevent sea pollution)	X				
Informing acquaintances or the general public about aid organizations		X			(X)
Calling for action against poverty		X	X		
Pay it forward (doing something good for three other people, who in turn do something good for three others.)		X		X	X

Students often addressed the interconnectivity between the areas. When analyzing the issues suggested actions were aimed at, the adult researchers often found it difficult to unravel this holistic view of SD issues. Therefore, we will discuss the results in a way we hope will do justice to the students' understanding of SD actions, presenting their interpretations of issues as they explained them during conversations, interviews, and presentations alongside the researchers'. One such case is that of action against testing (cosmetic) products on animals. When asked which area this action targeted, the participants indicated they saw this as a social concern (i.e. people). So, instead of categorizing this action as a planet issue (as the adult researchers were inclined to do during analyses), they explained they saw (laboratory) animals



as “*part of the family*” just like their pets. Therefore, actions for animal rights were felt to be of a social rather than an ecological nature (three girls aged 12 and 13, conversation during second session, reconstructed from field notes). However, this group’s eco-centric view, pointing toward the rights of nature (i.e. laboratory animals), was complemented with an anthropocentric perspective by others. They additionally highlighted the need to take care of the environment for human benefits:

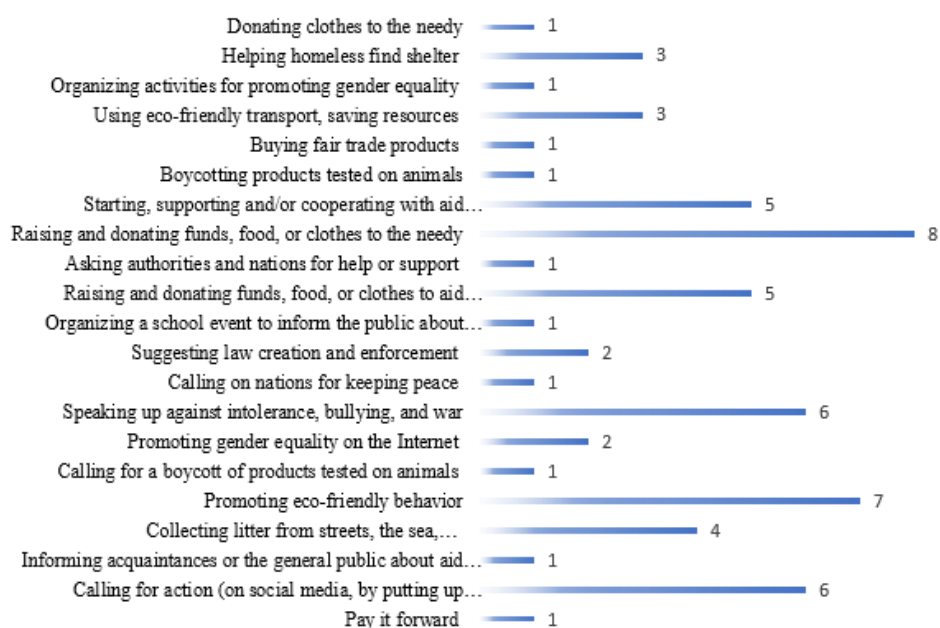
*“Participant 71: We try to cross as large a distance as possible by bicycle or electric car, but they should be charged in an eco-friendly way then of course.*

*Participant 72: ‘Cos if there are too many CO2 exhaust fumes, nature’ll perish, and then there’s no more place to live for the animals.*

*Participant 71: But it’s also better for humans, ‘cos if there’s less CO2 exhaust fumes, the air’ll be healthier, and we’ll be ill less, hopefully, get outdoors more often, ‘cos the weather will be nicer, and then we won’t have any more climate problems.”*

(two 12-year-old girls, group presentation)

Here, the two girls explicitly linked climate change to animals’ rights to a place to live (planet, eco-centric) as well as to people’s health and wellbeing (people, anthropocentric).



**Figure 1** Frequency of actions mentioned by the young participants to the current study

From these examples, we can infer that concern about the planet was mentioned on its own behalf, as well as in function of human benefits.

When looking further into the area of people, poverty was frequently mentioned as a major concern as can be seen in Figure 1. For this issue, students saw various causes to be tackled. The main cause of poverty mentioned more often than not, was war. Through this war-poverty connection the students explicitly highlighted the interconnectivity between SD areas of peace and people. War was discussed as a global issue as well as a local one. On a local scale it was compared to bullying and fighting instead of talking to each other. Two girls also reflected on the causes of war at a larger scale. They concluded that wars probably start because people who do not have a good life, are jealous of those who are better off:

*“They throw bombs, they take Kalashnikovs, pistols and such, they make war, in fact. The others try to protect themselves, to protect their country, etcetera, and their family of course... and the others, they try to ruin their lives so they can have all the money they have.”* (two girls aged 10 and 11, double interview)

So jealousy of other people’s wealth, which can be viewed as (self-perceived relative) poverty, was seen as both a cause and a result of war. Again the association between areas people and peace was acknowledged by the students, but this time seeking to address not only the effect, but also the cause of a peace issue within the area of people. Other consequences of war, such as the demolition of homes, and the necessity to flee and risk one’s life trying to reach safer ground, caught the students’ attention as well. Next to preventing the problem of war at the roots, acting against fighting and bullying, also the consequences of war (such as relocation of people), and poverty due to other causes or reasons were themes that guided action. Still, with the exception of one 10-year-old boy who briefly mentioned ‘*too many taxes*’ during his presentation, none of the participants explicitly discussed possible causes of poverty other than war. Furthermore, the need to provide education, clothing, and shelter was

discussed both on a local and a global scale. The participants labeled the latter as poverty ‘in other countries’ or helping ‘poor countries’. When tackling the problem locally as well as globally, actions consisted of providing food, clothes, housing/shelter, health care, education, and jobs:

*“First, we’re gonna buy food and clothes for the poor; establish a school for poor children who can’t go to school; make sure everyone has a place to live; find a job for everyone, so they get paid well.”* (four boys aged 11 and 12, group presentation)

Seeing the link between poverty as a lack of means, educational opportunities, and decent jobs, these students expressed their consciousness of the connection between people and prosperity. Others also reflected on which aid organizations best to support. In this, providing support that would empower the people(s) in need, rather than making them dependent on aid initiatives, were favored by two girls aged 12 and 13:

*“...[This aid organization] helps farmers, donate animals so they can get out of poverty by themselves, so in poor countries there are poor farmers [...]. And, yeah, you can send them food parcels, but then that becomes a habit. And what [this aid organization] does, they send them animals or chickens. And they can then breed those cows and chickens further and they can help themselves out of poverty. So they can get out of poverty by themselves, then.”* (interview following group presentation)

Apart from recognizing that education and “getting a good job” were necessary to overcome or prevent poverty, hardly any references were made that could be attributed to the area of prosperity. Still, the vicious circle from insufficient means (proficiency) to lack of opportunities for education, which would then result again in poverty (people), was described by a 10-year-old girl during an interview:

*“Participant 1: ... and if for instance you get a job, that costs a lot of money again, for instance police... [silence, hesitates]*

*Interviewer: What do you mean ‘if you get a job’? Normally, if you get a job, you earn money, don’t you?*

*Participant 1: yeah, but...*

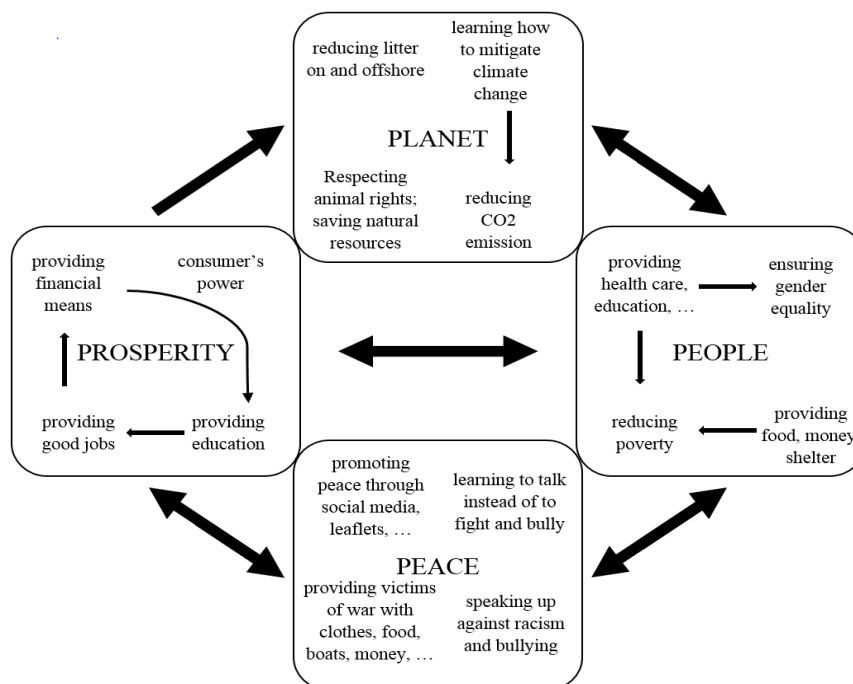
*Interviewer: How come then that it costs money?*

*Participant 1: No, for example, you’ve got to go to school first, and so on,...*

*Interviewer: Ah, now I see what you mean...*

*Participant 1: That’s what costs money... and they can’t afford so much then.”*

This girl saw a link between a lack of means and reduced access to education, which would again lead to a continuation of life in poverty. As described above, jealousy of other people’s wealth was seen as a cause of war, which would in turn lead to poverty again. Actions aiming to provide relief for poverty, were diverse. Some aimed to directly offer money, food, or shelter. Others wanted to empower people and nations so they would learn to fend for themselves. Here, education was viewed as a way to get a good livelihood, as well as a



**Figure 2** Interconnectivity of issues concerning areas of planet, people, peace, and prosperity as presented by the participants in the current study and analyzed by the adult researchers.

manner to avoid war or bullying. Figure 2 illustrates the interconnectivities between SD areas that were mentioned by the students as analyzed by the adult researchers.

As shown in Figure 2, Students did not mention planet issues as causes for reduced or enhanced prosperity, nor did they address any interconnectivity between planet and peace concerns. However, apart from these, all SD aspects were somehow seen as interconnected. They presented their own initiatives for education as a means to contribute to the planet aspect of SD, thus expressing how they associated the ‘people’ with the ‘planet’ aspect:

*“... for example, with the remaining money from group 1, we can make our own learning materials about environmental pollution for primary school.” (12-year-old girl)*

Also reversely, the beneficial effect of reducing environmental pollution (planet) on people’s health and wellbeing (people) were presented. As was illustrated earlier in this section, the association between ‘people’ and ‘peace’ was also addressed in both directions: helping people out of poverty was presented both as a way to avoid war (no cause for jealousy would reduce the risk of aggression) and as a way to reduce the consequences of war. Moreover, in the students’ view, educating (people) on how to communicate peacefully through an anti-bullying action at school, would avoid the occurrence of war (peace) at a later stage in life. They also consciously sought to promote peace by providing an adequate livelihood, thus connecting prosperity to people and peace through partnership. This was illustrated in the Pay-it-forward action:

*“... and thus we collaborate, in fact, working on different goals at the same time. And this is what we mean: we give someone a good life, and we make sure that they aren’t hungry anymore. We make sure there isn’t any poverty anymore, really, and*

*that everyone works together, and this is the... this is how we create world peace.”*

(four 11-year-olds, gender undisclosed, group presentation)

Vice versa, war was seen as a condition that may lead to a lack of education (due to insufficient financial means) and consequently opportunities for getting a good job, or the ability to rebuild damaged homes (prosperity). Moreover, participants underscored the connections between poverty, the need for education and gender equality (people), and opportunities for ‘having a good life’ (prosperity). Finally, they pointed towards their power as consumers (prosperity) as a means to fight 1) injustice by buying fair-trade products (people), and 2) breaches of animal rights (planet) by boycotting products tested on animals.

After this description of results pointing to the ‘what’ question, we now turn to the question concerning ‘who with’ (i.e. partnership). Participants suggested partnerships in two directions. They wanted to support existing initiatives by officials such as the mayor or “*all the bosses of all the countries*” (four boys aged 11 and 12), and aid organizations. Conversely, they also sought collaboration for actions they would initiate themselves.

Organizations they wanted to support were sometimes defined generically as aid organizations. But other participants were specific in their preference for a particular organization. Some knew precisely why they would favor one over another, as in the case of the girls who wanted to support an organization that would empower instead of making communities dependent of aid provision. Next to organizations, also individuals were singled out for receiving help. Sometimes this support developed into a direct action, such as providing money, food, clothes, or shelter to individuals in need.

In other cases, the assistance of others was called for. Apart from joining strengths between peers, e.g. when collecting litter from the streets, also parents, especially mothers, were occasionally asked for information or assistance. This kind of cooperation covered practical

assistance such as *“baking cookies”* that would then be sold to raise money (13-year-old girl). However, some students would also *“ask my mum”* for more elaborate practical support like providing a way *“to take all the money we’ve collected to life boats that can then go and collect the poor or get them out of their war situations.”* (10-year-old boy, interview following individual presentation illustrated by a drawing)

Also the parents’ networks were used to get *“stuff”* to people in need both locally and abroad:

*“And then I’m going to give that to someone, ‘cos my mum knows someone who gives that [‘stuff’] to people.”* (11-year-old girl, interview following individual presentation of billboard ‘No Hunger’ stating the purpose of a jumble sales)

In sum, partnerships were sought both to provide and seek support. Furthermore, organizations as well as individuals were mentioned at the receiving and giving ends. Individuals could be total strangers, but also family and friends. Finally, the partnerships included individuals, world leaders, networks, organizations, and nations.

### **Discussion and suggestions for further research**

In our study, students suggested actions covering the full range of direct, indirect, individual, and collective actions in the private and the public sphere when dealing with SD issues. This is in contrast with findings by Ojala (2012) and actions used in the sustainability consciousness study by Gericke et al. (2019) that both predominantly point at direct actions. Compared to Connell et al. (1999), participants in the current study more frequently showed confidence in their possibilities for enthusing others into taking action for SD by informing or educating the public, parents, neighbors, and friends (indirect actions). During the presentations as well as in conversations during sessions one and two, our participants spoke in the first person (both singular and plural), which may be indicative of a greater trust in their personal possibilities for inducing change than was found by Connell and colleagues (1999),

who predominantly noted references to they, their, and them in their focus groups. Even when discussing issues regarding (global) peace, our participants considered actions possible on a local scale (e.g. speaking up against intolerance and bullying), as well as on a global scale (e.g. putting a message for peace on the Internet). In line with Connell et al. (1999) and Kumler (2011), however, using their power as consumers to promote environmental-friendly production was suggested as a feasible action in only one presentation by 7th graders. When looking at the frequencies with which actions were mentioned, a majority of participants to the current study opted for individual rather than collective actions. Still, our evidence included individual as well as collective actions, confirming findings by Baptista et al. (2018), Juris & Pleyers (2009), Kumler (2011), and Ojala (2012), who found evidence for young people's desire for collective action. Even though actions in both spheres were represented, our evidence pointed toward a preference for the public sphere. This may be due to the possible emphasis on private sphere actions such as anti-bullying campaigns, collecting litter, sorting waste, and saving resources in Flemish schools. Moreover, families are used to sorting their waste, since it is collected separately. Participants to our study may have sought inspiration for novel actions in the public rather than in the private sphere for this reason. They did not (always) make explicit whether they thought of the actions they suggested as direct/indirect, individual/collective, private or public. They only occasionally elaborated on their perception of SD issues as being predominantly planet, people, prosperity, partnership, or peace issues. Further research may want to shed more light on possible differences between early adolescents' and adults' understanding of these kinds of categories.

Although most participants were happy to communicate what action they saw as viable for their age, a few seemingly preferred inaction (e.g. the Twin Tower case). In this, we discern the importance of discussing possibly traumatizing events (e.g. terrorist attacks) with students. Along with Ideland (2016), we advise against judging or excluding 'the passive other'.



Moreover, we see merit in educators' efforts to find out about the source of this inactivity in order to provide possibilities for developing hope that change is possible. Nevertheless, we recommend valuing students' ambition for contributing to SD to the fullest.

Looking into the issues targeted, all 5 areas of SD (planet, people, peace, prosperity, partnership) were represented in the actions suggested in our study. Nevertheless, prosperity was mentioned less explicitly and less often. Cook (2016) suggested that adolescents put faith in technological developments that would offer solutions to SD issues in the future. Our participants also referred to the use of new technologies (e.g. using renewable energy), which may imply a similar belief in technological development as was also found by Ojala (2012). Moreover, in line with Berglund and Gericke (2018), the younger students in our study, were aware of interconnectivities between the 5Ps (see Figure 2). They linked poverty (people) to war (peace) and vice versa, human-induced environmental problems (planet) to both animal and human wellbeing and health (planet, people), and saw having a decent job (prosperity) and opportunities for education (people) as a means for overcoming poverty (people). They also recognized that they, as consumers, could influence businesses and their manufacturing methods, thus linking their consumption options (prosperity) to animal welfare (planet). However, our participants did not mention connections between planet and peace (and vice versa), and between planet and prosperity. This may be due to a lack of direct effects of environmental issues on the participants' living conditions, as contrary to Baptista et al. (2018), who linked local honey producers' incomes to environmental concern about reducing bee populations. This may confirm findings by Connell et al. (2014) that not being personally affected inhibits action. Therefore, further research may focus on communities that are facing the need for migration due to environmental or climate issues, in order to verify if early adolescents who live in such communities suggest actions that connect planet and peace, and/or planet and prosperity. Comparing evidence with the results of our study would provide

information on whether personal living conditions and early adolescents' views on SD (actions) are linked.

We noticed that providing information and education emerged as recurrent themes across all areas. Students saw themselves both as needing and capable of providing education. In line with Ojala's (2012) findings, actions aimed for example to inform peers and adults about the need to adopt a pro-environmental lifestyle. Education was also seen as a vehicle to reduce poverty, promote equality, contribute to peace, and empower people. Further research may want to look more explicitly into the importance early adolescents attribute to education in the context of SD actions. Likewise, the diversity of sources that inspired the participants for designing their actions, caught our attention. Narratives found in feature films and documentaries, but also live role models and exemplar behavior shown on (social) media seemed to enhance the students' creativity. Intervention programs may benefit from further research into the sources of inspiration for SD actions. Finally, it would be interesting to find out to what extent early adolescents are also willing and capable to perform the suggested actions.

### **Implications and Conclusion**

Our results showed that early adolescents suggest (in)direct, individual, and collective SD actions in the public and private sphere. These actions can be dynamic, moving from one category and from one sphere to another. The actions covered different SD areas (planet, people, peace, prosperity, and partnership) and included interconnections between certain areas. Therefore, when designing educational programs, we would caution for underestimating the richness and level of complexity of actions early adolescents' feel they are capable of and willing to take, while acknowledging their need for collective action and collaboration with peers as well as with existing organizations. Giving room for autonomy and exploration may enhance their creative capacities and enthusiasm for contributing to SD.

Our study revealed that early adolescents see a rich variety of SD actions as viable for someone their age, and that they are aware of the interconnectivity between different SD areas.

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### **References**

- Alderson, P. (2008). Children as researchers. In P. Christiansen & A. James (Eds.), *Research with Children: Perspectives and Practices* (276-290). New York and London: Routledge.
- Arendt, H. (1958). *The Human Condition Second Edition*. Chicago and London: The University of Chicago Press.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52, 1-26.

- Baptista, M., Reis, P., & de Andrade, V. (2018). Let's save the bees! An environmental activism initiative in elementary school. *Visions for Sustainability*, 9, 41-48. doi: 10.13135/2384-8677/2772
- Barrella, E.; Spratto, E.P.; Pappas, E.; Nagel, R. (2018). Developing and validating an individual sustainability instrument with engineering students to motivate intentional change. *Sustainability*, 10, 2885. doi: 10.3390/su10082885
- Berglund, T., & Gericke, N. (2018). Exploring the role of the economy in young adults' understanding of sustainable development. *Sustainability*, 10, 1-17. doi: 10.3390/su10082738
- Breiting, S., & Mogensen, F. (1999) Action Competence and Environmental Education. *Cambridge Journal of Education*, 29(3), 349-353. doi: 10.1080/0305764990290305
- Chawla, L. (2009). Growing up green: Becoming an agent of care for the natural world. *The Journal of Developmental Processes*, 4(1), 6-23.
- Cincera, J., & Krajhanzl, J. (2013). Eco-Schools: what factors influence pupils' action competence for pro-environmental behaviour? *Journal of Cleaner Production* 61, 117-121. doi: 10.1016/j.jclepro.2013.06.030
- Cincera, J., Kroufek, R., Simonova, P., Broukalova, L., Broukal, V., & Skalík, J. (2017). Eco-School in kindergartens: the effects, interpretation, and implementation of a pilot program, *Environmental Education Research*, 23(7), 919-936.
- Činčera, J., Skalík, J., and Binka, B. (2018). One world in schools: an evaluation of the human rights education programme in the Republic of Georgia. *Cambridge Journal of Education*, 48(6), 1-18. doi: 10.1080/0305764X.2018.1427216

- Clark, C.R. (2016). Collective action competence: an asset to campus sustainability. *International Journal of Sustainability in Higher Education*, 17(4), 559-578. doi: 10.1108/IJSHE-04-2015-0073
- Connell, S., Fien, J., Sykes, H., & Yenken, D. (2014). Young people and the environment in Australia: beliefs, knowledge, commitment and educational implications. *Australian Journal of Environmental Education*, 30(1), 78–87. Journal Compilation. doi: 10.1017/ae.2014.28
- Connell, S., Fien, J., Lee, J., Sykes, H., & Yenken, D. (1999). If It Doesn't Directly Affect You, You Don't Think About It': a qualitative study of young people's environmental attitudes in two Australian cities. *Environmental Education Research*, 5(1), 95-113. doi: 10.1080/1350462990050106
- Cook, J. (2016). Young adults' hopes for the long-term future: from re-enchantment with technology to faith in humanity. *Journal of Youth Studies*, 19(4), 517-532. doi: 10.1080/13676261.2015.1083959
- Creswell, J.W. (2007). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches (second edition)*. Thousand Oaks, CA: Sage Publications.
- Creswell, J.W., & Poth, C.N. (2018). *Qualitative inquiry and research design: Choosing among five approaches (fourth edition)*. Thousand Oaks, CA: Sage Publications.
- Davies, D., & Dodd, J. (2002). Qualitative research and the question of rigor. *Qualitative Health Research*, 12(2), 279-289.
- Erdogan, M., Ok, A., & Marcinkowski, T.J. (2012). Development and validation of Children's Responsible Environmental Behavior Scale. *Environmental Education Research*, 18(4), 507-540. doi: 10.1080/13504622.2011.627421

- European Network for Environmental Citizenship – ENEC (2018). *Defining “Environmental Citizenship”*. Retrieved from <http://enec-cost.eu/our-approach/enec-environmental-citizenship/>
- Fisher, S.R. (2016). Life trajectories of youth committing to climate activism. *Environmental Education Research*, 22(2), 229-247. doi: 10.1080/13504622.2015.1007337
- Gericke, N., Boeve-de Pauw, J., Berglund, T., & Olsson, D. (2019). The Sustainability Consciousness Questionnaire: The theoretical development and empirical validation of an evaluation instrument for stakeholders working with sustainable development. *Sustainable Development*, 27(1), 35–49. doi: 10.1002/sd.1859
- Henn, M., & Foard, N. (2014). Social differentiation in young people's political participation: The impact of social and educational factors on youth political engagement in Britain. *Journal of Youth Studies*, 17(3), 360-380. doi: 10.1080/13676261.2013.830704
- Hobson, K. (2013). On the making of the environmental citizen. *Environmental Politics*, 22(1), 56-72. doi: 10.1080/09644016.2013.755388
- Hungerford, H.R., & Volk, T.L. (1990). Changing learner behavior through environmental education, *The Journal of Environmental Education*, 21(3), pp. 8–21.
- Ideland, M. (2016). The Action-Competent child: Responsibilization through practices and emotions in environmental education. *Knowledge Cultures* 4(2), 95–112.
- Jensen, B.B. (2000). Health knowledge and health education in the democratic health-promoting school. *Health Education*, 100(4), 146-154.  
doi:10.1108/09654280010330900

- Jensen, B.B., & Schnack, K. (2006). The action competence approach in environmental education. *Environmental Education Research*, 12(3-4), 471-486. doi: 10.1080/13504620600943053
- Juris, J.S., & Pleyers, G.H. (2009). Alter-activism: emerging cultures of participation among young global justice activists. *Journal of Youth Studies*, 12(1), 57-75. doi: 10.1080/13676260802345765
- Kumler, L. M. (2010). Students of action?: A comparative investigation of secondary science and social studies students' action repertoires in a land use context. *Journal of Environmental Education* 42(1), 14–29. doi: 10.1080/00958960903479829
- Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, 33(1), 159–174.
- Levy, B.L.M., & Zint, M.T. (2013). Toward fostering environmental political participation: framing an agenda for environmental education research. *Environmental Education Research*, 19(5), 553-576. doi: 10.1080/13504622.2012.717218
- Liobikiene, G., & Simas Poskus, M. (2019). The importance of environmental knowledge for private and public sphere pro-environmental behavior: Modifying the value-belief-norm theory. *Sustainability*, 11, 3324. doi: 10.3390/su11123324
- Melo-Escrihuela, C. (2008). Promoting ecological citizenship: rights, duties and political agency. *ACME: An International Journal for Critical Geographies* 7(2), 113-34.
- Mogensen, F., & Schnack, K. (2010). The action competence approach and the 'new' discourses of education for sustainable development, competence and quality criteria. *Environmental Education Research*, 16(1), 59-74. doi: 10.1080/13504620903504032
- Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage.

- Ojala, M. (2012). Regulating worry, promoting hope: How do children, adolescents, and young adults cope with climate change? *International Journal of Environmental and Science Education*, 7(4), 537–561.
- Ojala, M. (2016). Facing anxiety in climate change education: from therapeutic practice to hopeful transgressive learning. *Canadian Journal of Environmental Education*, 21, 41-56.
- Rudsberg, K., & Öhman, J. (2010). Pluralism in practice – experiences from Swedish evaluation, school development and research. *Environmental Education Research*, 16(1), 95-111. doi: 10.1080/13504620903504073
- Sass, W., Boeve-de Pauw, J., Olsson, D., Gericke, N., De Maeyer, S., & Van Petegem, P. (2020). Redefining action competence: The case of sustainable development. *The Journal of Environmental Education*. (51)4, 292-305. doi: 10.1080/00958964.2020.1765132
- Smetana, J. G., Campione-Barr, N., & Metzger, A. (2006). Adolescent development in interpersonal and societal contexts. *Annual Review of Psychology*, 57, 255-284.
- Soler-i-Martí, R. (2015). Youth political involvement update: measuring the role of cause-oriented political interest in young people's activism. *Journal of Youth Studies*, 18(3), 396-416. doi: 10.1080/13676261.2014.963538
- Stern, P.C. (2000). Toward a coherent theory of environmentally significant behaviour. *Journal of Social Issues*, 56(3), 407–424.
- Strandbu, Å., & Skogen, K. (2000). Environmentalism among Norwegian Youth: Different Paths to Attitudes and Action? *Journal of Youth Studies*, 3(2), 189-209. doi: 10.1080/713684371



The Guardian (24 May 2019). *Latest global school climate strikes expected to beat turnout record*. Retrieved on Nov. 19, 2019 from

<https://www.theguardian.com/environment/2019/may/24/latest-global-school-climate-strikes-expected-to-beat-turnout-record>

United Nations (2015). *Transforming our world: the 2030 Agenda for Sustainable Development*. New York: United Nations.

World Economic Forum (2020). *Meet the teenage change-makers making waves at Davos 2020*. Retrieved on Feb. 03, 2020 from

[https://www.weforum.org/agenda/2020/01/the-teenage-change-makers-at-davos-2020?fbclid=IwAR16rtfqxMVg0qmMRPg7mZa9ECh9fdp7jp2cBmEYJ\\_ut9INT\\_jQgqBQZWbk](https://www.weforum.org/agenda/2020/01/the-teenage-change-makers-at-davos-2020?fbclid=IwAR16rtfqxMVg0qmMRPg7mZa9ECh9fdp7jp2cBmEYJ_ut9INT_jQgqBQZWbk)

## Appendix

**Table A1** General definitions of action categories and issues the actions were targeted at as used during analyses (based on Breiting & Mogensen, 1999; Clark, 2016; ENEC, 2018; Jensen, 2000; Jensen & Schnack, 2006; Levy & Zint, 2013; Liobikiene & Simas Poskus, 2019; Melo-Escrihuela, 2008; Mogensen & Schnack, 2010; Stern, 2000; UN, 2015).

<b>Action categories</b>	<b>Definition used during analyses</b>
Individual	The intention of others that contribute to the action may define the individual or collective feature: if people participate in a financial or commercial transaction with no intention other than to sell or buy, then the funds raising to donate to a charity = individual
Collective	collective action = an action that the agent seeks to do as part of a group effort Collective action competence is defined as “the capability of a group of people to direct their behavior toward a common goal based on a collective literacy, a collective competence (set of skills and experiences) and a collective need or goal. This definition encompasses the resulting solution-directed collective action.” (Clark, 2016, p. 560) intention= key to distinguishing between individual or collective
Direct	Direct action = an action that is directly aimed at solving an issue (= controversial problem)
Indirect	indirect action = action that is aimed at making others contribute to solving a controversial problem (= issue)
Private	actions in the private sphere (e.g. recycling, limiting car use and green consumption, for instance buying organic products) (Liobikiene & Simas Poskus, 2019)
Public	actions in the public sphere (at a societal level; behavior as citizens)
<b>Issues that actions targeted</b>	
planet	We are determined to protect the planet from degradation, including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations.
prosperity	We are determined to ensure that all human beings can enjoy prosperous and fulfilling lives and that economic, social and technological progress occurs in harmony with nature.
people	We are determined to end poverty and hunger, in all their forms and dimensions, and to ensure that all human beings can fulfil their potential in dignity and equality and in a healthy environment.
partnership	We are determined to mobilize the means required to implement this Agenda through a revitalized Global Partnership for Sustainable Development, based on a spirit of strengthened global solidarity, focused in particular on the needs of the poorest and most vulnerable and with the participation of all countries, all stakeholders and all people.
peace	We are determined to foster peaceful, just and inclusive societies which are free from fear and violence. There can be no sustainable development without peace and no peace without sustainable development.

### **Statements 'pluralism' game**

1. I love Brussels sprouts.
2. I'm good at singing.
3. I love snow.
4. I love summer.
5. I think friendship is important.
6. I have a Facebook account.
7. I think it's important to have many friends on.
8. I know all my Facebook friends in the real world too.
9. I love watching films.
10. I like going to the cinema.
11. I think it's important to have a smartphone.
12. As soon as there's a new smartphone in the shops, I want to have it.
13. I prefer playing outdoors to playing indoors.
14. I feel good when I'm in the woods.
15. I like being at the seaside.
16. I think people are more important than animals.
17. I think it's important that clothes are made by adults and not by children.
18. It's normal that not everyone has the same amount of money.
19. I think it's bad that ...<sup>1</sup>
20. I like ...<sup>1</sup>
21. I think... [situation in the world/the school/the local community] should change.<sup>1</sup>

<sup>1</sup> Due to lack of time statements 19 to 21 were not discussed in session 1 of the current study.

## Worksheets

### En route to a better world!

*A sustainable world is a world in which we all have a good life, now and later, without damaging the planet.*

#### → 17 goals for a better world (United Nations)

The 17 goals are connected to each other. If we want to progress toward one goal, we also have to take into account the other goals.

Now that you know about the 17 goals, you can match them to the fitting icon.

1. no poverty
2. no hunger
3. a healthy life for everyone
4. good education
5. equality between boys and girls
6. water and sanitary facilities for everyone
7. modern and sustainable energy
8. decent work for everyone
9. technology for everyone
10. less inequality
11. safe cities and towns
12. responsible consumption
13. reduce climate change
14. protect seas and oceans
15. take care of the earth
16. peace everywhere and for everyone
17. cooperate in order to achieve the goals



*En route to a better world!*

With 'my world' I mean:

---

I think that in my world quite some good things are being done for these 3 goals:

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

I think that in my world most work remains to be done for these 3 goals:

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

This is the most important goal I want to contribute to:

---

because: \_\_\_\_\_

If we all succeed in achieving the goal I want to contribute to, my world would look like this:

---

---

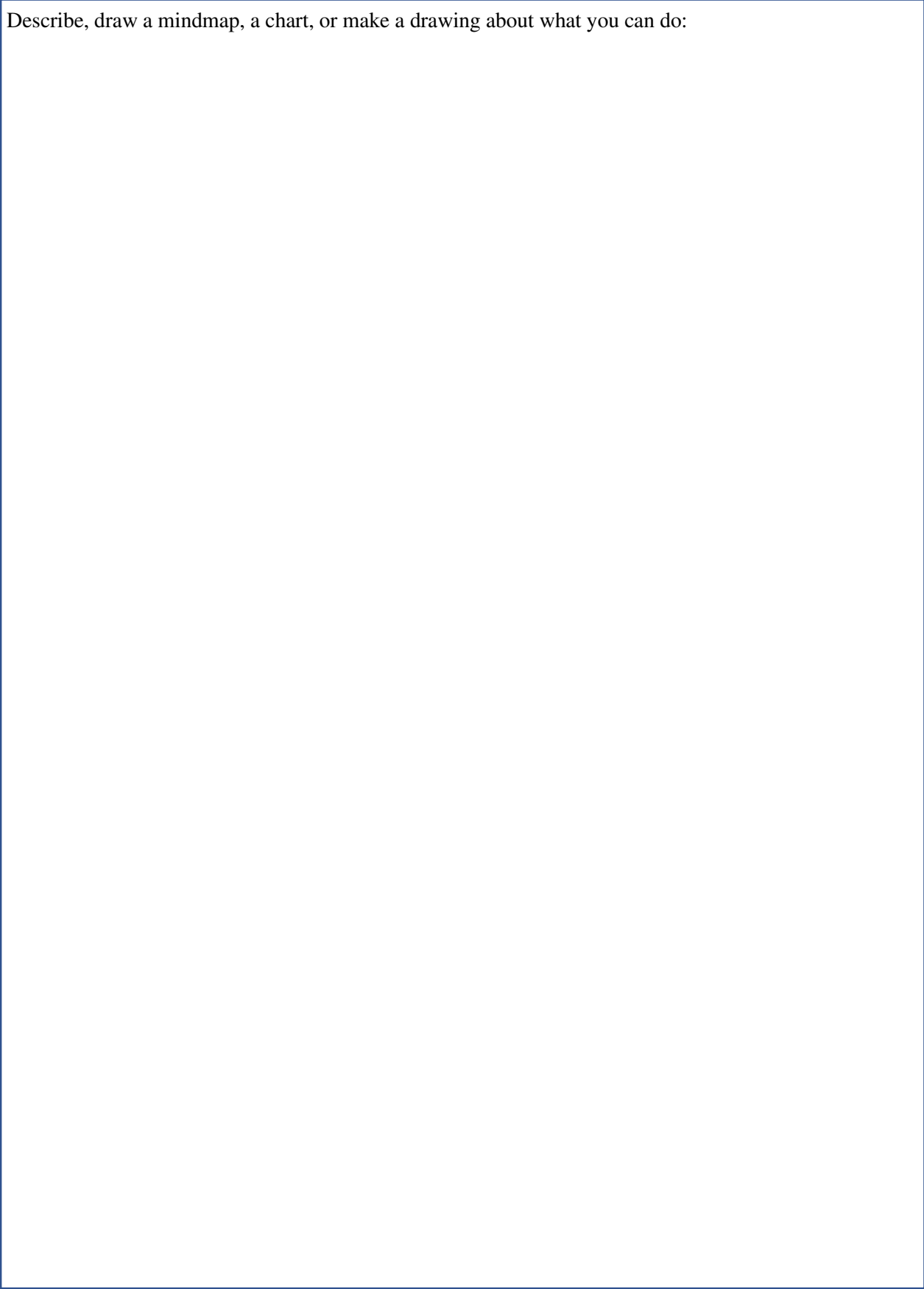
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---

This is how I can contribute to this goal myself:

Describe, draw a mindmap, a chart, or make a drawing about what you can do:



**I have worked on my own. I have worked in a group with<sup>1</sup>:**

---

---

---

---

**En route to a better world!**

With 'our world' we mean:

---

This is the most important goal we want to contribute to:

---

because:

---

If we all succeed in achieving the goal our group wants to contribute to, our world would look like this:

---

---

---

This is how we can contribute to this goal with our group:

Describe, draw a mindmap, a chart, or make a drawing about what you can do:

<sup>1</sup> Delete what is NOT applicable.

Put here how you are going to further develop this. How are you going to present your ideas to your classmates? Who is going to do what by when?

This is how we are going to work on our **presentation**:

<b>Who</b>	<b>What</b>	<b>finished by</b>