

**Pedagogical Techniques Used in Teaching Planetary Health and Their Perceived Effects  
Among Students**

Roos W.M. van der Veek, S4554884

Campus Fryslân, University of Groningen, The Netherlands

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Supervisor: Dr. Arianna Rotulo

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## Abstract

Human actions are increasingly impacting the state of natural systems, posing threats for climate change, biodiversity, and human well-being. Addressing this planetary crisis requires a change in human behavior, including attitudes towards environmental issues. Education can serve as a platform for creating more awareness around the climate crises. This study focuses on a group of students enrolled in the Bachelor of Science Global Responsibility and Leadership, that participated in a planetary health class incorporating two new pedagogical techniques: the theater of the oppressed and an intergenerational dialogue. The research question guiding this study is: *What are the perceived effects of the pedagogical techniques the 'theater of the oppressed' and the 'intergenerational dialogue' on eco-emotions and feelings of empowerment among students following a planetary health course?* To answer the research question, a focus group was conducted to gather the students' feedback, specifically exploring their eco-emotions and the impact of these emotions on their sense of empowerment or disempowerment. The results reveal that the activity of the theater of the oppressed evoked feelings of hopelessness and disempowerment because of power relations, while intergenerational dialogue fostered hope, motivation, and empowerment due to a sense of responsibility for future generations. In the end it appeared that students experienced eco-anxiety during both activities. Moreover, the study highlights the importance of employing appropriate pedagogical techniques in education for sustainable development.

*Keywords:* eco-emotions, eco-anxiety, pedagogy, theater of the oppressed, intergenerational dialogue

## **Pedagogical Techniques Used in Teaching Planetary Health and Their Perceived Effects Among Students**

In recent decades, the impact of human activities on the natural systems of our world has rapidly worsened, leading to significant disruptions and changes in the majority of these systems. These changes to the atmosphere, oceans, and surface of the earth do not only threaten the survival of many species but also pose a major risk to human health and well-being (Myers, 2017). This planetary crisis begs for a change in the behavior of humans. One way of changing human eco-behavior is changing attitudes towards environmental issues. This can be done through pedagogy, for example by courses such as planetary health. By including specific pedagogical activities into the curriculum of students, an awareness towards environmental issues can be created. This was the case for a group of students following the Bachelor of Science Global Responsibility and Leadership. This group of students were part of a planetary health class that included two new pedagogical techniques in its curriculum. In the light of this research, the students were asked to participate in a focus group at the end of their course to express their feelings towards the pedagogical activities. Therefore, the aim of this research is to find out how these two pedagogical techniques made the students feel, with a specific focus on their eco-emotions. It aims at finding out what the impact of these eco-emotions were on the students and if they felt more empowered or disempowered after the activities. Therefore, the following research question was posed: *What are the perceived effects of the pedagogical techniques the 'theater of the oppressed' and the 'intergenerational dialogue' on eco-emotions and feelings of empowerment among students following a planetary health course?* The paper will start with a literature review, providing a theoretical background for the overall topic. This means an elaborative look at planetary health, eco-emotions, and the two pedagogical

techniques. After this the methodology is presented, discussing in detail how the focus group has been conducted and how it has been analyzed according to a thematic analysis. Following the methodology, the results section will be presented, and after this the paper will end with an extensive discussion of the results and a conclusion.

## **Literature review**

### **Planetary Health**

The given fact that the climate crisis is an urgent issue in today's world is covered frequently in politics, education, and media representation, leading toward a more general awareness of the climate crisis for the public (Venghaus et al., 2022). This has caused the development of new concepts that are useful for grasping the concept of climate change and working towards solutions. 'Planetary Health' is one of those concepts. Planetary health follows an inter- and transdisciplinary approach that combines multiple disciplines regarding the health of humanity (Dambre et al., 2022). Planetary health is defined as 'the health of human civilization and the state of the natural systems on which it depends' but is also referred to as a 'solution-oriented, transdisciplinary field and a social movement focused on analyzing and addressing the impacts of human disruptions to Earth's natural systems on human health and all life on Earth' (Dambre et al., 2022). According to research by Horton (2015), planetary health can be useful in two dimensions when discussing the impact on human health. Firstly, it places human health in the context of human systems. When physical hazards, such as disease, global warming, ocean acidification, or chemical contamination, are present, it is not only the hazard that creates a threat, but also the way human society interacts with it. The actual threat of the hazard is determined by, for instance, how prepared a society is, how well the threat is monitored, and perception of the threat. In fact, the primary indicator of risk when considering

climate change is greenhouse gas emissions, but that indicator should also take into account how well human systems can monitor the threat, comprehend its significance, and take appropriate action. Secondly, the health and diversity of the biosphere are examples of natural systems that our species depends on for survival. Humans thrive within the safe operating space of planetary existence. The chances of human survival will be reduced if the borders of that space are crossed (Horton, 2015).

### **Eco-Emotion**

With the rise of new concepts such as planetary health, new feelings and perceptions arise as well. These so-called ‘eco-emotions’ have an impact on the way people perceive environmental threats such as climate change. The term ‘eco-emotions’ refers to people's emotional reactions to and experiences with regard to environmental problems and the state of the natural world. It is a phrase that emphasizes the connection between environmental factors and human emotion, such as the human reaction to climate change. Eco-emotions can refer to a variety of feelings, such as worry, grief, anxiety, and fear. Environmental problems like climate change can cause people to feel these emotions (Kurth & Phikala, 2022).

According to Ojala (2007) and Hickman (2020), the sharing of eco-emotions among young people and the participation in group action can decrease the distress and hopelessness and encourage hope. This is in line with studies on hope in healthcare settings (Olsman, 2020), which show that encouraging connections with people who have had similar experiences enhances hope. This is so that people might have the opportunity to discover purpose and values and live in accordance with them. Hope involves awareness of and openness to potential future outcomes, the capacity to respond to these in creative ways, and resilience (the ability to survive

adversity). This calls for striking a balance between stating a threat's reality, expressing one's feelings and moral principles, and figuring out how to keep embracing hope (Olsman, 2020).

A research study by Stanley, Hogg, Leviston, and Walker (2020) has shown that having eco-anger has been associated with improved mental health outcomes, increased participation in pro-climate action, and favorable personal behaviors. Less adaptable and associated with reduced wellbeing were eco-anxiety and eco-depression. The findings suggest that anger is a major adaptive emotion that motivates response to the climate issue and calls attention to the mental health of people who are becoming more and more concerned and depressed about it. Overall, the research concludes that eco-depression should prevent climate action, eco-anxiety should encourage active avoidance, and eco-anger should encourage climate action, according to the theory of eco-emotions and climate change (Stanley, Hogg, Leviston, and Walker, 2020).

According to Helm et al. (2018), Verplanken et al. (2020), and Whitmarsh et al. (2022) higher levels of eco-emotions are linked to increased climate action and positive, pro-environmental behaviors (Marks et al., 2023). In this sense, eco-emotions are also a sign of eco-empathy and eco-compassion, two ideas that are related to and spring from the motivational framework of caring for others (Gilbert, 2015; Marks et al., 2023). Eco-emotions are a sign of care for people, the earth, and other species, a care that stimulates behavioral change. Based on psychological knowledge of the variations between empathy and compassion, it would be worthwhile to differentiate between these two emotions. Empathy can be distinguished as an effective way of understanding that causes one to experience what the other is experiencing. 'Empathic concern' can result from empathy if it concentrates on distress and drives care. Similar to empathy, compassion requires the recognition of suffering (empathic awareness) and typically involves an affective component, where one feels moved by such suffering, along with a desire

for the suffering to be relieved, as well as motivation to do action to help (Gilbert, 2015; Marks et al., 2023). We can see that eco-empathy and eco-compassion are reactions that individuals have as they become aware of the suffering brought on by the ecological and climate emergency, which affects many other people, species, eco-systems, and even the entire world. Thus, experiencing eco-empathy towards environmental crises entails being affected and troubled by the realization of connected suffering. Similar emotional aspects would be present in eco-compassion, but it would also contain a desire to lessen suffering through pro-social care and action, and it might even involve greater pleasant emotions as a result (Singer & Klimecki, 2014; Marks et al., 2023).

### **Pedagogical Techniques**

It can be stated that eco-emotions play a crucial role in shaping attitudes, values, and behaviors related to the natural world. Recognition of these eco-emotions and addressing them within education is therefore very important. Planetary health, as a course, touches upon environmental problems that may trigger eco-emotions. Planetary health, as a theory and framework, offers a socio-ecological perspective, a systems thinking approach, a co-benefits framework for action, and a fundamental base to improve the skills and capabilities of graduates in health promotion to solve various health and planetary concerns (Capetola and Patrick, 2022). It is useful for planetary health in education that appropriate techniques in pedagogy are applied in the teaching because even though many educators believe that critical pedagogy appeals ideologically, some have noticed the shift from ideology to actually doing so as difficult (Howard, 2007). In the current society, it is especially important to use pedagogical, learning, and teaching strategies that include students in active learning and reinforce the core principles of a transformative, interdisciplinary, and systems-based paradigm. For this, certain skills are

necessary to develop, preferably during teaching. With regard to present-day environmental challenges, a constructivist pedagogy goes beyond the conventional passive learning paradigm to encourage active learning, involvement, and solutions-driven assessment (Capetola and Patrick, 2022).

Sandri (2022) argues that sustainability education challenges traditional teaching methods in higher education. In her research she argues that the focus has been on transforming students, but more critical examination is needed to move towards deeper sustainability education. Reflective, transformative pedagogy is essential in addressing global sustainability challenges. There should be a greater emphasis on educational pedagogy in sustainability education, supported by evidence-based professional development. According to her research, this includes applying context-specific, interdisciplinary, and value-based approaches. Academic professional development is necessary to deepen understanding of pedagogy, curriculum, and learning outcomes. Quality sustainability education requires reorienting practices and meeting the needs of the twenty-first century through effective pedagogical development (Sandri, 2022).

This “new” pedagogy in which students and teachers have a different connection has been around for a longer time. Freire’s book “Pedagogy of the Oppressed” came out in 1968. He believed in the transformative power of dialogue. He emphasized the importance of mutual respect, open communication, and shared learning between educators and students. According to him, through open dialogue, individuals can critically examine their reality, challenge oppressive systems, and work towards liberation (Freire, 2014).

### **Theater of the Oppressed**

An example of a pedagogical technique that goes beyond the conventional passive learning paradigm and makes use of an open dialogue, is the “Theater of the Oppressed”. The



theater of the oppressed is a concept developed by Augusto Boal in the seventies. This set of drama techniques aims to shine light on oppression and systemic exploitation that happen within common situations (Coudray, 2017). Moreover, in this process the audience members can interrupt a performance and recommend alternate actions for the actors, who will then carry out the audience's choices. The audience members are then invited to present their concepts live on stage, where they learn that their participation empowers them to not only envision change but also to put it into practice and spark social action (Schaedler, 2010). Combining critical pedagogy with interactive performance practice is one way to move from theory to practice. This combination creates a learning community that empowers individuals, which generates critical understanding, and which encourages transformation (Howard, 2007). Again this conforms with Freire's theory, which promotes the concept of praxis, and combines theory and action. Freire believed that education should not be limited to theoretical knowledge but should also inspire learners to take action and engage in transformative practices that address social inequalities and promote social change (Freire, 2014).

An example of an institution that has used the theater of the oppressed is The Community Environmental Forum Theatre at UTMB-NIEHS Center in Environmental Toxicology of Houston, Texas. They employed Augusto Boal's Theatre of the Oppressed as a means to engage citizens, scientists, and health professionals in understanding and addressing the impact of toxic exposures, risk factors, and cumulative stressors on community well-being. Through the theater of the oppressed approach, the forum aimed to empower communities by sharing information, building support networks, and collectively addressing environmental challenges. The use of the theater of the oppressed also facilitated personal transformation and growth by employing a

dramaturgical system that encourages spontaneity through image-making and improvisation (Sullivan et al., 2008).

### **Intergenerational Dialogue**

Another example of a constructivist pedagogical technique is the intergenerational dialogue. The intergenerational dialogue creates a shared platform where people from different generations can express and exchange their ideals and ideas to create new shared knowledge. The objective is to better understand one another. A community dialogue like an intergenerational dialogue can be facilitated by anyone with a superior role (Mwaikamdo, n.d.). Intergenerational dialogues have been proven to be effective in different settings. Firstly, intergenerational dialogues have been used as a tool for learning in African and African American communities for many years (Generett & Welch, 2017). Secondly, recent research on children's participatory rights in Peru shows the necessity of fostering intergenerational dialogue and paying attention to adult-child connections (Taft, 2015). Thirdly, in the setting of public schools, intergenerational dialogues have been proven to be effective for reducing prejudice among youth (Fletcher, 2007). Moreover, it is argued by Hayes et al. (2022) that establishing continuous and empathetic dialogues among different generations is crucial for effectively tackling future challenges. By doing so, communities can be strengthened through collaboration and cultural responsiveness, leading to resilient societies that are capable of adapting to and minimizing the effects of change (Hayes, 2022). Overall, it can be stated that intergenerational dialogues foster learning, inclusion, prejudice reduction, collaboration, cultural responsiveness, and societal resilience, ultimately contributing to positive social change.

## **Methodology**

In order to work towards the aim of the research and answer the research question, a qualitative approach was used. This involved the conduction of a focus group with students of the bachelor program Global Responsibility and Leadership (University of Groningen). All students followed a course in planetary health at the same time (February to April 2023) and were asked to participate in a focus group when the course ended. The transcript of the focus group has been analyzed thematically afterwards. The researcher has chosen a qualitative approach for this research because it is about personal experiences and perceptions of students, thus the conduction of interviews was the most suitable method for getting the desired results.

### **Participants - Bsc Global Responsibility and Leadership**

As stated above, this research focuses on students from the bachelor program Global Responsibility & Leadership (GRL), that have followed the Planetary Health course. The GRL bachelor program is an interdisciplinary and international oriented bachelor of the University of Groningen. The curriculum of the bachelor focuses on the sustainable development goals (SDG's) of the United Nations and follows a liberal arts and sciences approach. The motto of the study is “global challenges, local solutions.” (*University College Fryslân: Global Responsibility & Leadership*, 2023; Dambre et al., 2022). The curriculum provides an extensive and in-depth academic education with a strong emphasis on social responsibility and (personal) leadership (Dambre et al., 2022). The three-year undergraduate degree is divided into a set of mandatory introductory courses in a multitude of different fields of study (traditionally referred to as disciplines) and a substantial skill-based training in the first year, which together make up the shared academic core, also called the foundation year (Dambre et al., 2022). Students take elective courses in their second and third years among the three main majors: Responsible

Planet, Responsible Government, and Responsible Humanity. Basic learning is the center of the teaching and learning environment, which includes small courses with a maximum of 25 students and a teacher that stimulates conversation and critical thinking (Dambre et al., 2022).

### **Planetary Health Course**

Planetary Health is one of many electives that students can choose to add to their personal curriculum. The course was run for the first time in November 2021, lasting until January 2022. The course was run for the second time from February 2023 until April 2023. Second and third years from any track and with any major can enroll in this nine-week course. The course was created using a design philosophy that promotes transdisciplinarity. It concentrates on how problems are connected to one another and how this leads to complex systems that can be studied in all of their complexity. Six main abstract concepts formed the structure of the course: equilibrium, scarcity, common good, tipping point, belonging and risk. These concepts served as a starting point for interdisciplinary reflection by students on planetary health (Dambre et al. 2022).

### **Two Pedagogical Techniques**

During the course two pedagogical techniques took place in the form of two activities. These were the theater of the oppressed and the intergenerational dialogue. In the theater of the oppressed the students were asked to participate in an interactive theater play where the situation of fracking in Groningen was played out. Students represented the different stakeholders of the fracking scenario in groups, for example the government or nature, which also played a role. One person of each group was asked to come forward to give a demonstration of how they perceived the position stakeholder, while the other members of the group stayed back as an audience. In the end there were two scenarios that were acted out as part of the assignment: what is the current

situation in the power relations between these stakeholders, and what is the ideal situation; what responsibilities and power should each stakeholder ideally have.

The other pedagogical activity was the intergenerational dialogue. For this activity the university students came into contact with high school students that lectured them on climate change. This group of high school students came to the class with a letter that they had prepared in which they said why they thought the students should take more responsibility to make a change and work towards a sustainable future. After this the two 'generations' exchanged their feelings and ideas in light of this letter.

### **Focus Group Discussion**

For acquiring the right information to answer the research question of this research, a focus group was conducted. There are three main reasons why a focus group was chosen as the right approach, instead of singular interviews with the students of the class. Firstly, focus groups are ideal for stimulating deep conversation and participants are probed to identify and explain their views with their peers (Hennink, 2014). Secondly, a focus group was simply a convenient way to reach all students at the same time during their class time. And thirdly, focus groups are useful for evaluating a service or a program, such as the effect of the reflective activities, and to understand group processes (Hennink, 2014).

As mentioned earlier, the focus group took place at the end of the course. Students could attend the focus group voluntarily (if they did not want to attend they could go to another classroom with the lecturer of the course for another reflection session). Students were asked to share their feelings and experiences that they had during and after the two reflective activities that had taken place. The session lasted for 1 hour and 45 minutes, and had a break of 15 minutes halfway. The focus group was led by a moderator who also happened to be the researcher behind

this project. The moderator was a fellow student which meant that it was relatively easy for the participants to communicate in a way that is natural to them. The moderator did not follow the course this year and/or participate in the reflective activities. With no prior knowledge of the opinions and feelings of the students regarding the topic of the focus group, the moderator had a neutral look upon the discussion.

There were two main themes within the focus group, which were the pedagogical activities of the course: the theater of the oppressed and the intergenerational dialogue. The focus group was semi-structured, which meant that the moderator did have some questions that needed to be answered, but that there was also a lot of space for personal reflection and questions that the participant might have had themselves. The initial question route that the moderator followed can be found in table 1. Any new topics that came up have been analyzed and considered accordingly. The focus group was audio recorded by phone, using an app called Voice Memos on Iphone. Permission from the participants was asked before making the recording.

**Table 1**

*The Initial Question Route for the Focus Group Discussion*

<b>Time</b>	<b>Type of Question</b>	<b>Questions by moderator</b>
5 min	Opening Question	1. What is your name, in which year are you, and what major are you following?
7 min	Introduction	2. What were your expectations before taking the planetary health course? Did you have an idea of what teaching style was being used?

7 min	Transition	<p>3. <i>(Moderator gives a brief summary of the two pedagogical techniques used in the course)</i></p> <p>Have you ever done something similar to these techniques?</p>
10 min	Key  <i>(theater of the oppressed)</i>	4. How did you feel before, during, and after the process of the theater of the oppressed?
10 min		5. Were there things that you found frustrating or upsetting during this technique and what effect did it have on your emotions/feelings?
10 min		6. What are your main takeaways? What did you find most important/insightful?
10 min	<i>(intergenerational dialogue)</i>	7. How did you feel before, during and after the process of the intergenerational dialogue?
10 min		8. Were there things that you found frustrating or upsetting during this technique and what effect did it have on your emotions/feelings?
10 min		9. What are your main takeaways? What did you find most important/insightful?

10 min	<i>(for both techniques)</i>	10. Do you feel like you look differently at the same topic now then you did before?
7 min	Ending	11. Do you think you changed your attitude towards the topics now?
7 min		12. <i>(Moderator provides a short summary)</i>  Is there anything that I missed? Do you want to discuss something else?

### **Ethical Considerations**

Every participant of the focus group had read and understood a participant information sheet that was provided to them some days before the focus group took place. This document can be found in appendix A. In addition to that every participant had signed an informed consent form where they consented to participating in the research and to having their results used for this research in a confidential and anonymous manner. This form can be found in appendix B. Due to the possible sensitivity of the topic, the ethics committee requested a plan or guideline in case participants started to show signs of emotional distress. This document can be found in appendix C. After providing the ethics committee with sufficient information about the purposes of this research, and after providing them the documents mentioned above, ethical approval for the focus group had been given by the ethics committee of the faculty.

### **Thematic Analysis**

After the focus group was transcribed, the researcher performed a thematic analysis. This means that different themes have been identified and coded for further analysis. In order to do so,



Braun & Clarke's 6 step framework for thematic analysis has been followed (Braun & Clarke, 2006; Maguire & Delahunt, 2017). The thematic analysis was theoretical, because there was a specific research question that needed to be answered. This also meant that the text was coded according to the information that the researcher deemed important, and thus not every piece of text was coded. After the coding, micro themes and macro themes were identified, which were all reviewed and analyzed by the researcher.

## **Results**

With almost the entire class present on the day of the focus group, the interview lasted a total of 80 minutes, excluding the 15 minute break that took place halfway. The focus group was semi structured, which meant that the question route that was prepared in advance was not always followed. The majority of the questions of the question route were answered but adjusted to the conversation and the topics that the students wanted to discuss.

The focus group started with discussing the pedagogical activity of the theater of the oppressed and after a small break of 15 minutes, the pedagogical activity of the intergenerational dialogue was discussed. During the discussion the following recurring themes were identified for the Theater of the Oppressed: Discomfort because of exercise structure, Discomfort because of power relations, Frustration, Disempowerment, Positive Impact, Feeling Lost After The Discussion, and Time issue. For the Intergenerational Dialogue the themes Confrontational, Positive Opinion, Emotional, Eco-Anxiety, Role Adaptation, Hopeless, and Depressed were identified. For each pedagogical activity, each macro theme that was identified will be elaborated upon below with the results that were found, including a quote that fits to the macro theme. After this a table will be demonstrated giving an overview of the results. A complete overview of the results in the form of a master table can be found in the appendices D and E.

## **Theatre of the Oppressed**

### ***Discomfort because of exercise structure***

In total, six participants felt discomfort because of the exercise structure. Two participants mentioned it was uncomfortable because the activity was something new that they had not experienced before and that the unfamiliarity made them uncomfortable, never having done something similar like this in university. Additionally, one of these participants mentioned feeling skeptical of the exercise at first. Three participants expressed that they felt uncomfortable with acting in class. Another participant said that stating their opinion within this new class structure felt uncomfortable at first but that this got easier later during the exercise.

*“Because then when it’s about activity, I felt that in the beginning, I didn’t feel too comfortable with the whole acting. But in the end, you really felt more confident to voice your opinion.”*

### ***Discomfort because of power relations***

Thirteen participants expressed that they felt some form of discomfort. Moreover, the power relations that were portrayed in the exercise were experienced as uncomfortable by five participants. Of these five participants, two participants said they felt uncomfortable because of the fact that at some point nature was excluded from the power relationships that were presented in the activity of the theater of the oppressed. Three participants stated that they liked the fact that the exercise represented the real case scenario. One participant said that it was confrontational, but in a nice and informative way. One other participant mentioned that the confrontation with the power relations provided them with a feeling of agency. Additionally, one participant stated that they appreciated the take home message to the exercise which meant something different to everyone.

*“It gave some kind of conscious feeling of what these power dynamics look like. And that wasn’t a nice feeling.”*

### ***Frustration***

Two participants expressed that they felt frustrated during the exercise. One of these participants mentioned that they got frustrated because of, similar to earlier findings, the fact that nature did not have a voice, even though they would have liked to see nature have a voice. The other participant explained that they felt frustrated because everyone was struggling to come to an agreement and the fact that there were so many things to consider.

*“We were struggling so much to actually agree and make sense of what that would be. That was again like a bit confronting and also felt a bit frustrating.”*

### ***Disempowerment***

Four participants showed signs of disempowerment. One of the participants stated that they felt disempowered because they felt like they, as an individual, have no control over the situation. Another participant expressed they felt that everyone was on such different levels during the discussion that it felt disempowering. It was also mentioned by one participant that they felt it was difficult to rearrange the power relations and that this made them feel demotivated. Moreover, one participant mentioned they felt a bit desperate because creating an ideal scenario felt impossible to them, but that this also did not affect them on a long term basis.

*“It was a topic that we as individuals do not necessarily have power or control over, there is nothing you can do about it.”*

### ***Positive Impact***

Two of the participants expressed that the exercise had a positive impact on them. One of these participants expressed that they felt more confident in establishing a voice for the earth,

and how to talk to others and make this voice stronger. The other participant stated that it felt like a boost, to have this discussion in the class and to take the time to think about the issue.

*“So that really impacted me positively in the way that I’m thinking more about (...) how to establish a voice for the earth, at least for me individually, but also how to talk to other people to make the voice of the earth even larger”.*

### ***Feeling Lost after the Discussion***

Five participants mentioned that they felt lost after the discussion. One of these participants said that they did not really know what to do afterwards. And the other participant said they kept thinking about the message but did not really know what to do with this message. Three participants stated that they would have liked to have a debriefing session after the activity. One participant said that they felt like they did not know how to turn the message into an action and another participant said that they would have liked to have more information on how to break down power dynamics. Lastly, one participant mentioned that they would have liked to have learned about a project or something of the sort to encourage them to act.

*“I kinda was left afterwards with this project or whatever, without really knowing what to do afterwards with it. I feel like I don’t know how to redirect now, how to get things done, how to translate it into, I don’t know, how to translate it into what?”*

### ***Time Issue***

Three participants mentioned the issue of time. One felt like they would have needed more time for discussion during the activity. Two participants felt like the whole activity was short on time as well, as there was not enough time for everyone to express their opinions and to have a proper discussion.

*“I think, to a certain extent, some people didn’t get to say what they wanted because I remember that at the end, we kind of were under time pressure and a bunch of hands were up and everybody wanted to say something eventually because everybody came up more and more with an opinion.”*

**Table 2**

*Overview Themes Theater of the Oppressed*

<b>Macro Theme</b>	<b>Quote</b>
Discomfort	The whole acting felt uncomfortable
	Being conscious of the power relations felt uncomfortable
	Uncomfortable in the sense of confrontational
Positive Discomfort	Uncomfortable but not in a bad sense, confrontational
Frustrated	Nature does not have a voice
Disempowered	There is nothing you can do about it
	Difficult to rearrange power structures
Positive Impact	Establishing a voice for the earth
	Discussion gives boost
Feeling Lost	I don’t know how to redirect

after the Discussion	Wanting more information on the topic
	No change in attitude
Time Issue	Not enough time to discuss

### **Intergenerational Dialogue**

#### ***Motivational***

Fourteen participants expressed feelings of motivation during discussion. Two participants mentioned that they felt a form of pressure from the children that made them want to improve themselves. Overall, the participants expressed that they felt some sense of motivation from the fact that a younger generation spoke to them, and that this gave them some sort of a reminder that there are other people to look out for, other people that are looking up to them and that are in need of care as well. Two participants felt more empowered to make a change after seeing the children stepping up to make a change. One participant also mentioned that they got some sense of direction, and that they know their place in society better now. Two other participants felt they could relate to the younger generation and therefore wanted to help them.

*“I feel like... it’s okay for me to give up on my generation, but it’s not okay for me to give up on her. So it was kind of like a reminder, like, for them, we have to kind of keep going.”*

#### ***Confrontational***

Seven participants experienced the reflective activity as confrontational. Four participants felt like the children were attacking them directly (in a verbal way), with implicating that they

were not working hard enough towards a sustainable future. One participant mentioned that it was the first time they experienced someone younger coming up to them and addressing them with the fact that they are responsible for their future. Similar to this, another participant expressed that they felt their perspective had shifted to the realization that they are no longer part of the bottom generation, but are now in fact part of a middle generation in between many others. Lastly, one participant mentioned that it was the first time they realized how much value there is in children's voices and how much they respected hearing from them.

*"I felt very uncomfortable with hearing what they had to say because I know all the things they said. And it almost felt like they thought that we were not working hard enough on this and, or that we did not care enough."*

### ***Positive Opinion***

Five participants had an overall positive opinion about the activity. One participant said that they felt excited when they walked through the door on the day of the activity. In contrast, another participant said they felt strong feelings of aversion when walking through the door, but that in the end they still enjoyed the activity. Moreover, one participant said that they felt that they could relate to the children and their feelings. Another participant said that they experienced a positive form of pressure. Lastly, one participant expressed it felt very natural to them to have a younger generation speak up to them.

*"For me, it was especially that I felt some kind of pressure. But a positive kind of pressure. It was like a heavy weight on my shoulders, but like a weight that I wanted to carry."*

### ***Emotional***

Five participants expressed that they felt emotional because of the activity. Three participants said they felt sad because of the fact that the children needed to be there and the

reality of the issue, and the fact that they could relate to their feelings so well. On the other hand, there were three participants that also stated they felt proud and inspired because of the courage of the children.

*“I felt really motivated to do something and I think outside that, it also did something to me emotionally that I haven’t experienced before.”*

### ***Eco-Anxiety***

Seven participants experienced feelings of eco-anxiety. For two participants this manifested in feelings of hopelessness and demotivation. While for five participants it was actually insightful and inspiring. They felt angry, anxious, frustrated, and overwhelmed in the beginning of the activity, but could direct these emotions towards motivation during the end of the activity. Moreover, two participants mentioned that they felt angry with the lecturer for putting them through this emotional process; one suggested a trigger warning would have been nice.

*“If I get this feeling and it makes me overwhelmed by people telling me these things then maybe I can have that same effect on older generations and to other people as well. So in a way during that class my eco-anxiety went through the roof and I was so overwhelmed with everything. But then afterwards, it got me thinking; if they can reach me on that level, then I might also be able to reach other people to that level.”*

### ***Role Adaptation***

Six participants felt like there was a changing of roles from their side. Three participants said that they experienced paternalistic feelings, wanting to protect the children, and act as a mediator between the younger generation and the older ones. Two participants felt like they took on a role that is similar to the role of a politician, which was not perceived as something positive.



Lastly, one participant expressed that they felt like they were lying to the children, trying to take their worries away while it might be better to let them feel those worries.

*“Like, at some point, I felt that as a class, we were sounding a lot like politicians talking to them.”*

### ***Hopeless***

Four participants expressed feelings of hopelessness. All of these participants agreed that it would have been good to provide the children with hope in the form of opportunities and possibilities. They felt like the conversation focused too much on doom instead of positive ideas and projects. Moreover, one participant said they felt clueless after the activity. They did not know how to redirect afterwards and felt stuck.

*“I felt a bit in a wrong place with that. And I would love to have a different conversation with them. Because they felt hopeless. I think we should be the ones inspiring them, sort of having the sad and angry conversation from their side.”*

**Table 3**

*Overview Themes Intergenerational Dialogue*

<b>Macro Theme</b>	<b>Quote</b>
Motivational	Keep going for younger generation
	Inspiration from children
	Empowered to take action as well
	Gaining direction
Confrontational	Feeling attacked

	Responsibility
	Gaining perspective
Positive opinion	Excited when walking through the door
	Relatable
	Positive pressure
Emotional	Relatable in a painful way
	Emotional exercise
	Motivated
Eco-Anxiety	Frustration, sadness, anxious
	Trigger Warning
	Insightful
	Demotivating
Role Adaptation	Paternalistic feelings
	Sounding like politicians
Hopeless	Too hopeless, provide hope and opportunities
	Feeling lost after the discussion

## Discussion

This research aimed to find out the perceived effects of two pedagogical techniques used in teaching planetary health among university students. The main focus for this was on eco-emotions and feelings of disempowerment or empowerment as a result of these eco-emotions. In order to answer this research question a qualitative research approach was used and a focus group was conducted with a planetary health class of the bachelor program Global Responsibility and Leadership of the University of Groningen. The results of this focus group give the opportunity for an interesting analysis that may be useful for future research and recommendations.

In the pedagogical activity of the theater of the oppressed it appeared that students felt quite uncomfortable. Regardless of whether students felt uncomfortable because of the new class setting, or the acting exercise that they had to do, it seemed that the students felt mostly uncomfortable because of the power relations that they were exposed to during the activity. The students had to act out the power relations that represented the real case scenario of fracking in Groningen. These power relations that slowly became more and more clear during the exercise were perceived as confrontational for many. For example, some students mentioned they strongly disliked the fact that nature was excluded from the power relations of the exercise. However, another participant mentioned that this is fair, because “nature does not have a voice”. Overall, this confrontational aspect of the exercise, where different parties had power over other parties during the acting, was experienced as demotivating for most, and positive for some that seemed to like that confrontational factor.

At the end it became clear that the activity had different effects on the participants. For just two of the participants the activity had a positive impact, where they felt like they knew

better how to establish a voice for the earth now. In contrast to this, four participants mentioned they felt disempowered during and after the activity. Again they mentioned the power relations that they were exposed to in the exercise and that it felt hopeless and difficult to rearrange these power structures in the real world. Moreover, two participants mentioned that they felt lost after the activity, as they did not know what to do afterwards with the new knowledge – and perhaps the new emotions as well – and how to redirect. Comparable to this is that three students expressed that they would have liked to have a debriefing session so they would have the opportunity to reflect on the activity and the possible solutions to the problem that was posed during the activity, perhaps to put a stop to their feelings of hopelessness.

It is interesting to note how the power relations affected the students. It appeared they felt uncomfortable and demotivating as they are perceived to be difficult to change for students. For some the whole exercise even led to feelings of indifference. This is in line with the research by Stanley, Hogg, Leviston, and Walker (2020), their research concluded that those who are feeling eco-depressed – in this case because of the power relations in society – are more likely to refrain from taking climate action. Perhaps, the demonstration of the power relations in the activity was a perfect example of how the capitalist model works. Naturally, the capitalist system that we live in today does not provide good mental health conditions for most humans; living in a capitalist system which is focussed on profit means oppression, exploitation, and inequality will keep on existing. This prevents humans from living to their fullest and impacts the mental well-being of society. In essence this counts for all, but especially for those who are most oppressed by the system (Matthews, 2019). All in all, for the class to see the capitalist system with its power relations up close, was first hand depressing.

However the hopelessness of the theater of the oppressed, the intergenerational dialogue seemed to have a completely different effect on the students. The students felt confronted this time as well, but in this case not with the power structures, but by the voices of the younger generation. Some participants felt verbally attacked by the children who claimed they were not working hard enough towards a sustainable future, while others felt feelings of responsibility for even providing them with a future. Overall, it appeared that there was a feeling of gaining perspective and many participants felt motivated to make a change. This expressed itself in different ways. The main underlying thoughts behind the feelings of motivation were inspiration for speaking up, wanting to make the world a better place for the younger generation, feelings of empowerment, and gaining a sense of direction.

Even though the activity was experienced as a positive experience by many, there were also many participants that experienced negative (eco-) emotions during and after the activity. Participants expressed feeling emotional and sad due to the sensitivity of the topic. It was very evident that a lot of participants experienced eco-anxiety, or maybe even all of them experienced this, but in different ways. It appeared that these feelings of eco-anxiety manifested themselves in feelings of frustration and hopelessness for some participants. However, there were also participants that translated these feelings into motivation to make a change, and empowerment for the feeling of actually doing so. One reason for this may be the notable result that some participants experienced feelings of responsibility due to the paternalistic wish to take care of these children.

An explanation for why the students felt motivated or even empowered instead of disempowered for the pedagogical activity of the intergenerational dialogue can be found in the literature review. According to multiple research studies, higher levels of eco-emotions, for

example the participants feeling emotional when they were confronted by the children, are linked to increased climate action and positive, pro-environmental behaviors (Helm et al., 2018; Verplanken et al., 2020; Whitmarsch et al., 2022; Marks et al., 2023). It is evident that eco-empathy also played a role in the students' emotional wellbeing. Eco-empathy is a reaction to becoming aware of the suffering brought on by the ecological and climate emergency that affects other people (Gilbert, 2015). Students could empathize with the children and relate to their feelings, and in addition to this, they felt eco-compassion. Feeling eco-compassionate means having a desire to lessen suffering through pro-social care and action (Singer & Klimecki, 2014). This explains really well why students felt motivated to make a change after the pedagogical activity.

When comparing the impact of the two activities there is a clear difference between the two. Where the students felt demotivated and hopeless after the theater of the oppressed, the students felt motivated and empowered after the intergenerational dialogue. In one activity there was a confrontation between students and power relations, and in the other there was a confrontation between students and children. Perhaps it was the realization in the theater of the oppressed that it is almost impossible for an individual to make a change in the capitalist system that we live in today that resulted in this sense of powerlessness. An interesting yet depressing conceptualization that shifted completely during the pedagogical activity of the intergenerational dialogue. Because with this activity, there was a realization that the students themselves do actually have a voice in the ongoing climate crisis. In fact, there is a responsibility and a will to take care of the younger generation. It was in a sense a “wake up call” as was clearly mentioned by multiple participants. One may wonder if the hopelessness that was experienced after the theater of the oppressed was an additional trigger to the feelings of hope and the willingness to

make a change that were experienced for the intergenerational dialogue. Needless to say, the intergenerational dialogue was a welcome activity to the students' course curriculum.

There are studies that can be compared to the present research. For example Dambre et al. (2022) researched the planetary health course at the same university as the present study. As the course was then still in its start-up phase, running for the first time, the research focused specifically on evaluating the transdisciplinary approach that was used in the teaching of the course, and how the students perceived the effectiveness of this pedagogical teaching technique. It was found that the transdisciplinary and transcultural teaching was valued by the students and especially the horizontal peer-to-peer learning opportunities were appreciated (Dambre, 2022). These findings are strongly in line with the present research where the students where the participants found the pedagogical activities to be learnful and bearers of new perspectives as well. In another study by Marks et al. (2023) a pilot project was conducted to investigate how a workshop, collaboratively developed with students aged 16 to 18, could create a community-centered environment to address their eco-emotions, lighten feelings of isolation, and create a sense of practical optimism. The workshop involved group activities aimed at comprehending the climate crisis, expressing emotions associated with it, and envisioning hopeful ideas for the future. Feedback from the participants revealed that the workshop provided a valuable space for emotional expression, in which participants could effectively articulate their feelings and aspirations. All in all, the findings suggest that similar initiatives conducted in schools can effectively engage young individuals with the climate crisis while promoting their well-being, thereby encouraging further attempts to make a change in this field (Marks et al., 2023). The workshop of this study can be compared to the pedagogical activities of the present study that also provided space for emotional expression and that similarly to the intergenerational

dialogue, resulted in feelings of encouragement to make a change. All in all, it appears that open conversation is key for an active and positive learning environment.

### ***Limitations***

Naturally, there are limitations to the present study as well. Firstly, more research is needed on eco-emotions to provide a fuller background and understanding of the effects of the eco-emotions that are evidently present for the participants of the research. Secondly, in order to provide a more complete thematic analysis it would have been beneficial if more people would have participated in performing the thematic analysis. This would reduce bias and provide a more comprehensive analysis that may have led to slightly different results. Lastly, it is important to keep in mind the positionality of the researcher as well, who is a fellow student and peer to the participant which may have led to an unconscious bias. However, this could also have been an advantage, as the researcher may understand the participants in ways that an outsider of the university might not have.

### **Conclusion**

The climate crisis is a prominent and urgent issue in today's world. It begs for people to become more aware of the issue, but also to not get paralyzed with eco-anxiety because of awareness. In this research paper two pedagogical activities that were used in a planetary health class were investigated. The research aimed at finding out the perceived effects of the activities for the students, focussing especially on their eco-emotions and whether these emotions resulted in feelings of empowerment or disempowerment regarding the climate change battle. The following research question was posed for this: *'What are the perceived effects of the pedagogical techniques the 'theater of the oppressed' and the 'intergenerational dialogue' on eco-emotions and feelings of empowerment among students following a planetary health*



*course?'*. The research showed that the main effects of the theater of the oppressed were feelings of hopelessness and disempowerment because of power relations. In other words, students felt eco-depressed. The main effects of the intergenerational dialogue, on the other hand, were feelings of hope, motivation, and empowerment because of the feelings of responsibility and the wish to create a liveable future for the children that were worrying about not having one because of the climate crisis. Overall, it appeared that the students experienced eco-anxiety during both activities which was perceived as negative for the activity of the theater of the oppressed, and as positive for the activity of the intergenerational dialogue. This study highlights the importance of appropriate pedagogical techniques for education to work towards a sustainable future. It remains to be seen however how this positive feeling of wanting to act can be maintained without giving into the hopelessness of the climate crisis. Perhaps this research can be used as a stepping stone for future research that investigates how to keep students actively engaged with a positive look on the future and a willingness to make a change. All in all, educational systems are the ones that can be the starting point for a systemic change.

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## Appendix A

Evaluating the perceived effects of certain pedagogical techniques used in teaching planetary health for students

BSc Global Responsibility and Leadership

Roos van der Veek

Information sheet for participants

In the Planetary Health course two pedagogical techniques were presented to you during reflective activities and incorporated into the curriculum. These were the Intergenerational Dialogue and the Theater of the Oppressed. The aim of this research, and this Capstone Project, is to evaluate how these techniques were perceived by the students and to understand what impact they might have had. The research will be structured in the following phases:

- A focus group will be conducted in one of the sessions of the last week of the course. In this session a series of questions will be asked and students will be invited to share their reflections and discuss their opinions with each other.
- The session will be audio recorded and transcribed by the researcher, after which this recording will be deleted. A thematic analysis will be conducted and a report will be written. Participants will remain anonymous at all times.

The report will be the Capstone Thesis of the researcher, and will be altered to a scientific research paper after this, which will be shared with the wider scientific community through peer-reviewed publications. Due to the sensitive nature of the topics that will be discussed during the Focus Group Discussion, I want to stress that if you feel uncomfortable or distressed during this activity, you are allowed to leave the discussion at any time. I do not want students to feel

obligated to share anything that they are not comfortable with, and I am aiming for a relaxed atmosphere during the discussion.

In case you do experience mental health issues after the Focus Group, these are some of the helplines you can reach out to:

- Maaïke Moltzer, study advisor of Campus Fryslân (m.moltzer@rug.nl)
- Student Service Centre (SSC), to get in touch with one of the psychologists of the University of Groningen (ssc-info@rug.nl)
- MIND Korrelatie, a telephone helpline in case you may want to talk to someone about your feelings (0900 - 1450)



## Appendix B

Informed consent form

Evaluating the impacts for students of certain pedagogical techniques used in teaching planetary health

Roos van der Veen

Name

---

- I wish to participate in this Study

### Assessment

- I have read the information sheet and I understand I may ask questions about the study at any time
- I understand I have right to withdraw from the study at any time without giving a reason and to decline to answer any particular question
- I understand there are no benefits in participating and no consequences for not participating into this research

### Confidentiality and Data Use

- I understand that it will not be possible to anonymise the information collected by the researchers

- I understand that the information provided will be used only for this research and publications directly related to this research project
- I understand that a final version of the manuscript will be shown to me, and I will need to approve its content, before submission

Further involvement in the research process

- I wish to receive copy of the scientific output of the project

Signature:

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## Appendix C

*This document can be used as a guiding tool for when a student participating in the Focus Group Discussion on Monday April 3th shows signs of emotional distress and/or anxiety.*

First and foremost, it is important to remember that participation in this research is completely voluntary and participants can refrain from participating at any given time. However, when a student does get emotional or mentally disturbed because of any reason and chooses to share this with the group or shows signs of stress and anxiety, it is important that they are looked after. In this case the moderator will stop the discussion for as long as necessary and ask if the student feels comfortable sharing their feelings with the group or wishes to leave the discussion. In case the student wants to share why they feel emotional, they will be given the attention that they need. The researcher trusts other students and herself to provide comfort when this happens. Another option would be that the student leaves momentarily to take a moment and comes back after. It is obvious that the discussion is important for academic purposes, but the researcher wishes for a relaxed atmosphere and a safe space where students can express their true feelings and thoughts. In case someone is in such a state that the researcher feels like they are in need of professional help, she will contact Valentina Gallo, the teacher of the class. Valentina will not be present during the Focus Group, but she will be present in the building.

Roos van der Veek

30-03-2023

## Appendix D

Table 4

*Master Table Results Theater of the Oppressed*

Macro Theme	Micro Theme	Code		Quote
New		<b>Skeptical</b>		I think for me, the comfort also came with time, so in the beginning, I was really skeptical about the whole activity. I was like ok, we're going to act in this class. And then I stayed a little bit back, but in the end, I also decided to join in on the acting situation. So it just kind of had to get used to it in a way
		<b>New</b>		I think I was also feeling a little bit uncomfortable, just because it was something new in a way. Because like, I had, like 15 years by now school or uni. And we never did something like this.
Acting		<b>Acting</b>		Yeah, I think in general, I was quite uncomfortable with the whole situation. I'm not a fan of acting at all. So like, I think it's nice to see other people do it. But then if I have to do something in front of them, I'm just not comfortable with it at all.

		<b>Acting</b>		I would say that like, not related to the topic, I in the beginning felt a bit uncomfortable for having to do something that was not really acting, but the way we had to act it out.
		<b>Acting</b>		Yeah, I think in general, I was quite uncomfortable with the whole situation. I'm not a fan of acting at all. So like, I think it's nice to see other people do it. But then if I have to do something in front of them, I'm just not comfortable with it at all.
		<b>Uncomfortable</b>		Because then when it's about activity, I felt that in the beginning, I didn't feel too comfortable with the whole acting. But in the end, you really felt more confident to voice your opinion
	Power Relations	<b>The role of Nature</b>		..But like the notion that nature doesn't have a voice, I disagree on.
		<b>Nature</b>		Maybe something that I would like to add, to what .. said that we are also a part of nature. And i think it would have been super crucial to underline this within the TOO , that actually what we are representing is somehow contradictory and I think the realization that we are part of nature, but at the same time exclude nature in some points of the

				discussion, would have again changed the dynamic of looking at this topic and trying to act differently because we are part of it.
		<b>Consciousness</b>		So it gave me some kind of conscious feeling of how these power dynamics look like. And that wasn't a nice feeling.
		<b>Hierarchy</b>		I had to stand there and look really confident and somehow it made me feel uncomfortable, because It felt like I'm putting myself above others, especially above nature.
		<b>Hierarchy</b>		...but it did make you at some point like a bit desperate, because you just notice how certain situations or certain actors, you wanted to have more power did not necessarily have that due to the whole dynamic of everything working together....
		<b>Confrontation</b>		I just think that we need to differentiate discomfort because of the activity and the acting and discomfort because of the confrontational aspect as (...) put it. Because for me, it was more the latter, of being confronted with the situation and the reality.
		<b>Hierarchy</b>		Yeah, adding to that maybe as nature, as being stood over, I did feel like I could feel that sensation of being at the bottom and really being. It felt highly uncomfortable in that

				position, how everybody was looking down on me and everybody... because I was sitting on the ground.
Positive discomfort	Positive discomfort / confrontational	<b>Positive discomfort</b>		I also felt quite uncomfortable, but not in a bad sense. Like, I think there's quite some negative connotations with the word uncomfortable, but I feel like there was a lot of discomfort because of what, you know, that's what's actually going on. And it was like confrontational...
		<b>Agency</b>		But then afterwards, of course, like if you think about the real case scenario, nature is not really there by itself, in that sense. So I felt that had a good effect and generally I think that personally it also impacted me emotionally in the sense that I think it was nice to like, get a little bit of the agency to yourself..
		<b>Take home message</b>		So I like things in sense very much think that this was the take home message so yeah then maybe it's frustrating not to think about the take home message. But then you have the opportunity to think about it, like everyone thinks something else of it. Everyone can challenge their own brain to think about it and figure out the message for themselves. So actually I didn't mind that.

Frustrati on	Frustratio n	<b>Frustrating</b>		...we want to give nature a voice. But we knew that realistically speaking, it doesn't have one. So it was also frustrating.
		<b>Frustrating</b>		It's not like an issue close to my heart I would say, but then just noticing how towards the end with the ideal scenario we were struggling so much to actually agree and make sense of what that would be that was again like a bit confronting and also felt a bit frustrating so like, right, you know, it's it's not that easy or like there is a lot that you need to consider.
Disemp owered	Feeling disempo wered	<b>Disempower ed</b>		I felt a little disempowered actually, from that, because I felt like we were all on such different levels, kind of talking and discussing
	Feeling demotivat ed	<b>Demotivate d</b>		But yeah, I was also just feeling quite demotivated by how difficult it actually is to rearrange the common structures.
		<b>Disempower ed</b>		I think that the question is a bit difficult because it was a topic that we as individuals do not necessarily have power or control over. Like there is nothing you can do about it.
		<b>Indifference</b>		I think for me, it didn't have that much influence, like I said earlier, because like (...) said, it's not that close to my heart.



				<p>I think the one with the children was more impactful in that sense, because it's something I think about on a daily basis, a bit more than this power structure. But I did think it was like I felt a bit desperate by seeing how difficult it is to indeed to create the perfect scenario. But I wasn't like laying awake from it nights afterwards.</p>
Positive impact	Feelings of activism	<b>Speaking up</b>		<p>...So that really impacted me positively in the way that I'm thinking more about how to integrate or like, how to establish a voice for the earth, at least for me individually, but also how to talk to other people to make the voice of the earth even larger.</p>
	Positive affirmation	<b>Boost</b>		<p>No, like, through seeing the struggle in the classroom. It really felt like, yeah, no, you know, like, we are trying to think about things. And we are asking questions, and hard questions, and we are taking our time to think about them. And that was, giving me a bit of a boost, I guess, of like, trust. And what we're here for.</p>
Feeling		<b>Clueless</b> <b>Feeling lost</b>		<p>In connection to that, in a way I kinda was left afterwards with this project or whatever, without really knowing what</p>

lost after the discussi on				to do afterwards with it. Like I felt I don't know how to redirect now, how to get things done, how to translate it into, I don't know, how to translate into what?
		<b>Clueless</b>		I am still thinking about the message that we got. And I think the message is pretty much engraved in my brain now. Or at least what I saw as the message. And I also kinda lost what to do with that information now.
Debriefi ng session		<b>Debriefing session</b>		But because we didn't have a debriefing session it was more about some kind of message that stuck with me but not really an action that I wanted to do.
		<b>Debriefing session</b>		I think for it to make me want to really do something proper, like to induce some kind of change I would have liked to have some sort of debriefing session where I can actually learn about the power dynamics that we are trying to represent, by basically feeding us information on it. And maybe even how to break down these power dynamics...
		<b>Need for hope</b>		So the message did not shape my perspective differently. So I would have liked to have a positive hope or project that could encourage it.

indifference		<b>No learning</b>		I didn't find it very informative because we didn't read into the topic at all beforehand. So I didn't really feel like I learned something about how the structures are right now, or that someone already knew it. Yeah, you can know it a little bit if you read something about it. I didn't feel like I learned anything about how the structures are right now. So it did not really change anything for me.
		<b>No message</b>		And then you spend two hours intensively thinking about the topic and then after you can kinda forget about it. Because for me it was easy to, to yeah forget it, because there was no activism, and not necessarily a message to do anything with it.
Time issue		<b>Lack of time time</b>		And I also felt like we would have needed like two more hours to do the activity. So I actually felt more frustrated than happy.
		<b>Time pressure</b>		I think, to a certain extent, some people didn't get to say what they wanted because I remember that at the end, we kind of were under time pressure and a bunch of hands were up and everybody wanted to say something eventually

				because everybody came up more and more with an opinion.
		<b>Shallow time</b>		So if that maybe that part would have been stretched a bit more, I think we could have gotten into some very interesting discussions, because of course, there are as many people as there are at the ?? governance, but I think that would be worthy of discussion. So I was a bit frustrated, more at the end, actually. Because it felt a bit shallow.

## Appendix E

**Table 5**  
*Master Table Results Intergenerational Dialogue*

<b>Macro theme</b>	<b>Micro theme</b>	<b>Code</b>	<b>Quote</b>
Motivational		<b>Eye-opener</b>  <b>Motivational</b>	<p>..but you know what I mean that you could see that 11 and 12 year olds were really really aware was quite an eye-opener and therefore I also like the impact it made on me. Like it made me want to be better just because there is like children who.. Like its consuming their time, and their mental space and stuff.</p>
		<b>Positive feeling</b>  <b>Motivational</b>	<p>And this somehow... it used like this very positive feeling of pressure that I wanted to get rid of, while simultaneously embracing it. And yeah, I think it was interesting, how it would build up... but then it never felt negative. Because at least then I knew that I could potentially do something against it.</p>
		<b>Impact</b>	<p>I totally agree with what you mentioned. I think one of the girls of the intergenerational group, she said; we take so much but we give almost nothing back to nature, and I think that line really sticks with me.</p>

		<p><b>New</b></p> <p><b>Inspirational</b></p>	<p>For me the first time in a long time, I spoke to children in general, alone on this topic. So I think that's, I think, something good that I will take on. Now</p> <p>I also know about how another generation thinks about this. And I think I should always also voice and advocate for those kinds of opinions.</p>
		<p><b>Relatable</b></p>	<p>And also for me, we felt like they were also just talking to the problematic systems in general. And I actually felt like they were saying things for me, in a way. And like they were voicing the same problems and all the feelings I'm experiencing, towards this...</p>
	Motivati onal	<p><b>Proud</b></p> <p><b>Motivation</b></p>	<p>But I also felt very proud of them in a way, for, like taking the courage to talk to us, and to know all about this, and to actually take action. And I know, this was also part of the motivation that it gave to me, like we all have voices..</p>
		<p><b>Reminder</b></p>	<p>But, I feel like I'm... it's okay for me to give up on my generation, but it's not okay for me to give up on her. So it was kind of like a reminder, like, for them, we have to kind of keep going.</p>
		<p><b>Motivated</b></p> <p><b>Emotional</b></p>	<p>Yeah, also, after the session, I felt really motivated to do something and I think like outside that, it also did something emotionally to me that I haven't experienced before</p>
		<p><b>Allies</b></p> <p><b>Motivation</b></p>	<p>And I think we are even more approachable or reachable to them than other people are. So I think, yeah, we were just really important, like allies to</p>

			them, I felt to me like, and that's also what for me transformed into motivation.
		<b>Motivation</b>	I wouldn't necessarily say that it empowered me. But I do think that it gave me a certain kind of motivation, because I'm usually the one who takes quite the weird, doomed approach. And I feel like this whole situation just gave me a little bit of inspiration that I delivered motivation to think more positively about it, also for myself, but also clearly for others.
		<b>Inspirational</b>	Even though it brought up, of course, feelings of fear and stress, I still think it was a good thing because it made me look at my own actions, and it did make me feel inspired again to try to improve my own actions, and once I have power, maybe on a broader scale as well.
	Feeling empowered	<b>Inspirational</b> <b>Empowering</b>	if they can reach me on that level, then I might also be able to reach other people to that level and actually do something with that and maybe reach more people because I am studying this , and if I am able to reach a wider public with the same message as they did then maybe I can actually do something valuable and maybe in that way also it helped me on the long term to place myself into a more.. Okay this happened so now maybe I can do something with that in a way.
		<b>Empowering</b>	They are like the same as us. So for me, it felt like, we were actually, like, very close to them in a way. On a very equal level. And, yeah, also as it

			was mentioned, I think it was way, way more empowering than the theater of the oppressed. At least I felt very much empowered by that
	Gaining sense of direction	<b>Insight</b>	I know my place in society better now. Which I think, if you learn about your place in society, you know better what actions you can take. In that sense I think it has decreased my fearlessness in that sense.
Confrontational		<b>Attacked</b>	I felt like they were really targeting me
		<b>Attacked</b>	So I was online, but I still felt that I was still in the classroom for my idea. And I felt very uncomfortable with hearing what they had to say because, I know all the things they said. And it's almost felt like they thought that we were not working hard enough on this and, or that we did not care enough
		<b>Attacked</b>	I felt quite lost and depressed after the discussion. Especially in the beginning I felt very attacked because they were talking to us and saying like you are not doing enough. But I am still studying, there is not much I can do other than my own actions
		<b>Attacked</b>	Yeah in General like I feel the same as .. I felt quite lost and depressed after the discussion. Especially in the beginning I felt very attacked because they were talking to us and saying like you are not doing enough. But I am still studying, there is not much I can do other than my own actions. And I found it very confronting, and I did not really like it in that sense. But



			listening to this, this actually does give me hope, talking among us and hearing people say ‘oh I took it like this’, and maybe this component for me was missing from that conversation
	Confrontational	<b>Responsibility</b>	...it was the first time in my life that someone looked up at my generation, and said, okay, you're responsible for my future.
		<b>Voices</b>  <b>Inspirational</b>	It really also taught me the importance of children voices, or young voices. Because then I realized how much they usually don't have a voice, like younger children. And even if that sounds kind of not good... but it was the first time I think I also realized how much I respect the children voices, how much I think they should be more respected and validated.
	Changing perspectives	<b>Changed perspective</b>	..And that kind of changed my perspective of that I'm not the bottom generation, but I'm also in the middle of a lot of generations.”
Positive	Positive impression	<b>Excited</b>	I felt very excited and curious when I just like walked through like, oh, what's gonna happen? Like, this sounds really cool. Like, yeah, it was a good shift of roles. You know, the idea that you have younger people talking to you and actually giving the class in a sense.”

	Growing into it	<b>Mind changing</b>	Well, I wanted to run away. But then in the end, it was a very inspiring thing. It really changed my mind. Like, oh, shit, children, to then, oh, this was actually really great.
	Relatable	<b>Relatable</b>	...and I think we are in an age where we still feel we could be that age, ourselves. So we still remember very well being like, even younger. And we don't necessarily identify with adults yet, maybe.”
	Positive discomfort	<b>Positive pressure</b>	Yeah, for me, it was especially that I felt some kind of pressure. But a positive kind of pressure. It was like a heavy weight on my shoulders, but like a weight that I wanted to carry.
	Agreeing with the exercise	<b>Logical</b>	I think it is also fair for them to want to address us because out of our generation too, we are the ones motivated to actually make a change. So it felt logical to me that they were addressing us . So it was a very easy step to actually address it.
Emotional/sad	Sad	<b>Sad</b>	Because yeah, some people mentioned being proud of them, but I was just so sad about it, that they had to be here to tell us this, because we don't raise a child to have to do this. To come here, and to speak up about something, you know. These challenges shouldn't be there in first place.
		<b>Sadness</b>	I also had to cry because of what they said, I know how to, like... I felt like them as well at the age of 12.”

		<p><b>Sadness</b></p> <p><b>Proud</b></p>	<p>Of course, there was a lot of like, ? and, I think, sadness or like, a lot of emotions. But I also felt very proud of them in a way, for, like taking the courage to talk to us, and to know all about this, and to actually take action.</p>
	Emotional	<b>Emotional</b>	<p>But especially because they were like putting it so good into words, I really was super impressed by that. And I think, you know, nothing has left me quite as emotional in uni, at least as that session.</p>
		<p><b>Motivated</b></p> <p><b>Emotional</b></p>	<p>Yeah, also, after the session, I felt really motivated to do something and I think like outside that, it also did something emotionally to me that I haven't experienced before.</p>
Eco-anxiety	Demotivating	<b>Hopelessness</b>	<p>So on one hand, I maybe felt like I should try more. But on the other hand, I also felt a bit hopeless, and we have been trying, but it's not that easy.”</p>
	Eco-Anxiety	<b>Eco-anxiety</b>	<p>Also for me, and definitely in the beginning, I was speechless, and my eco-anxiety was rising a lot. But still at the same time I felt stronger. So it was sort of coexisting in a way.</p>
		<p><b>Inspirational</b></p> <p><b>Eco-anxiety</b></p>	<p>I think for me, at some point, it was like; hey but if I get this feeling and it made me overwhelmed by people telling me these things than maybe I can have that same effect on older generations and to other people as well. So in a way during that class my eco-anxiety went through the roof and I was so overwhelmed with everything. But then afterwards, it got me thinking; if they can reach me on that level, then I might also be able to reach other</p>

			people to that level and actually do something with that and maybe reach more people
		<b>Eco-anxiety</b>  <b>Stable</b>	And I think to answer your question directly; did this session increase or decrease my eco-anxiety? I think in the short term yes, because the way the conversation was held, if you put everything in one hour, then everything feel un overcomable. But like on the long term I think it makes me feel more stable. I know my place in society better now
		<b>Wake up call</b>  <b>Trigger</b>  <b>warning</b>	But it is also a nice wake up call, the way it was handled. Because for me, with Valentina taking care of this of course, we could have had a little warning that it was gonna be quite confronting. But then on the other hand it was also good because for me, and how confronting it was for me, it also made me realize that I was disappointed by some of the actions that I do, and I try to now...
		<b>Angry</b>  <b>Eco-anxiety</b>  <b>Demotivating</b>	but I also felt a bit angry during the session towards Valentina, that she put another kind of break to our eco-anxiety. That all these kids are now looking up to us and putting so much hope in us. And then I was thinking all the time how, or when, those little girls will have a burnout and realize how the world really looks like. So it was kinda demotivating.
		<b>Insightful</b>  <b>Angry</b>	Like everyone already said, I really felt like this session was really insightful, but I also felt a bit angry during the session towards Valentina, that she put another kind of break to our eco-anxiety.

Role adaptati on	Feelings of protectiv eness	<b>Protective</b>  <b>Motivation</b>	Yeah, I felt very protective the entire time. I just saw them and I was like, I want to protect them. And that kind of gave me new motivation.
		<b>Mediator</b>  <b>Older sibling feelings</b>	I think it would have been very different because I really felt like a mediator between these generations... between a generation with, like, power positions and between them. And I think my older sibling feelings got triggered.
		<b>Hope</b>  <b>Paternalistic feeling</b>  <b>Shift in focus</b>	I have never seen a group of people with so much hope as in that lesson. And I was wondering for myself, and I don't know if it was more like something of a paternalistic feeling because they're younger, or is it like... I mean we actually have hope for the future? But I yeah, that was interesting. I remember questioning for myself, like kind of like what's happening. I was puzzled by that, because I have never, or maybe that's what it took for us to kind of shift the focus from a rather pessimistic view to more of an optimistic one.
Role adaptatio n		<b>Politicians</b>	So just want to say that we sounded like politicians, but also at the same time it felt like something else.

	Self reflectio n	<b>Politicians</b>	Like, at some point, I felt that as a class, we were sounding a lot like politicians talking to them.”
	Lying	<b>Lying</b>	Because I was thinking, why are we even being so hurtful? Why are we trying to take their worries away? And of course, we might argue, yeah, they are children, they shouldn't worry about it. But at the same time, this worry is what drives them.
Hopeles s	Hope	<b>Hopelessness</b>	I would say, then, we want to provide them opportunities and possibilities, instead of hopelessness.”
		<b>Hopelessness</b>	So, I felt a bit in a wrong place with that. And I would love to have a different conversation with them. Because they felt hopeless. And yeah, I think we should be the ones inspiring them, sort of having the sad and angry conversation from their side. I don't know if others feel the same, because I heard often, from people that they felt inspired, and that they were like reminded to act differently. But I don't know, I get reminded everyday or every second when I think of this world.
		<b>Hope</b>	It would also be nice to try to give them some hope as well. Because we tried to give it to them in a class after they presented their letter. But we have so many positive ideas and positive outcomes from recent projects we've done, so to give them some hope and something to look forward to,

			to see projects rise up from us, that would maybe also give them some peace of mind
Depressed		<b>Depressed</b>  <b>Confronting</b>  <b>Hope</b>	Yeah in General like I feel the same as .. I felt quite lost and depressed after the discussion. Especially in the beginning I felt very attacked because they were talking to us and saying like you are not doing enough. But I am still studying, there is not much I can do other than my own actions. And I found it very confronting, and I did not really like it in that sense. But listening to this, this actually does give me hope, talking among us and hearing people say ‘oh I took it like this’, and maybe this component for me was missing from that conversation
Debriefing session	Closure	<b>Clueless</b>	So it's also that I struggle really with that feeling of: Okay, you know they motivated me to do something, but then the next step is like, what do I want to do? Like, where can I make a difference? And that's still kind of the point where I'm stuck.