

MAKING
▶ CHANGE!

Handbook for Climate Peer-to-Peer Training

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Foreword

“Climate protection”, “sustainability”, “future viability”, “transformation” and “adaptation” are words that are being widely discussed. Young people in particular have shown through actions such as the #FFF demonstrations: Talking alone does not help - words must be followed by action. To achieve this, high-quality education is a basic prerequisite. It is one of the 17 Sustainable Development Goals (SDGs) and Austria is also committed to implementing them in its 2030 Agenda.

This handbook was created as part of the transdisciplinary research project *makingAchange* funded by the Austrian Federal Ministry of Education, Science and Research. The aim of the project was to contribute to the transformation of society throughout Austria: The topics of climate protection and sustainability should be taken for granted and integrated into the school environment as well as in everyday life.

One of the many innovative activities in the *makingAchange* project is the development and implementation of a climate peer-to-peer training course for pupils. Pupils participating in the program are called upon to deal with the topic independently in order to emphasize sustainable and climate-friendly features both at school and in everyday life. Experts and the pupils trained as peers themselves provide assistance with questions on the topic as the program progresses.

With the help of this handbook, we hope to create a template for all those interested in translating the concept of climate peer education to various contexts and implementing it successfully.

Handbook for Climate Peer-to-Peer Training

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1. Background and Objectives

1.1 The research project *makingAchange*

Educational and research institutions can provide the necessary impetus for social change. A paradigm shift is needed to equip graduates of educational institutions with the necessary skills to tackle the global grand challenges. New ways of thinking and working, commitment and attitudes are required to enable sustainable development.

makingAchange is a cooperation project between science and schools. From 2020 to 2023, the Climate Change Center Austria (CCCA), together with the Austrian Federal Ministry of Education, Science and Research, invites all secondary schools to participate in the project. The aim of *makingAchange* is to contribute to the transformation of society towards climate protection and sustainability. Dealing with both topics should have a noticeable effect on pupils in their everyday lives, both at school and in their free time.

As a research implementation project, *makingAchange* aims to communicate new findings from the field of research on climate change to the target group. This mediation task is carried out by proven experts in the field. The didactic concept provides for both knowledge transfer and the empowerment of students to deal with the topics independently and find solutions to their implementation challenges. An essential element in this empowerment process is peer-to-peer training. As the project progresses, peers are to promote the topics at school and in their peer groups.

In the end, the pupils have learned to think ahead and to face the challenges surrounding the mentioned topics individually and collectively with newly acquired skills and - possibly - to find creative solutions for dealing with them. In any case, climate-friendly action should be integrated into everyday life as a matter of course.

1.2 Goal of the *makingAchange* climate peer education

As a central element of *makingAchange*, the climate peer education aims to integrate topics such as climate protection and sustainability in the school environment as well as in the everyday lives of young people, contributing to a sustainable change in our society.

Knowledge transfer by researchers forms the basis of the approach. However, the climate peer-to-peer training goes one step further: It is particularly about empowering the participants to become active at their school in the sense of peer teaching and learning. The group of climate peers should continuously expand. Together, they forge ideas, develop and implement actions in an exemplary manner in order to contribute to a sustainable school life.

The climate peer-to-peer training aims to directly apply the knowledge acquired by the peers at school and to continuously expand the circle of informed, active and motivated pupils through the activities of these *makingAchange* peers. With this handbook, we aim to ensure that this process can continue and manifold even after the end of the project.

2. Methodology: The Peer-to-Peer Principle

“I hear, and I forget; I see, and I remember; I do, and I understand.” (Xunzi)

2.1 Definition

Peer learning can be defined as the acquisition of knowledge and skills through active support from peers or like-minded people. In the peer-to-peer approach, people from similar social groups support each other in learning and learn through teaching itself.¹

2.2 Types of peer learning

2.2.1 Peer tutoring

Peer Tutoring is characterized by specific roles (tutor vs. student). Students receive specific support from tutors, with a focus on content and interaction. Some peer tutoring methods establish interaction with structured materials, while others prescribe structured interactive behaviors that can be effectively applied to all relevant materials.¹

2.2.2 Cooperative learning

Cooperative learning is more than just “working together” to achieve a specific (common) goal. Cooperative learning also involves the specification of goals, tasks, roles and sometimes rewards by a teacher who does not lead the interactive process, but nevertheless oversees it. Cooperative learning is usually applied in small groups and, depending on the context, sometimes requires teacher training to ensure a positive and mutually supportive learning environment.¹

In Climate Peer Education, we wanted to make our approach and the program as diverse and multi-layered as possible, which is why we combined and intertwined the different concepts of peer learning.

2.3 Advantages of peer learning

Peer learning is a useful addition to the school learning context and offers many advantages. The most important advantages are listed below^{2,3}:

- The pupils acquire more time for individual learning.
- The direct interaction between pupils promotes active learning and their academic performances.
- “Teachers” of the same age (peers) enhance their own learning process by teaching others.
- The pupils often feel more comfortable and open when interacting with their peers.
- Peers have a common language that enables a better shared understanding.
- Peer learning is an effective alternative to hiring more employees.

Therefore, it can be stated that peer learning

- promotes sustainable learning and long-term learning success for pupils
- improves pupils’ satisfaction with their learning experience
- helps to develop and/or improve oral communication skills
- helps to further develop pupils’ social skills
- fosters pupils’ self-esteem

3. Umsetzung der *makingAchange* Klima-Peer Ausbildung

3.1 Cooperations

3.1.1 Climate peer education as a co-creation process

Together with our practice partners, the basic framework for the topics and structure of the climate peer-to-peer training course, which runs for one school year, was developed. Even before the start of the training, discussions were held with interested young people in a specially designed session in order to jointly identify the topics that are of great interest for climate peer-to-peer training. The information obtained in this way was then filtered and prepared for the training..

The following topics have been identified and incorporated into the training: physical principles of climate change, climate justice and migration, nutrition and agriculture, consumer behavior and lifestyle, and mobility and biodiversity. It has been proven to be valuable to give the peers decision-making power in the topic identification process, as this allows them to pursue their actual interests and questions in the context of the climate crisis, which leads to more attention and participation.

Knowledge transfer is one part of the training. The other part is implementation - “from talking to doing”. This entails participants using their factual knowledge and translating it into everyday school life. This means that the peers, together with their classmates, set out to find good solutions to make everyday school life more sustainable. It should be up to the peers and their classmates to decide what they want to change at their school. While some would like to green the schoolyard, others want to revise the school kitchen and still others want to organize a clothes or seedling trading system. Which action(s) the peers choose is entirely up to them! However, they are still dependent on the support of the teachers and the management, who (must) support these changes and actions if they, the pupils, want to be successful. Scientists and practice partners also play an important role in supporting this process. As the training team, they offer an outside perspective and once again provide time and space for planning tasks during the training days.

The training team takes on the role of the supervisor during the implementation phase (see chapter 3.1.2). It also maintains an overview of the overall progress of the project and stays in contact with the teachers. The peers take on the implementation of the individual tasks - ideally together with their fellow students



Practical Tip:

If possible, the participants should be able to choose (at least) one topic block themselves by voting. The best time for this is right at the beginning of the training so that there is still enough time for further planning of the process.

It is worth thinking about the age range of the target group. During the *makingAchange* project, the individual project groups were made up of participants from all age groups of secondary school. This has advantages and disadvantages that need to be evaluated.

We recommend group compositions with students between the sixth and tenth grade for the following reasons:

- Pupils in the fifth year are still in the “discovery process” at school. This year should be granted to them in the new school environment without any further requirements.
- Pupils in the twelfth grade are busy with the upcoming matriculation examination (Matura) and are not available for any further peer activities after the Matura.
- The same applies to students in 11th grade. After completing the climate peer-to-peer training, they are only at school for more one year.

3.1.2 Key role: Moderator

The moderator plays an essential role in the climate peer-to-peer training and makes all strings come together. This role is about more than “just moderating during the training days”, which is why it is very important that the moderator has a good overview of the planning and procedure of the training and knows the (needs of the) participants. The following tasks fall under the responsibility of the moderator:

- Continuous exchange with the pupils and teachers
- Preparation of the training days
- Follow-up after each training day (sending materials, photos, etc.)
- Communication with the scientists and preparing them for the characteristics of the target group (see 3.1.4)
- Is present at all training days and moderates them
- Overview of the main topics. Can answer questions to the best of their knowledge and belief or refer to someone who can answer possible questions
- Support pupils with their projects and plans (if required)
- For safety reasons, we consider it important that the moderator has completed a first aid course



Practical Tip:

The briefing or preparation with the scientists is challenging for many reasons. The students want to be “taken along” and addressed and informed in their language. The presenters must (be able to) respond to the age and absorption capacity of the audience. They must be able to adapt the pace of their presentation to their audience. And they are asked to create a positive conclusion, to convey a positive outlook: The young people who take part in climate peer education are all already very committed and usually already well informed about the “horror scenarios” of the future. It is particularly important to end on a positive note here! The prospective climate peers should be supported in their motivation to do something positive for their future and not be demotivated.

Ensuring all of this is also the task of the facilitator.

Since it is not always easy to lead a large group, even for experienced facilitators, we recommend having at least a second co-facilitator on site during the training days.



3.1.3 The role of the coordinator

Depending on the size of the training team, there are also coordination tasks which are either carried out by another person or by the moderator him/herself. The coordination tasks include:

- Registration process
- Data management
- Organisation of catering and rooms
- Preparation and printing of certificates
- Information flow - who needs to know what and when

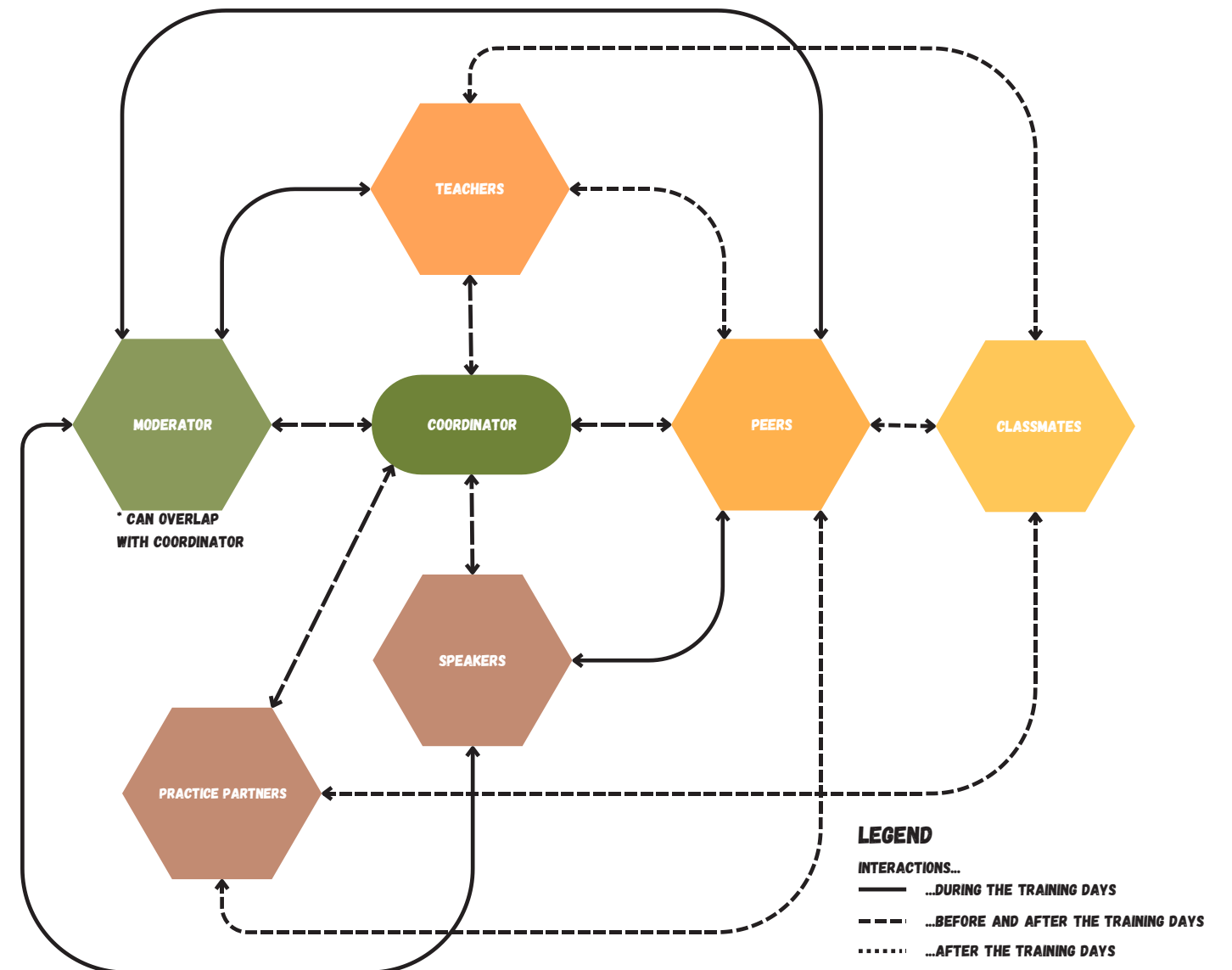
3.1.4 The role of scientists

Collaboration with a wide variety of scientists is what makes the climate peer training so special. The climate peers exchange ideas with scientists from different disciplines, learn about the current state of science on the respective issue, find out what is currently being

researched and gain an insight into the “world of science”: Through the exchange with scientists, it becomes clear that most questions are (or can be) researched in several disciplines. In addition, especially in the context of the complex climate crisis, it is important to establish cross-connections between the various scientific disciplines and to work in an interdisciplinary manner in order to better understand the relationships between cause and effect.

This in turn opens up and sharpens the view of what science actually is and how science can contribute to solving specific social challenges. In this way, climate peer education can also effectively counteract the increasing skepticism towards science in society.

Illustration of the interactions and information flows in climate peer education:



For scientists, the climate peers are another - and for some perhaps a new - target group of interested people in a special setting. The role of the training team is to find the right scientists and prepare them for the young target group during the preliminary talks. Most scientists are used to communicating with adults. Working with young people requires an adaptation of the wording and speed of reasoning. This is often forgotten. It is all the more important for the training team to take this into account when preparing with the scientists and also to pay attention to it during the training days with the lecturers.

It is rarely easy to find exactly the right experts for a topic. To make the search easier, there are various tools and databases that can be used to help (see appendix).



Practical Tip:

It is worthwhile to provide the scientists with an overview of the topics covered in the training days that have already been completed, what was of particular interest and what will be covered in future training days. This way, the scientists can also familiarize themselves with this framework.



Practical Tip:

For the previous climate peers, it was always very exciting to hear how the scientists themselves communicate their respective topics, what they pay attention to, which graphics they like to use and why.

Older climate peers were also interested in further information, such as websites, books, specialist articles and the like. Such references make self-study easier for them.

Participants also find tips that help them to distinguish fake news from facts and how they can learn to separate the one from the other particularly insightful. Further internet links are also well accepted (see appendix).

3.1.5 The role of practice partners

By practice partners, we mean institutions that are active in child and youth work and work with children and young people (and their teachers) in a school context.

Practice partners spend a lot of time in schools. They know about the challenges in schools without being part of them themselves. In this special position, they bring in an outside perspective. This background makes them important partners for climate peer education.

By involving institutions active in child and youth work, their repertoire will be expanded both in terms of content and methodology, and the newly developed modules will also be offered to schools and pupils beyond *makingAchange* in the future.

We therefore also see practice partners as very suitable actors to continue and independently implement climate peer education after the *makingAchange* project ends. They have close contact with schools and also a broad knowledge of the various funding and financing opportunities at federal, state and municipal level.

3.1.6 The role of schools

The establishment of a sustainable peer concept requires, above all, intensive support from stakeholders in the existing school system. Maintaining a sustainable peer-to-peer system requires committed teachers and a management that enables and supports this commitment through organizational measures. However, such additional work can only be covered with more hours. These additional hours are not provided for in the existing system.



Practical Tip:

We recommend supporting the development of a peer system for at least two, preferably three years. During this period, an existing school culture can be adapted to the changed requirements, both among the students and the teaching staff. Our experience shows that the more time is spent on the introductory phase, the better the system can establish itself.

3.2 Training days

The training days are the central element of the climate peer-to-peer training because this is where the peers meet the scientists, and the exchange takes place. There are a few things to consider for a successful training day: in addition to the "right time", an adapted yet flexible structure is also required, as well as time for the peers' own projects. The individual aspects are discussed below.

3.2.1 The right time

It is always a challenge to find the "right" dates, e.g., for the four training days over the course of a school year. However, our experience shows that the choice of dates is a critical success factor. The following considerations should be included in the decision-making process:

- The choice of weekday (pay attention to public holidays and bridging days!)
- Start, end, duration, breaks (on the respective day of implementation)
- Placement in the school year - consideration of vacations, school work times, (religious) holidays (e.g. Ramadan) etc.
- Travel time of the pupils



Practical Tip:

In order to guarantee a process as stress-free as possible throughout the school year, we recommend to set the dates before the start of the school year - or before the teachers enter the school work dates - and that this procedure is agreed upon with the school management and communicated to the teachers in a timely manner. This increases the likelihood that the registered students will be able to attend the respective events.

makingAchange is also a cultural change project. Pupils are to be empowered through selected projects to participate in the transformation of schools and society. In turn, the school system is to be supported in engaging in such a change as well as in supporting the students in their efforts to do so in this regard. For this reason, *makingAchange* works with the school system as a whole. A changed organizational culture can always be identified by a change in its processes.



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Practical Tip:
The climate peer training of makingAchange relies on the cooperation of school administration, teachers, students and the training team. It is therefore advisable to schedule all project activities during school hours - during a regular "working week". This increases the likelihood that all relevant stakeholders will be available. In addition, free time can actually be used as free time and for recreation by students and teachers.

This is one of the reasons why we recommend the following procedures: Firstly, registration for makingAchange takes place via the school itself - this ensures low-threshold information for the administration and teaching staff about the students' activities. Secondly, the climate peer training takes place during lesson time.

This visibly communicates to everyone that the school supports the project and the project goals; for the students, this may be a visible recognition of their commitment, after all, they primarily have their free time.

3.2.2 Structure of the Climate Peer Education
As a rule, four training days are spent on makingAchange during a school year. One to two modules, each lasting 2.5 to 3.5 hours, can be held on a training day. In one module, one topic is (conclusively) dealt with. The first three training days should also include 1-2 hours each for the development and elaboration of the participants' own implementation projects (see section 3.2.3). The advantage of this is that the project team is onsite and directly available to answer any questions.

In order to ensure an appealing and exciting programme for the participants of different age groups, each module is divided into three blocks. A break should be planned between these blocks. Each block should in turn be

divided into smaller units, each of which should be organized using different techniques and interventions. A distinction is made between scientific presentations, discussions and (small) group work. The following structure has proved successful for knowledge input (approx. 20 minutes each): Development of the topic in the respective discipline, current status and outlook or future possibilities.

The following table shows an example of a day with a science module in the morning and a "project module" in the afternoon.

An exemplary training day:

Time frame	Short description	Method(s)	Presenter	
10 min	Welcome and general matters		Moderator	
5 min	Short introduction to the (first) topic and introduction of the presenter(s)	Games, round of introductions	Moderator	
20 Min	Lecture on the (first) topic (development of the topic)	Lecture	Speaker	
40 Min	Delving deeper into the topic (1) in active exchange with the peers, or the peers work independently on the topic (suggestions from the speaker)	Various participatory methods (e.g., "Talking about climate" - https://www.oekom.de/buch/ueber-klimasprechen-9783962383749)	Moderator	Speaker
20 Min	Lecture on the (first) topic (state of the art)	Lecture	Speaker	
40 Min	Delving deeper into the topic (1) in active exchange with the peers, or the peers work independently on the topic (suggestions from the speaker)	Various participatory methods (e.g., "Talking about climate" - https://www.oekom.de/buch/ueber-klimasprechen-9783962383749)	Moderator	Speaker
15 Min	Lecture on the (first) topic (Outlook/future possibility)	Lecture	Speaker	
30 Min	Delving deeper into the topic (1) in active exchange with the peers, or the peers work independently on the topic (suggestions from the speaker)	Various participatory methods (e.g., "Talking about climate" - https://www.oekom.de/buch/ueber-klimasprechen-9783962383749)	Moderator	Speaker
15 Min	Joint conclusion	Lecture	Speaker	
1-1.5h Lunch break (Do not forget to take breaks in between!!)				
10 min	Arrive again		Moderator	
As required (approx. 1.5 – 2 hours)	Continue working on the peers' own projects		Peers, supported by moderator (and speaker if necessary)	
30 min – 1h	Joint reflection; outlook for next time	Adapt method to group size and composition (e.g. collect feedback on moderation cards and cluster on pinboard)	Guided by the moderator	



Practical Tip:

makingAchange focusses on participation. Nothing should distract from the joint work. The focus of all participants should be on joint work and mutual exchange. The speakers must be well prepared for this, but also the organization must be adequate. Organizing the modules also means providing sufficient materials: you need enough handouts as well as moderation materials: Flipchart, pin boards, a well-equipped moderation case, beamer and screen if required.

For the discussion to be successful, the participants must stay focused. If the participants' minds wander off or appear noticeably unconcentrated, this is an unmistakable indication that an additional spontaneous break is required. Because breaks also ensure sustainable learning success!

At the beginning of the first training day, all climate peers meet for the first time, so make sure you allow enough time to let everyone get to know each other!

The afternoon of the last training day is to be planned as a closing event. Instead of further content, the previous projects should be presented and honored and the climate peer-to-peer training is to be concluded. Certificates of participation will be awarded.

3.2.3 Implementation projects

The *makingAchange* climate peer training program is based on a dual concept: during the training days, the participating pupils receive input and develop their projects on this basis. Between the training days, the pupils work on their implementation projects. These implementation projects serve to achieve the project goal, namely, to integrate climate-friendly behavior into everyday (school) life as a matter of course. There is one important rule for the implementation projects: the ideas for the respective projects must come from the pupils themselves and they must also drive their projects forward themselves. The training team only has the task of supporting the pupils in the development and implementation of their projects (in the best possible way).

The implementation projects can be roughly categorized into the following development stages:

1. Looking for ideas
2. Consolidation of project ideas and prioritization
3. Final decision on the projects
4. Project-specific support onsite (primarily by practice partners)
5. Presentation and reflection on the training days if necessary, but in any case on the last day of training as part of the final event.



Practical Tip:

Implementation projects are the pupils' projects. The clear and undivided responsibility of the pupils for their projects also increases the likelihood that they will be completed. After all, the respective groups have decided in favor of their respective projects for good reasons.

Of course, difficulties may arise during the project. In such cases, the project team and dedicated teachers are there to support the peers in achieving their project goals through careful counselling.

Every good project comes to an end at some point. Such an end should be honored and celebrated accordingly. A good timing for such a celebration is the closing event, for which sufficient time should be planned. After all, the projects should be presented and reflected upon.

3.3 Evaluation and Feedback

Peer work is based on the assumption that everyone can learn from everyone else. Learning among peers requires communication. The exchange of the projects takes place directly in the small group and - during the training days - also in the large group. The preferred format of exchange is feedback. Feedback is understood here as a structured form of feedback. Feedback rounds at the end of each training day have proven to be particularly effective; occasionally anonymous written feedback could also be obtained. The latter is particularly recommended if tensions or conflicts between participants are suspected.



4. Conclusions

The training program for young people at secondary school level presented in this handbook is based on two special features: (1) peer work and (2) the direct exchange of pupils with scientists from different disciplines. The aim of the *makingAchange* climate peer-to-peer training program is primarily to promote a culture in which knowledge is shared, promoted and processed. Everyone is given the opportunity to advance their education and become active in the fields of climate protection and climate change adaptation.

makingAchange – and therefore also the climate peer-to-peer training – was subjected to an effectiveness analysis. The aim was to record and evaluate the implementation of the individual project activities and their short- and medium-term effects for the young people, teachers and schools involved.

The positive feedback on interdisciplinarity and the direct transdisciplinary exchange promoted between participants from different areas of society, particularly between pupils and scientists, should be emphasized here. Even if school-wide changes were only occasionally possible during the research project, the teachers and classes were able to take aspects from *makingAchange* with them for their everyday school life. For example, tools used in the project continued to be used by the teachers. After taking part in the project, the participating pupils also demanded that sustainability topics be dealt with more intensively in everyday school life.

This handbook is intended to open the possibility for a broad network of institutions in climate research, environmental education and child and youth work practice to implement scientifically based climate peer education themselves. The experiences and findings from the three-year research project described here should serve to simplify implementation and avoid possible “initial troubles”.



Descriptions of the Climate Peer Project Partners

Together with our practice partner Welt der Kinder, the basic framework for the topics and structure of the Climate Peer-to-Peer training program was developed. In addition to Welt der Kinder, we also received support for the implementation at schools from the Styrian Center of Environmental Education (UBZ) and beteiligung.st.



International Institute for Applied Systems Analysis- IIASA

The International Institute for Applied Systems Analysis (IIASA) (<https://iiasa.ac.at/>) is a non-university, globally active research institute that promotes the idea of systems analysis. It applies innovative quantitative and qualitative research methods to find policy solutions for reducing the human footprint, improving the resilience of natural and socio-economic systems, realizing and achieving the Sustainable Development Goals (SDGs).



Beteiligung.st

beteiligung.st (<https://www.beteiligung.st/>), the specialist unit for child, youth and citizen participation, is a non-profit and non-partisan association. beteiligung.st is committed to the right to participation, develops suitable framework conditions for a living culture of participation in compliance with quality criteria and promotes democratic thinking and action with its services. Climate protection and SDGs are the basis of all activities.



Styrian Center of Environmental Education - UBZ

The Styrian Center of Environmental Education (<https://www.ubz-stmk.at/>) is a non-partisan, non-profit educational institution focused on the common good. The main task of the UBZ is to raise the population's environmental awareness in the long term. As part of activities in schools and extracurricular youth centers, children and young people are encouraged to play an active role in shaping an environment and a future worth living in.

Welt der Kinder

Welt der Kinder

Welt der Kinder (www.weltderkinder.at) curates the International Symposium Childhood, Youth & Society (Festspielhaus Bregenz) and is responsible for child and youth participation programs in communities and regions (Tyrol, Vorarlberg, Vienna). In co-operation with, among others with Weitblick GmbH (<https://weitblick-gmbh.org/>), schools and organizations, young people from over 30 political communities are involved. A technical basis for the participation programs can be found on the YouTube platform Network World of Children.

Acknowledgements

We would like to take this opportunity to thank all those who have supported us during the *makingAchange* and especially during the conceptualization and implementation of the climate peer training program.

Firstly, our thanks go to the Federal Ministry of Education, Science and Research, without whom the project would not have been possible.

We would like to thank Carmen Feuchtner, Michael Krobath, Daniela Köck and Jakob Kramer for their support in the conception the conception and realization of the climate peer training and the development of this handbook. Without them neither the Climate Peer training program nor this handbook in this quality and scope.

The manual would not flow so smoothly in terms of language, if Christian Tordy had not cast his critical eye over full stops, and wording. A big thank you to him at this point.

We would also like to thank our *makingAchange* colleagues for their feedback and encouragement throughout the project.

We would especially like to highlight the irreplaceable administrative support of Heide Spitzer from the Climate Change Centre Austria (CCCA).

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Literature

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- ² Briggs, S. (2017). *How Peer Teaching Improves Student Learning and 10 Ways To Encourage It* | InformED. [online] InformED. <https://www.opencolleges.edu.au/informed/features/peer-teaching/>.
- ³ Johnston, J.J. (2009). How to implement peer learning in your classroom. University of Limerick.

Reliable Sources

In the following, we would like to present trustworthy scientific sources on the subject area discussed. The list is by no means complete - many new and good works are added far too quickly - but it can serve as a starting point.

Radio programs and Podcasts

Scientists4 Future Podcast – three people in dialogue. In search of facts and solutions that inspire courage. <https://info-de.scientists4future.org/s4f-podcast/>

Scientists4Future Köln/Bonn – Podcasts 4 Future, a podcast series <https://koelnbonn.scientists4future.org/tag/podcast/>

Podcast „Hör´ mal wer die Welt verändert“ – a Podcast by podcasby sstudents at the University of Natural Resources and Life Sciences in Vienna, which deals with sustainable and interdisciplinary environmental topics (via Spotify und Soundcloud)

Global 3000: The magazine shows how people live with

the opportunities and risks of globalization. Global 3000 gives globalization a face (Apple Podcast)

Project Future (German). The science magazine appeals to anyone interested in research and science in Germany and Europe. The magazine for people who think ahead (Apple Podcast)

Fairly divided city (German) – – a city walk from a gender perspective. J. Nagiller, Dimensions. Diskussions, Ö1, 29.04.2021

Videos for teaching

Hans Gösta Rosling – Population growth, box by box (English)

Franz Schultheis - Sozial practices and injustice (German) (Klima-un-gerecht)

Richard Wilkinson – from the effect of social inequality (German)

Dickon Bevington - Mentalization: A Developmental Theory (2018) (English)

Ulrich Brand - Post-growth & creating new ecological and social balances (German)

Andernach – the edible city (German)

Curious Kids - Learn about rainforests (English)

Deutsche Welle documentary: Climate flight - the real environmental catastrophe (German)

The Life-Sized City – The Arrogance of Space in Urbanism (English)

The Story of Stuff Project ("The Story of ..." all videos)- e.g., The Story of Change – Why citizens (not shoppers) hold the key to a better world; The Story of Solutions – Why making real change starts with changing the game; The Story of Stuff (English)

Welt der Kinder YouTube channel

Movies that can be watched in class as preparation or follow-up work

Eating differently – The Experimentation. Directors: K. Langenbein & A. Ernst

More than honey. Director: M. Imhoof

Tomorrow – Demain. Directors: C. Dion & M. Laurent

Bread – An everyday miracle. Director: H. Friedl

We feed the world. Director: E. Wagenhofer

Let´s make money. Director: E. Wagenhofer

But Beautiful. Director: E. Wagenhofer

Websites for photos

<https://www.gapminder.org/>

Projekt drawdown: <https://www.drawdown.org/>

<https://worldmapper.org/maps/>

<https://ourworldindata.org/>

<http://www.carbonvisuals.com/>

- Carbon visuals showreel: https://www.youtube.com/watch?v=jIkAuq7Mg_w&t=13s

<https://climatevisuals.org/>

@365imagesofchange

klimaaktiv - infographics: <https://www.klimaaktiv.at/bildung/klimadialog/infografiken.html>

Pictures often say more than 1000 words: Australian Dr. Jane Genovese has put together a wide variety of mind maps that simply illustrate different topics.

Books

Gaisbauer, H. & Leitl, L.: Ein Brief für die Welt.

Kromp-Kolb, H. & Formayer, H.: +2 Grad. Warum wir uns für die Rettung der Welt erwärmen sollten.

Nelles, D. & Serrer, C.: Kleine Gase - große Wirkung: Der Klimawandel.

Plöger, S.: Zieht euch warm an, es wird heiß! Den Klimawandel verstehen und aus der Krise für die Welt von morgen lernen. Westend

Plüss, M.: Weniger ist weniger. Klimafreundlich leben von A bis Z. Echtzeit Verlag

Rosling, H., Rosling Rönnlund, A. & Rosling O.: Factfulness – Wie wir lernen, die Welt so zu sehen, wie sie wirklich ist. Ullstein Verlag

Von Hirschhausen, E.: Mensch, Erde! Wir könnten es so schön haben. dtv

Wadsak, M.: Klimawandel – Fakten gegen Fake & Fiction. Braumüller GmbH

Documents, small digital handbooks, collection of methods, links

BAOBAB Klimaspiele. Unkomplizierte Methoden für die Bildungsarbeit: <https://germanwatch.org/sites/default/files/publication/17832.pdf>

Bildungsmaterialien zum ökologischen Fußabdruck: <https://www.footprint.at/handeln/bildungsangebote/infomaterial-footprint/>

Bildungsmaterialien zum ökologischen Handabdruck: <https://www.germanwatch.org/de/handprint>

Forum Umweltbildung mit unzähligen Methoden: <https://www.umweltbildung.at/praxismaterial/>

- UBZ Steiermark (Umwelt-Bildungs-Zentrum Steiermark): https://www.ubzstmk.at/fileadmin/ubz/upload/Materialien/publikationen/Unterrichtsmappe_KlimAhaa.pdf;
- <https://www.ubzstmk.at/materialien-service/downloads/klima/>

Klimabündnis Österreich: „Klimafakten.Klimawandel. Vom Wissen zum Handeln.“: https://www.klimabuendnis.at/images/doku/Klimafakten_Klimawandel_fin_2019.pdf

Klimaschulen: <https://klimaschulen.at/service/materialien/>;

- <https://klimaschulen.at/assets/Uploads/Dokumente/Materialien/Handbuch-Klima-und-Energie-2016.pdf>

Oxfam Materialien: <https://www.oxfam.de/ueber-uns/publikationen/unterrichtsmaterialien-unterrichtssequenz>

Plattform für Globales Lernen und Bildung für Nachhaltigkeit: <https://bildung2030.at/weitere-lernorte/jugendarbeit/>

Sceptical Science: Widerlegen, aber richtig. 2020...

Südwind: <https://www.suedwind.at/digitale-bibliothek/bildungsmaterialien/>

Schule – Klima – Wandel: Methodenkoffer: <https://www.schule-klima-wandel.de/wissen-materialien/methodenkoffer/>

Sustainicum Collection: <http://www.sustainicum.at/>

Time for Change:

- Richtig reden übers Klima. Ein Leitfaden für die Kommunikation mit jungen Menschen
- #timeforchange. Klimathemen mit jungen Menschen erarbeiten. Methodensammlung für Jugendarbeiter:innen

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