Ludwig Weh, Lisa Kinne, Reinhold Popp

DIGITAL FUTURE WORKSHOPS

Method Innovation for Student Sustainability Projects

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Editor: Maria Erdmann

About this book

In spring 2020, the innovative digital future workshop method was created as part of a participatory online course fostering student-led sustainability transformation in higher education structures (https://kurs.netzwerk-n. org/ueber/). This book captures the emerging knowledge about the process and method and makes it available to relevant praxis communities and social actors, e.g. in digital higher education and adult education, Education for Sustainable Development, futures studies and futures education, as well as mediation, moderation and coaching in social pedagogy and civil engagement. Contents are referring to the example of socioecological transformation and can be transferred to further application fields of transformative processes.

The book addresses multipliers of the future workshop method who want to explore its digital form – it can serve as case study and report for practitioners intending to develop their own form of digital future workshops. This includes experienced moderators of the classical analog method as well as interested scholars who would like to study the method and seek a substantiated discourse about its methodical basis and practical forms for interpretation and transfer into the digital space.

Initially, the book gives an overview of the historical origins of future workshops and their situatedness in the social reality of this time, when a growing desire for participation in discourse about the future emerged and civil actors voiced a wider demand for co-creation of a common desirable future. The ensuing chapter describes the project environment of the digital future workshop in the context of current demands and challenges regarding the method. In the sense of theory-led method innovation, the following chapters relate the methodical approach to relevant educational theories; a separate practical guide describes the operational realization of future workshops in analog space and simultaneously introduces the method to less experienced readers; the subsequent chapters detail foundations, design principles and practical elements of their digital interpretation and reflect their efficacy and practicability in the context of the presented online course.

Describing higher education institutions as model system for widespread sustainability transformation, the book characterizes student initiatives as transformative actors within their complex (non-)academic field of activity. Bottom-up, participatory and co-creative elements of digital future workshops were tested in this model system and are now becoming accessible to the praxis community. This book thus contributes to the ongoing methodological discourse and advancement of the classical method

within changing living, working and learning realities – towards a digital method innovation of future workshops and a contemporary diversification of their topics, fields of application and audiences.

Contents

Prefaces

The future workshop method (German: "Zukunftswerk-statt") is already a few years old. It was created in the 1960s, a decade of profound transformations. Free love, technological advance and revolution were in the air. In Germany, civil activists experimented with new forms of democratic participation, and at TU Berlin, Robert Jungk and Norbert Müllert put a new method for participatory foresight to the test – the future workshop. Their motto was: "turning those affected into those involved".

At that time, this concept meant a political provocation. The future was firmly in the hands of experts. Public parti-cipation and grass-roots democracy were regarded as left-wing reveries. Today, we know that the expertocracy of these days has led to a dead end. This claim is substan-tiated for example by nuclear power, which has by now revealed its immense risks, and large housing estates like Gropiusstadt in Berlin or Cologne-Chorweiler, which were not as well received as expected and have turned into social flashpoints.

Today, we are once again facing a decade of profound transformation. But unlike in the 1960s, we cannot choose whether to take action or not. Climate change, the mass extinction of species worldwide and the dramatic pollution of the environment are forcing us to act now. According to the Intergovernmental Panel on Climate Change, we must halve our CO_2 emissions by 2030 and become completely climate-neutral by 2050. Otherwise, the entire Earth's ecosystem is in danger of collapsing. The transformation into a sustainable society and economy constitutes the central future challenge for humanity. And there is no simple solution. So we all need to get active.

Future workshops can help us with that. They are a simple tool to develop new solutions and to show people how they themselves can shape the future. The process consists of three phases: the critique phase, the fantasy phase, and the implementation phase. The participants are going through these steps together within a group. That way, they develop a common understanding of current problems, exchange wishes and visions and make plans for future projects. In addition, the process generates stimulating group dynamics and thus a huge motivation boost. This is crucial, because anyone who wants to save the world needs a tremendous amount of persistence.

Therefore, future workshops are a great method for education. It enables young people to learn future skills that are still widely left out of account within our education system. These include the 21st Century Skills. They describe what kind of knowledge, which skills and values people nowadays require in order to be an active part of society. Besides specialized knowledge in several fields, they focus on competences like critical thinking, creativity, collaboration, flexibility, or initiative of one's own. The OECD Learning Compass 2030 goes a step further and considers "agency" as the key competence. "Agency" describes the will to shape the world. It is closely linked to the development of the individual's personality and its

sense of belonging. This means that education should give young people the courage and the capability to shape the future. Or, in Robert Jungk's words, "to turn those affected into those involved."

Over the last decades, the future workshop method has been constantly improved and refined. Today it is used in urban development, in startups, and for citizen dialogs. Yet, it remained an analog tool. The coronavirus pandemic put a sudden end to that. Our learning and working environment has been moved to digital spaces in record time and as a consequence, established methods could no longer be employed.

For many people the pandemic meant a reason to experiment with new formats and methods and to test fresh approaches for participation and dialog. This volume shows how future workshops are taking the leap into the digital world and enabling students to initiate necessary innovations and transformations within the higher education system. And thereby it proves that Robert Jungk's ingenious idea of the future workshop method will remain one of the most important tools to tackle the great challenges of our time together.

David Weigend,
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Participating in change
with fantasy ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯

In his book "Zukunftswerkstätten. Mit Phantasie gegen Routine und Resignation" (first edition 1981), written together with Norbert Müllert, the futurist Robert Jungk (1913–1994) identifies a "gap in the democratic system". With this he refers to lacking opportunities for citizens to participate in the social creation of futures which, as he states, is about expressing not only what bothers us, but also what we wish for. Hence, from the 1960s onwards, Robert Jungk and others developed a method which provides room for both aspects: criticizing current circumstances and developing concrete ideas of the future.

From my point of view, this ingenious approach combining critique, fantasy, and implementation phases constitutes the unique character of future workshops – in combination with accepting and perceiving multiple perspectives, experiences and opinions on a topic. Future workshops use the associative process of brainstorming, as developed in creativity research, which encourages participants to express anything they consider important without being criticized by others. Perhaps the endless discussions of the many citizen assemblies and alternative movements of the 1970s lead to the development of future workshops with their innovative potential.

One important strength of future workshops lies in the creation of a sense of community which provides the energy to subsequently pursue new ideas. For this reason, a physical workshop experience in an analog setting will remain the ideal solution, even though by now – not least as a result of the pandemic – there is an increasing amount of experiences with digital future workshops. Their digital innovation will thus remain a relevant topic beyond the current pandemic circumstances.

Presenting a hybrid approach to the method, this book strongly focuses on the fantasy phase of future workshops. The authors have developed a digital tool which seeks to enable higher education institutions to develop sustainability perspectives in research and education through future workshops on site. The first results of these efforts can be looked forward to: the pressing socio-ecological transformation will require many social actors in many places, and higher education constitutes an important partner. In this sense, I wish this book a wide recognition and the related project much success.

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Reinhold Popp

Introduction: Future workshops for future planning — creative, imaginative and participatory

"Participation" marks the key term of any democracy-related discourse. Many citizens are content with the minimum level of political participation expressed through their right to free elections. Committed people articulate their images of the future also in between elections, e.g. through participating in citizen initiatives, demonstrations, strikes, popular consultations, and referenda, intending to expand the democratic character in work environments as well as in schools and higher education institutions. Some of these active people prepare the real-world implementation of their ideas for better futures with the help of established methods, such as living labs, future conferences, or future workshops.

This chapter introduces the great significance of creativity and fantasy for the prospective creation of participatory planning processes, centering on the example of the future workshop method.

Is the future approaching us?

For centuries, the future has been conceived as the process of changing circumstances and living conditions approaching and inevitably affecting the lives of people. Today this notion of an unchangeable fate has transformed into the widespread thinking of the future as a creative and imaginative space where people engage in provisional planning and use their prospective capacities, when actively shaping their individual and common future. The word 'future' itself promotes this idea, as it is derived from the Latin word "futurum" (= "the becoming"). In the context of future-oriented research, the commonly used plural term "futures" indicates the plurality of alternative future developments, which futures researchers inquire into with diverse methods.

Nobody knows how the future will really be!

Addressing the uncertainty of the future is one of the most important concerns of the present. But the future is uncertain. It is – as much as the present – the result of a highly complex and dynamic interplay between the various (partly conflicting and contradictory) individual needs and the (also partly conflicting and contradictory) demands of stakeholder groups from various social, economic or political sectors. Their individual and collective interests and needs move towards the creation of the present and the unfolding of futures within a wider framework of *political-administrative governance, educational systems, health systems,* institutions of *public* and *social security, technical* innovations, and *ecological* and *economic* living conditions. Analysis and interpretation of these complex and dynamic interactions allow – with due diligence and a risk of error – plausible assumptions about future developments (= prognoses). In this sense, most scientific disciplines produce orientation knowledge about the world of

the future, but mostly in the form of future scenarios as conditional statements. Thus, scientists cannot offer definite statements about our future reality (further reading about basic assumptions and foundations of futures studies: Bell 2003, Popp 2013, 2016, 2020, 2021).

Prospective planning and uncertainty

Despite an uncertain future and a limited prospective capability of scientific research, people need to make everyday decisions which impact our lives in the world of tomorrow. For example, they set short-, middle- and long-term goals and strategies for personal, professional, or family life, define educational concepts, plan their living environments, or establish financial conditions for their future planning activities.

Facing the difficulties of *prospective, provision* and *planning* processes, people tend to reduce the complexity and dynamics of driving factors of change with *mono*causal explanations and *mono*-perspective images of the future. These simplifications of complex and dynamic relations are often encouraged by interest-oriented political statements.

Democratic future discourse: plurality replaces 'no alternative'

Since Margaret Thatcher's statement of *"there is no alternative"* as political justification for the dismantling of the social state and social economy in 1980s Great Britain, the claim of no *alternative* has become a popular stylistic device of political communication. It has repeatedly served to reduce multiple possibilities of future developments to a single conceivable scenario. This narrowing of alternative futures to a single scenario continues to back suggestive argumentations of how individuals must adapt their thinking and actions to *ultimate* future goals with no *alternative*.

Future-oriented interests of political programs are accompanied by the various images of the future created in media, scientific literature, science fiction stories and films as well as in communication within families and groups of friends. Closely connected to processing those influences, individuals construct their own lifestyle-dependent ideas of their respective lives in the future. While doing so, they combine rational analyses and prognoses with their dynamic emotional lives, i. e. with fears, hopes and desires concerning the future. This blend of information and emotion also shapes public controversies about future changes in fields such as labor, digitalization, social economy, mobility, demography, migration, or climate change. A particularly controversial part of future discourse that often evokes fear are the conflict areas between ecology, economy, and social cohesion as well as between freedom and public security. In modern multi-optional societies, no entity can claim or define absolute truth or claim a single valid way to advance into the future. Rather, a socially integrated handling of the diverse spectrum of future-related thinking and acting can be achieved through democratic discourse which should be accessible to as many people as possible.

Future-oriented societies thus need places of creative and imaginative communication which can improve social debates about *complex future questions* as well as the *plurality of possible future developments* and plan *innovative solutions* prospectively.

Future-related solutions are shaped by the plurality of possible developments and options to act in the future. They aim to unfold individual potentials of growth and development. Searching for such future-related solutions involves the phenomena of *wish, longing* and *dream* as significant concepts.

Future wishes

"Wishes are intellectual-linguistic representations of absent objects or conditions, the presence of which is desirable – *preferable, desired* – for the person wishing. This creates a close relation between desirability and futurity: Many wishes are characterized by the desired [objects or conditions] being not yet present but imagined as achievable in the future." (translated from Willer 2016, p. 51)

Future longings

Longings of the future are closely related to their desirability. Paul B. Baltes (2008, p. 77; here cited and translated from Popp, Rieken & Sindelar 2017, pp. 93–94) characterizes *future longings* with "six interrelated attributes:

1) an unachievable personal utopia, which describes the respective individual conception of a 'perfect life',

2) the feeling of imperfection and incompleteness of life, which emerges from the distance between reality and the desired state,

3) a tri-temporal focus connecting past, present and future in longing, where past happiness, perceived as missing in the present, is longed to be achieved in the future,

4) the ambivalent ('bittersweet') emotions which emerge from being aware of the unachievability of what would supposedly make life perfect,

5) the retrospective view and evaluation of life which defines the future by what has been missing before,

6) the symbolic character often inherent to objects of longing such as 'the house by the sea' or 'the perfect partner' as guarantee for a feeling of security, moving the unfulfillable closer to reality through its materialization in the object, even if its impossibility remains."

Both the concepts of *future wishes* and *future longings* are connected with the prospective feeling of anticipation (Hantel-Quitmann 2011, p. 17; further reading about *future longings* can be found in Scheibe, Freund & Baltes 2007).

<u>Future dreams</u>

From a historical and anthropological perspective, many cultures have given dreams a prospective function, for example in explicitly future-related dream rituals or interpretations in ancient Mesopotamian, Egyptian or Greek cultures. In art, beyond a source of inspiration, dreams can be subjects of artistic expression, as in magical realism or surrealism. This is reflected in the quote of the surrealist painter Salvador Dalí: "One day it will have to be officially admitted that what we have christened reality is an even greater illusion than the world of dreams." In psychotherapy science, the therapeutic dealing with dreams has become a notable factor in reflection and theory formation through the work of Sigmund Freud (Bohleber 2012). In prospective concepts of positive psychology (Seligman et al. 2016) and the psychology of futures thinking (Oettingen 1997, 2018), daydreams are central in relation to creativity, optimistic fantasies and confident expectations towards the future. In this context, Gabriele Oettingen developed the interventive self-regulation method 'Wish-Outcome-Obstacle-Plan' or 'WOOP' (Oettingen 2015).

In a wider sense, common language uses the term *future dreams* in relation with *individual* wishes, hopes and goals. But emancipatory future dreams also have been fulfilling an essential motivational function in larger *societal* processes of modernization and humanization.

Creativity, fantasy, and the innovative power of curiosity

Creativity and *fantasy* are considered important key competences in future living and working environments. *Creativity* enhances discovery of new questions and innovative problem-solving (see creative techniques in: Nöllke 2015; see creative decision-making in: Burow 2015).

Closely related to creativity is *fantasy* as a key competence, referring to people's imaginative power and capacity – especially in the prospect of possible future developments. In this sense, the science journalist and futurist Robert Jungk (1988) demanded 'a strong fantasy movement' which should not only consist of a few experts but be comprised of anyone interested in a respective future discourse. A modern version of this demand can be found in the UNESCO Futures Literacy program which also embraces the importance of future-related fantasy (Miller 2015).

The future-oriented encouragement of creativity and fantasy must *respect the curiosity of people*. A prominent advocate of this notion was Albert Einstein, who gave this surprisingly humble description of his talent: "I have no special talents. I am only passionately curious." In summary:

- ◘ curiosity encourages creativity, fantasy, and innovation capability.
- ◘ creativity, fantasy, and innovation capability promote social, cultural, technological, economic, and political innovations.
- ◘ innovations secure the economic and ecological basis for future quality of life and improve social cohesion.

In the past few decades, a great number of methods have been developed to promote fantasy, creativity, and innovation capabilities in processes of participatory future planning. These methods should be classified as *planning* and *moderation* methods and not – like it is sometimes falsely claimed – as *research* methods. The following briefly introduces future workshops as methical design of participatory future and innovation *planning*.

Future workshops – traditional

In the late 1950s, the science journalist and political activist Robert Jungk (1913–1994) had already become a bestselling author through his work on future topics. In his books, he warned of possible and even probable threats to human and natural life on earth (Jungk 1958, 2016). His analyses and theses were welcomed and adopted by upcoming socio-critical groups in the ensuing progressive era of the 1960s and 1970s. His talks and speeches were frequently followed by heated debates where audiences repeatedly addressed the implementation of social and societal utopias in their concrete working and living environments. Building on this demand, Robert Jungk developed the concept of *future workshops* along with the Berlin-based social scientist Norbert R. Müllert (Jungk & Müllert 1987, Müllert 2009) – based on related US-American models. Initially, the term 'future workshop' gained a virtually revolutionary image, as Jungk and Müllert held their early workshop seminars mostly with activists from the then emerging direct democratic initiatives.

Figure 1: Robert Jungk at a future workshop in Neukirchen/Kammerlander-stall, Kulturverein Tauriska, Austria, 1980s. Source: Robert-Jungk-Bibliothek für Zukunftsfragen (JBZ) Fotoarchiv.

From the 1980s, the simple yet effective method spread beyond its initial socio-critical practice into the educational programs of adult education centers, churches, labor unions or political foundations and parties. Today, future workshops no longer cause public attention but have become established among the many activating methods for future planning, being acknowledged as a widespread moderation technique. The traditional future workshop method follows a clearly structured process which progresses along three phases:

(1) critique phase: critical definition of the current state,

(2) fantasy phase: development of the desired state in the future,

(3) implementation phase: clarification and initiation of future-oriented potential for action.

Future workshops — digital

As the *traditional* form of future workshops has been widely established and advanced in various practical contexts throughout the years, innovative changes to the method have recurrently adapted it to contemporary requirements and conditions. Translating its creative, imaginative, and participatory potential to the digital space has been an outstanding and thus necessary task to complete in the face of the progressing digital transformation across relevant social sectors. In this regard, the *Institute for Futures Research in Human Sciences* of *Sigmund Freud University Vienna* supports the innovative development of a digital future workshop method by the project team of 'Studierende gestalten nachhaltige Hochschulen in Nordrhein-Westfalen' ('Students create sustainable universities in North Rhine-Westphalia') by the non-profit organization *netzwerk n* e. V., advocating sustainability transformation in the German higher education system.

Lisa Kinne, Ludwig Weh

Project environment of the digital future workshop

The German non-profit organization *netzwerk n* e. V. has devoted itself to supporting students of higher education institutions in their endeavors to create more sustainable environments with regard to teaching, research, governance, operations, and interaction with society. Those students are encouraged to form initiatives which are understood as "groups of people who share a concern or passion for something they do and they learn how to do it better and as they interact regularly" (Wenger & Trayner-Wenger 2015, p. 1). From 2019 to 2021, the organization has been implementing a regional project featuring a non-formal training program to support and connect the sustainability efforts of university students on a regional level. Due to pandemic-related restrictions, the project transferred its coaching and teaching program to a digital environment. The resulting online course interpreted the future workshop as a digital method and implemented it in a detailed format spanning multiple weeks (Weh & Kinne, 2023).

This chapter describes the project environment of the online course and the digital future workshop in the field of activity of student-driven sustainability transformation in the German higher education system.

Infobox

Infobox: Project "Students shape sustainable
universities in North Rhine-Westphalia"

Realization:
netzwerk n e. V.

Duration:
09/2019 – 02/2021

Funding:
Environment and Development
Foundation North Rhine-
Westphalia

Partner:
Eine Welt Netz NRW e.V. (NGO)

Target groups:
• University students
• University staff
• Civil society

Participants:
• The analog training program was completed by 15 participants from 6 universities.
• The digital online course was completed by 35 participants from 16 universities as extracurricular activity.
• The digital online course was also completed by 28 participants as curricular elective subject at *Bergische Universität Wuppertal.*

Activities:
• A training program for university students comprised of workshops and online webinars over the duration of a winter term in 2019.
• A public forum event to encourage dialogue about the topic of sustainable universities after completing a training program.
• Networking events and digital networking opportunities to create a regional student network of program alumni and interested students.
• Further development of the training program into an eight-week online course including the digital future workshop method, implemented in summer and winter term 2020.

The last decades have seen an increasingly widespread understanding of the necessity of sustainable development at all levels of society and its institutions. Influenced by the United Nations' Brundtland Report (Brundtland 1987), advocating a global sustainability mindset, and the international agreement on Millennium Development Goals (UN 2000), developing into the subsequent Sustainable Development Goals (UN 2015), public discourse on sustainable development has continued to gain traction. However, the operationalization and implementation of sustainability measures remains an ongoing debate and pressing issue. German higher education institutions are reacting to and incorporating this discourse with increasing fervor. Still, they largely do so at the level of research rather than following a transformative whole institution approach (D'Andrea & Gosling 2005, Schopp et al. 2020); this approach would integrate research, teaching, governance, operations, and societal transfer and would consider students as participants and partners in sustainability efforts (Shaw et al. 2017).

Yet these institutions play a key role in providing scientifically sound solutions for sustainability challenges. For example, they bear significant responsibility in equipping students to take on future positions as decision-makers that ultimately incorporate issues of sustainable development. This points to the importance of developing images of future universities undergoing holistic sustainability transformation, e.g. in education and research (Al-Maadeed et al., 2023). The structures within universities also mirror those of wider societal constellations and showcase potentials and difficulties of sustainable development at large in an institutional microcosm.

The innovative capacity combined with the intellectual resources at such institutions can contribute to achieving sustainable development outside the university boundaries, particularly if institution members are enabled to participate in the transformation. This requires a paradigm shift to establish "the idea of co-evolution as learning process between institutions and their communities" in this educational setting (Sterling 2004, p. 49).

Higher education institutions can thus serve as living labs to test socially feasible transformative approaches (Singer-Brodowski et al. 2018, Leal Filho et al. 2019). In their ongoing research, they create system knowledge as precondition to scientifically back necessary sustainability transformation across sectors. In the sense of a normative orientation in praxis research, they formulate target knowledge as benchmark for successful sustainability transformation. Through their educational and innovation mandate, higher education institutions thus assume a leading role in developing, testing, and evaluating different transformation models. Furthermore, they can serve as a model system for the testing of transformative approaches themselves, within which students as largest status group take a central role in generating transformation knowledge.

Student initiatives as actors for sustainability transformation ⎯⎯⎯⎯⎯

Students who organize themselves in extracurricular initiatives or projects represent particularly potent agents in these transformation processes (Singer-Brodowski & Bever 2016). They engage in these projects from a position of intrinsic motivation and create a social setting in which they interact based on shared interests or activities. Student initiatives are an important driver of change in terms of sustainable development due to their open organizational structure and inherent flexibility (Drupp et al.

2012). They contribute to bottom-up institutional change based on their ability "to translate, negotiate, mediate and simplify in order to work with students, university administration, academic staff and other local actors outside the academic boundaries" (ibid. p. 737). The involvement of various stakeholders in a participatory process can facilitate long-term transformation whereby multiple perspectives are integrated and a common understanding of sustainability is developed. The *netzwerk n* e. V. regional project provides a framework in which students are exposed to knowledge about sustainability in a university context, supported in gaining skills to successfully engage with other stakeholders and encouraged to develop future visions as basis for their sustainability activities.

The project aims to support students in their efficacy, efficiency, longevity, and overall impact in terms of being or becoming active for sustainability at their universities. It also acts as an incentive to spark additional activities at a regional level by supporting the establishment of a network amongst students from different institutions and with civil society. As volunteering activities tend to be strongly based on prosocial motivations (Aydinli et al. 2016), both objectives are intrinsically interlinked. Within the project, the online course and its integrated digital future workshop aim to

- support students in developing and realizing their personal future vision of sustainable higher education.
- give students insight into both theories and case studies concerning sustainable development, environmental psychology, sustainability measures at higher education institutions and

Education for Sustainable Development (ESD).

- ◘ provide students with necessary skills and (management) tools to develop collaborative, integrative and innovative projects promoting sustainable transformation in higher education contexts.
- ◘ guide students to experience methods of reflection and process facilitation.
- ◘ empower students through understanding their role and potential as 'multipliers' of sustainable development within their institutions.

These objectives contribute to the overarching goal of connecting individuals and groups concerned with the issue of sustainable development in higher education, and to facilitate their collective action. Targeted individuals and groups include students, researchers, scientific and administrative university staff, external organizations, non-formal educators, civil society, and policy makers. Professionalizing and empowering students in their commitment for sustainability marks the focus of the project environment, also for developing and testing the digital future workshop method. Additionally, it encourages students to transfer their skills and knowledge to other individuals or groups within their respective institutions.

A participatory online course empowers student real-world commitment to sustainability

Throughout its constant development, the training program has evolved into an online course featuring a digital future workshop (https://kurs.netzwerk-n.org/ueber/). The course supports students in the co-creation of projects geared towards implementing change based on a collectively developed vision of sustainable futures at universities. Within the online course, the digital future workshop is the primary method through which student participants can develop, collaborate on and translate their visions into realizable projects to bring about a transformative effect in their higher education environment.

Within their experience of the online course and the digital future workshop, students interact with other participants and the project team primarily on a peer level. However, since the focus of the method in the course is on implementing projects for the sustainable transformation in their institutions, this interaction extends beyond the limits of the course into students' institutional context, the scientific community as well as into their private and societal environment (see Figure 2). Consequently, conception, creation and positioning of the online course address the overlapping fields of activity of students' commitment to sustainability:

◘ Student participants develop goals for their **individual** sustainability activities and specific projects to be implemented outside the online course through the digital future workshop. The projects are developed collectively in the workshop, in a co-creative process with other participants.

◘ In the virtual space, students interact with the **project team** who technically realizes the course and facilitates the digital future workshop. Through this communication, their requests and contributions are heard and incorporated into the program in a continuous participatory process.

◘ Student participants' engagement with other **participants** on a **peer level** allows for dialogue and exchange of perspectives and ideas throughout the course. This again influences the projects they develop in the digital future workshop which are to be implemented in participants' respective contexts.

◘ Student participants in the online course, who are in touch with or seek to become part of student initiatives for sustainability, can apply the ideas generated in the digital future workshop to their respective university context, creating reciprocal interaction with **other committed students** outside the online space.

◘ **Fellow student peers** who are not engaged in sustainability activities remain a target group in terms of being sensitized to measures of sustainable development and being motivated to engage in similar activities as the participants.

◘ Considering the focus on sustainability in a higher education context, student participants inherently engage with the **formal structures** that they aim to transform. Their process within the digital future workshop is geared towards a direct application in that context.

◘ At the institutional level, formal **student representatives** (in German: *Studierendenvertretung*) are relevant for participants as their endorsement of student-driven sustainability activities is essential for the acknowledgement of the topic and to set a precedent for long-term sustainability measures at a structural level.

◘ Participants' projects developed during the digital future workshop can be aimed at various groups within university structures including **administration, teaching staff and university management**. These often constitute the target groups of student-driven sustainability activities and occupy a gatekeeping position that enables or restricts bottom-up efforts.

◘ Throughout the course, student participants are exposed to current scientific discourse surrounding sustainable development and encouraged to engage with the discourse held in the national and international **scientific community**. While the online course does not provide a direct line of communication to this community, participants are able to draw on this discourse either for their own learning process, amongst their peers or in their academic work. In this way, they can develop their own positions toward and within ongoing discourse.

- ◪ Outside the higher education environment, student participants are encouraged to engage with their private and wider societal surroundings that do not necessarily have a connection to the university setting. **Family members, friends and partners** represent significant points of reference for participants' sustainability activities. Their experience gained in the online course allow participants to expand their sustainability activities into their private community. At the same time, their environment impacts on participants through either endorsement or deprecation of these activities.

- ◪ Student participants' wider **societal environment** also exerts influence on their sustainability activities. The variety of their activities is subject to change based on potential partnerships they can pursue outside the university, on the interdependencies between the university and societal structures as well as on the overall public acceptance of their efforts concerning sustainability.

The real-world engagement of student participants that accompanies the online course can create synergies opening up space for the realization of their sustainability activities. Figure 2 gives an impression of how their embeddedness in multiple overlapping contexts can contribute to their role as 'multipliers', i.e. individuals capable of sharing their theoretical and methodological knowledge, skills and abilities with others and empowering them to adapt and utilize these resources themselves. This 'multiplier effect' can promote diffusion of course contents through participants' direct action and their 'good practice example'.
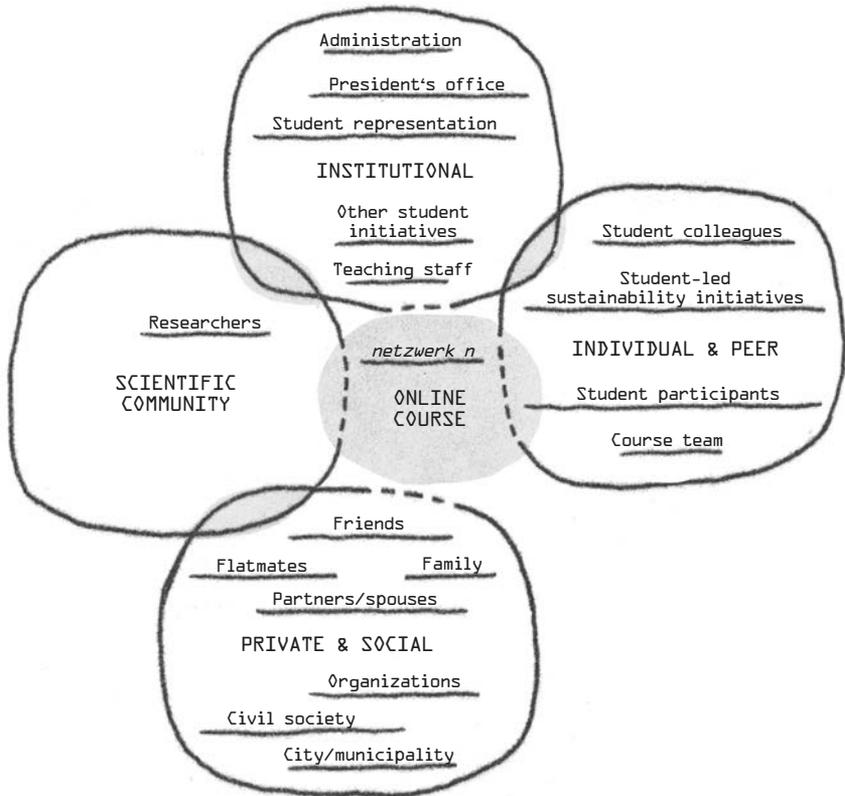
Figure 2: Overview of student participants' engagement with individuals and institutions inside and outside the online course. Their engagement occurs across the digital-analog boundary; participants are encouraged to apply their experiences from the course offline as well as to bring experiences from their analog commitment to bear in the course. Overlaps between the spheres indicate their permeability and interaction and how specific individuals or groups can occupy multiple roles in relation to course participants.

Digital future workshops as boundary object between academia and civil society

The online course creates an interface between formal and non-formal education as well as between academic institutions and the sphere of civil society. It combines the knowledge about bottom-up sustainability action within higher education institutions with a strong peer-to-peer approach based on the shared background of the team and tutors designing the course and its target group.

Thus, the online course containing the digital future workshop can be interpreted as a boundary object according to Star and Griesemer (1989). In this sense, various stakeholders and status groups – from student participants to the online course team and the targeted university – associate different perceptions and meanings with the object which can be characterized as "both adaptable to different viewpoints and robust enough to maintain identity across them" (ibid., p. 387). Between these actors, the co-creative design of the future workshop as part of the online course builds a shared foundation for sustainability activities in institutional contexts. Such boundary objects transcend differing social worlds and are equally recognizable for individuals situated there (ibid., Griesemer 2015).

The concept of a boundary object is particularly suitable when considering the relationality and convergence between the online course project creating practical knowledge on the one hand and educational institutions producing theoretical knowledge on the other hand. Integrating knowledge from different communities and encouraging cooperation between them, the project can be located at the interface between academic knowledge production and civil commitment.

Application of the boundary concept to a massive open online course for student sustainability education and empowerment.
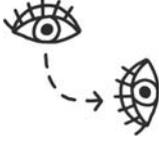
Contrasting 'knowledge first' approaches in traditional science, 'process-oriented' research focuses on multiple stakeholders, "establishing, facilitating and participating in mechanisms or dialogues for change" to negotiate "the salience, credibility and legitimacy of the knowledge produced" in a boundary zone between science and society (Miller 2013, p. 287). Especially a personal, relational, and value-based approach to sustainability science demands an inclusive and accessible boundary management renegotiating epistemic authority, for example "of how questions around the definition of sustainability, the emerging agendas for sustainability science and its relationship to society are being understood, articulated, bounded and settled by sustainability scientists" (ibid., p. 282).

As a way of boundary manage-ment in academic sustaina-bility transformation, an interactive online course can promote student-driven sustainability discourse and commitment within higher education structures and students' living environments as extended field of activity. In this regard, boundary work can support students' owned and self-determined assess-ment of desirable goals of sustainability transforma-tion in "social, political and normative discussions as either settled or beyond the scope of their claim-making territory" (ibid., p. 282). As defined by Julie Thompson Klein (2015), boundary work presents a valuable frame-work and "composite label for the claims, activities, and structures by which indivi-duals and groups work directly

and through institutions to create, maintain, break down, and reformulate between know-ledge units", particularly crossing disciplinary boun-daries in the emerging digital humanities (ibid., p. 5).

In its modules, the online course repeatedly encourages participants to depart from their familiar sphere of academic knowledge discourse and to enter into societally relevant spheres of individu-ally and collectively coordi-nated sustainability action. Also referred to as transdi-sciplinary learning (Neuhauser & Pohl 2015, Pearce et al. 2018), this educational inter-pretation of boundary work "involves a variety of complex processes of transfer, trans-lation, or transformation among numerous individuals and types of knowledge [...],

frequently producing lear-ning and change to address a problem" (Quick & Feldman 2014, p. 676). Its easily accessible invitation for participants to try and expe-rience 'real-world' impact of their commitment (1) motivates the positioning of the online course embedded in its project and organizational environ-ment as boundary object, and (2) enables its contextual interpretation related to central terms defining the boundary concept (as repre-sented in Figure 3 and the ensuing specifications below).

CIVIL SOCIETY

Soft boundary

Flexible boundary

Rigid boundary

BOUNDARY
ZONE

ACADEMIC
INSTITUTION

netzwerk n e. V.

Regional project

Massive open
online course
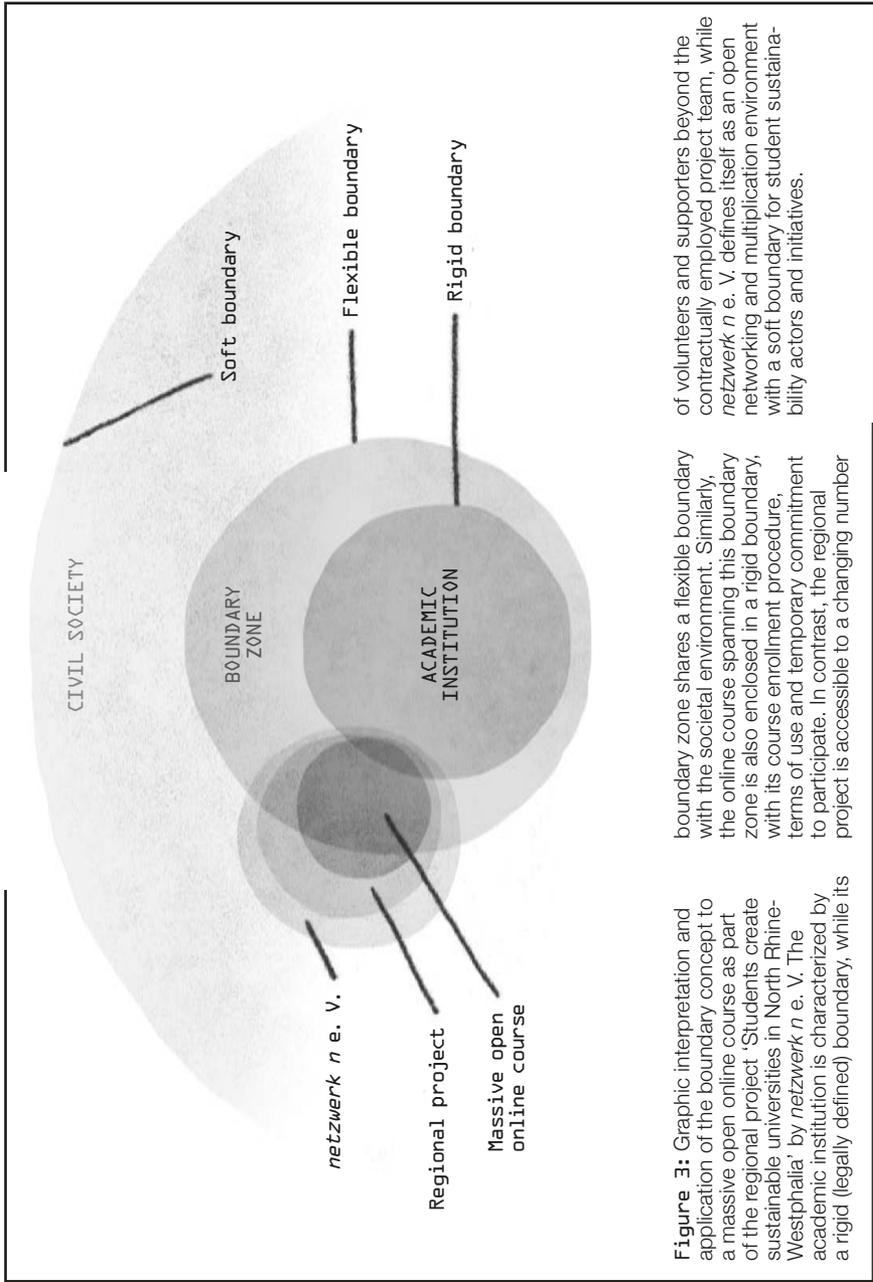
Figure 3: Graphic interpretation and application of the boundary concept to a massive open online course as part of the regional project 'Students create sustainable universities in North Rhine-Westphalia' by *netzwerk n* e. V. The academic institution is characterized by a rigid (legally defined) boundary, while its boundary zone shares a flexible boundary with the societal environment. Similarly, the online course spanning this boundary zone is also enclosed in a rigid boundary, with its course enrollment procedure, terms of use and temporary commitment to participate. In contrast, the regional project is accessible to a changing number of volunteers and supporters beyond the contractually employed project team, while *netzwerk n* e. V. defines itself as an open networking and multiplication environment with a soft boundary for student sustainability actors and initiatives.

With regard to the online course, central terms of the boundary concept as introduced by Hage et al. (2010), Miller (2013) and Klein (2020, 2021) can be interpreted as *boundary* –

zone: discursive, negotiable and transformable space between the rigid (legal) boundary of an academic institution and the flexible margins of the societal environment encompassing it.

object: massive open online course for student sustainability education and empowerment.

organization: netzwerk n e. V. as nonprofit NGO promoting a transformation towards sustainability in higher education structures.

position: at the interface between civil society and institutions of higher education.

management: providing an interactive learning and communication platform for student-driven, bottom-up sustainability discourse and project development.

worker: course participants, tutors and module developers, facilitators, supporters, project team.

work: supporting and enriching education, networking, student-driven discourse and projects for sustainability transformation.

practice: carrying out the online course, empowerment of student-driven action for sustainability transformation.

method(s): digital future workshop, participatory methods of digital peer learning (e.g. webinars, project development, stakeholder analysis, cross-institutional project evaluation).

conflict: discrepancies regarding knowledge, resources, hierarchy, interpretative and decisive power between established academic and student/ civil actors.

traffic: creative impulses, values, imperatives of action in sustainability projects, desirable images of futures representing successful sustainability transformation.

The online course and its integrated digital future workshop are designed to support students in becoming multipliers, actively advocating course contents and methods in their projects and civil activities for sustainability. Through their experience during the course and the digital future workshop, student participants are encouraged to apply their knowledge and skills to address stakeholders who can support them in their sustainability activities at universities. By preparing student participants to facilitate und support sustainability processes through co-creatively developed projects, the course encourages students to understand and embody the role of multipliers.

The digital future workshop in particular is shaped by participants' contributions as they are sharing ideas, knowledge and skills. Their personal experience with generating impact this way can also promote multiplier behavior in their sustainability efforts outside the digital space. This transfer is visualized in Figure 4 and can proceed in several ways: student participants

- implement the project developed during the digital future workshop at their higher education institution.
- pass on knowledge and skills amongst their peer group, e.g. in a student initiative, a university class, or an informal setting amongst student peers.
- develop content for the online course to pass their experience and expertise on to future participants in a structured format.

- connect with other participants from different universities to create an extensive network of sustainability activities across the region.
- extend their volunteering activities beyond the higher education setting into their private or societal environment, either through a specific project or an adapted skill-sharing format.

As shown in Figure 4, knowledge transfer among student participants takes place both within and outside the course and is not a unidirectional process. By completing the online course, student participants receive knowledge provided by the project team and multipliers involved in the creation of the content. This knowledge is diffused by participants in their environment outside the course via their sustainability activities. Furthermore, participants embody a multiplier role within the course by sharing their methodological skills and knowledge with their peers or making it accessible for future participants by contributing their own content after course completion.

The multiplier effect originally describes processes which trigger a desirable systems behavior due to external influences. The term 'multiplier' is also used for the systemic consideration of sustainability transformations (Pham-Truffert et al., 2022), and increasingly describes human actors with a strong transformative capacity. Besides referring to them as 'promoters' and 'change agents' (Mazon et al., 2020), students as multipliers for sustainability at higher education institutions engage in bottom-up, participatory and co-creative project development as part of the digital future workshop. The resulting knowledge transfer empowers students in their activities (UNESCO, 2022) and enables them as multipliers for sustainability in their respective university contexts.

1) PROJECT TEAM
initiate the online course
and digital future workshop
format and frame the
content

**2) STUDENT ALUMNI/
MULTIPLIERS**
contribute content and
methods to reach other
participants

**3) STUDENT
PARTICIPANTS**
develop their skills
and knowledge,
share them to become
multipliers

**4) NETWORKS/
HIGHER EDUCATION
INSTITUTIONS**
impact is generated through
participants as multipliers

**5) PRIVATE/SOCIETAL
ENVIRONMENT**
affected by the impact
or directly by partici-
pants as multipliers
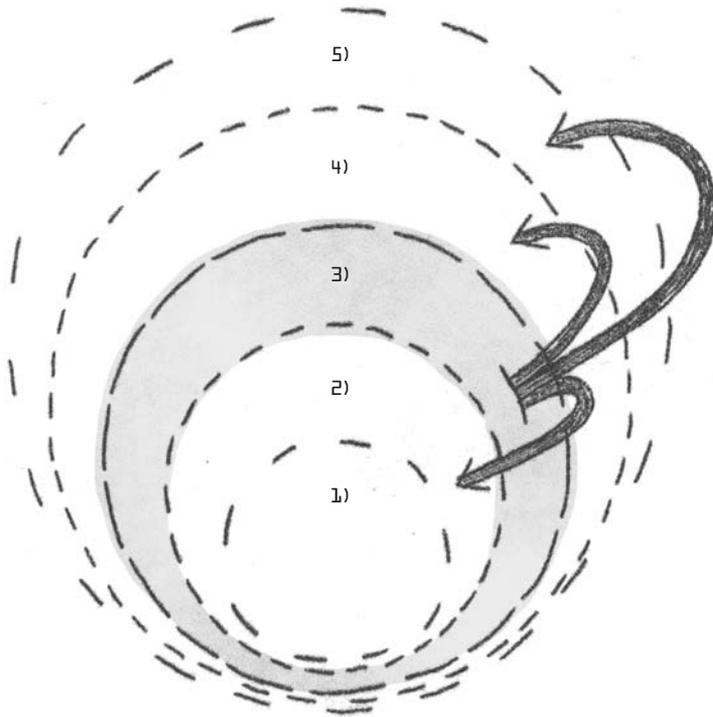
Figure 4: Levels of transfer through which
skills and knowledge are passed on between
different groups during the online course.
With the student participants at the center,
the arrows indicate their multiplier activities
as they share and apply their knowledge
and skills on- and offline, regarding different
stakeholder groups.

Ludwig Weh, Lisa Kinne

Basis from educational theory

The digital innovation of future workshops as practical method supports transformative educational programs at the interface between sustainability education and structural sustainability transformation in the German higher education system. A theory-led development of digital future workshops as part of a massive open online course (MOOC) addresses practitioners who intend to adopt the approach for ideation, facilitation and evaluation of student-driven, bottom-up transformative projects in higher educational contexts and other fields of adult education.

This chapter introduces the conceptual and educational basis of the course development and the integrated digital future workshop.

Futures competences in higher education sustainability learning ———————

Futures competences such as anticipation, discourse and collaborative decision-making have been included in multiple frameworks of postformal education (Gidley 2016) and sustainability education (de Haan 2010, Wiek et al. 2011, Rieckmann 2012, Brundiers 2021). Following the global initiative by UNESCO (2014 & 2017) to establish a widespread Education for Sustainable Development (ESD), these frameworks can be understood best in an ESD-related context (Caniglia et al. 2018, Singer-Brodowski et al. 2020). In this sense of an action-oriented sustainability education, interpreting futures studies as action research (Ramos 2017) highlights their critical and activating character regarding the material-discursive approach of "action-oriented programs" (O'Neil 2018, p. 372) and "project-building'" based on the identification of possible, probable and desirable images of the future. Resulting futures projects can be viewed as "political and ethical positions that lead to action" (Masini 2006, pp. 1162, 1166).

Empowering student projects with this action-oriented futures approach can promote self-organized acquisition of key sustainability competences (Singer-Brodowski & Bever 2016, Cörvers et al. 2016). In this sense, digital future workshops provide an intuitive and easily accessible method of educational practice to apply critical futures thinking in extracurricular learning spaces such as student-driven initiatives. In these contexts, additional competences such as "[t]he ability to manage complex projects or to develop a funding proposal" (Singer-Brodowski & Bever 2016, p. 41) or interpersonal conflict resolution (Konrad et al. 2020) can be acquired. Furthermore, student sustainability projects can complement the conventional curriculum if they are arranged in coordination with the study and examination regulations. In case student projects are integrated with the

organization's management, they can support its sustainability strategy through informal and structural capacity building. By encouraging critical, reflexive and action-oriented student projects, the participatory nature of digital future workshops can empower the creative potential of students as agents for sustainability transformation of higher education structures and environments.

Why digital future workshops?

In order to enable a participatory and democratic way of ideating, negotiating and enacting collective images of the future in real-world projects, Robert Jungk developed future workshops as a complex group method. Typically, it spans a critique, fantasy and implementation phase and is directed towards concrete desirable change of present circumstances (Jungk & Müllert 1987). In an essay lauding early pioneering scholars of futures studies, James Dator reviews the method as "having been invented in order to fill a gap in existing democratic systems which fail adequately to involve the people directly […], and which also generally fail to consider the future at all"; Dator thanked Robert Jungk "for inventing action-oriented futures studies" (Dator 1993, p. 108) since through the development of future workshops, he created a method of social participation in discourse about the future. Today, future workshops prevail as versatile practice method to initiate complex, solution-oriented change processes in a range of applications within social innovation, honoring Jungk's emancipatory commitment for a 'human future' where "[m]an is not at the mercy of technology […] [, he] can use it to create a society in which people lead lives of greater fulfillment and greater participation in culture and politics" (Jungk 1969, p. 34).

Since their early development in the 1970s, participatory future workshops have recurrently been adapted to the demands of practitioners in fields such as civic campaigns, critical design or co-creative management, ranging from amateur level to professional consulting contexts (Armanto 2024). For application in higher education sustainability initiatives, the method can be associated with different educational frameworks such as transformative learning (Mezirow 2009, Thomas 2009, Bywater 2014) or the related field of futures and sustainability education influencing critical-normative and action-oriented learning environments (Drewes 2007, Alminde & Warming 2020). Modern student reality such as learning styles and environments are increasingly shaped by online services, social media, and digital communication technologies. In this light, the digital innovation of future workshops can connect the method's activating potential with contemporary student commitment at the nexus between social, sustainable, and digital transformation processes in academia and its surrounding environment.

The digital transformation of higher education enables new forms of knowledge transfer and discourse such as remote learning, blended learning or 'Learning beyond the classroom' (Bentley 1998, Garrison & Vaughan 2008, Bond et al. 2018, Arkorful & Abaidoo 2015). More broadly, increasing digital literacy promotes fundamental changes in domains such as living, learning, working, playing, connecting and participating on and off campus (Houston Foresight Program 2014) which need to be integrated into new student-centered curricula (Edwards & McKinnell 2007, Abad-Segura et al. 2020). Therein, emerging e-learning formats such as MOOCs also provide students with self-determined learning opportunities such as participatory and (self-)reflexive "act[s] of (re)-designing and implementing their personal learning environment" (Kuhn 2017, p. 11). In this context, their real-world project focus makes future workshops a valuable method of practice which can

transfer its critical, speculative, and activating potential to digital application platforms and create new benefits – e.g. supporting contact and networking across greater spatial distances and a broader social spectrum among students actively promoting sustainability transformation. Especially in higher education student initiatives, the method's playful yet problematizing approach to the envisioning and enactment of alternative images of the future can enhance the ideation of innovative sustainability solutions.

Utopias inspire student sustainability projects

To promote the envisioning, debate and realization of desirable socio-ecological images of the future, recent frameworks of sustainability education have included elements of structured futures thinking (Warren et al. 2014, Wiek et al. 2015, Wals et al. 2017, Corcoran et al. 2017, Wamsler 2019). Especially with the rise of critical, participatory, and speculative design methods as co-creative approaches spurring social transformation projects (Papanek & Fuller 1972, Dunne & Raby 2013, Jonas et al. 2015), the ideation and experimental realization of utopias has gained new attention (Levitas 2013). In line with Robert Jungk, this development emphasizes the inclusion of intuitive and emotional aspects in the creation of images of the future as social practice. Future workshops actively encourage the reflexive confrontation with personal and collective wishes, longings, dreams or fears concerning the future. As central element of the method, the fantasy phase (German: 'utopia phase') creates an imagined future reality for co-creative ideation of alternative images of the future in relation to the topic in focus. Depending on its methodological interpretation, the fantasy phase can touch deeper emotional layers and develop strong personal dynamics

among workshop participants. Interacting with the design media and materials provided for fantasy creation, they reveal symbolic, personally meaningful images which can inspire subsequent translation and adoption for innovative project design during the implementation phase (Lehikoinen & Tuittila, 2024).

For application in student-driven sustainability projects, the creative elements revealed in the fantasy phase contain valuable elements of inspiration that are 'out of the box' and beyond conventional thinking and planning routines. In a continuous group context, they can reveal their innovative potential for project (re)design weeks and months after a future workshop. This ensuing "perhaps short-lived and intense, perhaps gradual yet substantive [learning experience] – that brings about a profound epistemic and personal shift" (Paul & Quiggin 2020, p. 561), can impact personal and group identity formation and the development of competences. Also framed as "metacognitive reasoning" (Mezirow 2003, p. 61) or as "an ontological process of iterative becoming" (O'Neil 2018, p. 372), the transformative effects of engaging with utopias as alternative images of the future can cause a "deep psychological restructuring on the part of the student" (Yacek 2020, p. 257). Along with this internal transformative effect, an external transformative effect can prompt learners to change their environmental behavior and promote sustainable behaviour in their fields of activity. Translating these effects into the digital space, the use of utopias and speculative thinking in digital future workshops can enhance student sustainability projects through integrated ideation, normative discussion and experimental enactment of desirable images of the future spanning digital space and real-world transformative experience – thereby integrating innovative concepts such as digital, transformative or futures-oriented learning in project-based sustainability education (Thomas 2009, Ross 2017, Giroux 2019).

In summary, digital future workshops support frameworks of student-centered sustainability education including elements of structured speculative and futures thinking while taking into account the ongoing digital transformation in higher education learning styles and environments. Supporting problem-based learning formats, utopias as alternative images of the future contain individual and group values and inspire reflexive and transformative confrontation with desirable futures in sustainable development. In student-driven sustainability initiatives, the translation of these images into achievable real-world goals encourages transformative learning experience through individual and collective social action.

Educational concepts in course development

The course development and the integrated digital future workshop draw on established learning and educational concepts. These refer to the wider field of sustainable development to tackle prevailing environmental, social, and economic issues. Figure 5 depicts the concepts which are incorporated in the course design and gaining recognition both in formal and informal educational settings. While these concepts define the course methodology as underlying and implicit educational basis, they are also partly made explicit, i.e. included as content in course modules for participants to reflect upon. The points below briefly outline key properties of each educational concept relevant for the development of the online course.
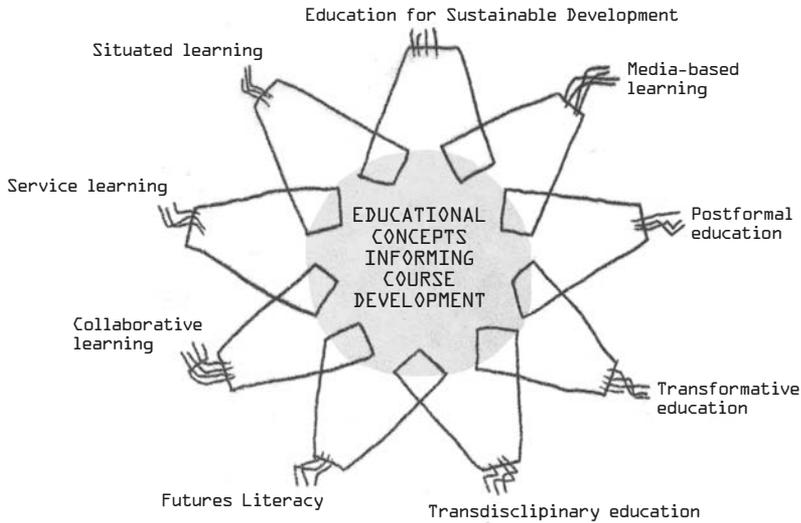
Figure 5: Educational concepts informing the development of the online course and integrated future workshop. These concepts advocate the shift from traditional learning methodologies to an increasingly compe- tence-based, learner-centered approach. This mixed approach intends to provide learners with the necessary skills to navigate and shape an increasingly interconnected, fast-paced, complex and uncertain future.

Education for Sustainable Development (ESD)

Starting at the top of Figure 5, ESD constitutes the basis and starting point for the course. The framework of ESD as an interdisciplinary competence-oriented approach to foster learners' participatory, cooperative, and creative abilities (de Haan 2010, Brundiers 2021) incorporates a variety of progressive educational approaches such as global learning, environmental education and global citizenship education. In addition, digital forms of ESD are becoming increasingly important (Kohler et al. 2022). The ESD approach applied here is focused on engaging cognitive, emotional and action-oriented modes of learning which are often described as learning with head, heart and hand

(Sipos et al. 2008). The online course uses this analogy to structure the content into three tracks – wherein the future workshop is implemented in the action-oriented hand track. The course addresses these modes throughout by encouraging participants to reflect on and discuss the content they are exposed to, develop their own position towards it and manifest their engagement with the content in praxis-oriented projects.

Media-based learning

Learning media specifically support concepts of adult education and correspond closely with the efficiency of didactical-methodical designs (Clark 1983, Kozma 1991). In sustainability learning, media play a central role by determining cognitive factors in the imparting and integration of educational content or by influencing affective factors which may have an effect on relationship formation concerning educational content or the shaping of value discourse (Giessen 2015, Mourlas et al. 2009). As the course is implemented and carried out in a digital form, the learning process is tied to both the content as well as the use of technology. The course platform fosters experience with handling a virtual medium and its functions. At the same time, it supports self-organized learning in an asynchronous digital learning environment. The integrated social platform in concert with the course design is tailored to interaction between participants. The visibility of participants' activities in the course, the variety of options for social interaction both content-related and personal (through discussion forums, direct messaging, and real-time webinars) and the virtual group as a private space for participants contribute to this interaction. Moreover, the course incorporates a multimedia approach by using images, videos, audio, text, animation, responsive elements, and crafting material mailed via post to diversify participants' learning process and allow them to independently adapt it to their own preferences.

Postformal education

Postformal education also informs the course through its holistic and learner-focused approach. Taking the necessity of a societal paradigm shift and increased adaptability for a sustainable future as its starting point, the concept prioritizes individual and collective competences. It encourages learners to question personal values and prevalent social norms in order to act with a future-oriented mindset and thereby create change (Gidley 2016). Similar to ESD, this competence-based approach places the learners at the center and creates a shared responsibility for their learning process wherein the teacher embodies a guide and point of orientation rather than the center of knowledge. In the online setting and particularly the integrated future workshop, the course team takes on multiple roles and acts as organizers, facilitators, and confidantes for participants, guiding the group processes and providing a structure that allows participants to shape the content, determine their own focal points and work at their own pace. This fosters a stronger identification with their own learning process and directs the focus towards their personal growth rather than following an input-output mindset.

Transformative education

Transformative education proposes the incorporation of intentional disruptions in the learning process to enable deeper meaning-making and to encourage a recalibration of learners' beliefs and positions (Mezirow 2009). In terms of methodological implementation, Balsiger et al. (2017) speak of "an emphasis on personal experience; inter- and transdisciplinarity […]; service-learning arrangements; self-organized engagement with knowledge, values, and emotions; and living labs", all of which encourage dialogue and cooperation across disciplinary and institutional boundaries (ibid., p. 359). By fusing rational and

emotional means of accessing knowledge with creative problem-solving methods and integrated self-reflection, elements of transformative education play an integral role in the online course. These are implemented in the form of individual reflections, discussions of controversial questions, virtual role-plays to switch perspectives and integrated self-reflection exercises concerning participants' experiences in their sustainability activities. Schneidewind and Singer-Brodowski (2015) describe system knowledge, target knowledge and transformation knowledge as key elements of a transformative education that puts forward an active claim to shape its learning topics.

Transdisciplinary education

Transdisciplinarity as a collaborative practice between disciplines to connect various perspectives for complex problem-solving is increasingly relevant in the academic sphere and for student sustainability activities. Following this mindset, the course content integrates theory, methodology and practice from different natural and social sciences including geography, psychology, pedagogy, sociology and economics. Transdisciplinary education emphasizes the necessity of real-world relevance and impact of academic learning and research endeavors when addressing sustainable development. For example, course participants are encouraged to find and reach out to potential partners for their projects, such as civic organizations, NGOs or social initiatives with a focus on sustainability. Transdisciplinary education has been developed and tested specifically to support learning for sustainability transformation, also with an emphasis on intercultural exchange (Neuhauser & Pohl 2015, Barth et al. 2019). The online course adopts this idea and interprets it with various practical and reflexive tasks to encourage a mindful, practice-oriented and reflexive learning experience.

The UNESCO-based concept of futures literacy can be defined as "the capacity to design and implement processes that make use of anticipation, generally with the purpose of trying to understand and act in a complex emergent context […]" towards the "expansion [of] our anticipatory activities beyond preparation and planning" (Miller 2015, p. 514). To increasingly orientate decision-making competences towards more sustainable planning, futures literacy pleads for "advances in both the theory and practice of anticipation" and an "anticipatory systems perspective on the integration of the future into the present" (Miller 2018, p. 2). Futures Literacy Labs aim to empower anticipatory leadership to meet global challenges emerging from the uncertainties in complex environments. As a means of implementing the post-2015 UN development agenda (UN 2012, 2015, UNESCO 2014, 2017), Futures Literacy Labs have proposed ways to introduce higher education students, regarded as future leaders, to futures thinking and provide them with planning tools to address global challenges associated with the Sustainable Development Goals.

While equally promoting competences of structured futures thinking in the online course, the digital future workshop takes a more personal and contextual approach to encourage discourse about desirable developments in the immediate learning and living environments of course participants. In line with the originally intended problem-oriented and grass-roots character of the method, the digital future workshop as part of an online course promotes futures thinking through guided explorations of of possible, probable and preferable future realities rather than through a defined framework of a certain literacy level to be achieved. Progressing through the phases of the digital future workshop, participants gradually learn to define their own individual and collective idea of which

critical, ideating and enacting capabilities they need to shape a sustainable future reality in their concrete field of activity.

Collaborative Learning

Collaborative learning forms the core of the course and the integrated future workshop which fosters peer-to-peer exchange and allows each participant to give and receive feedback concerning their progress and ideas. This form of peer teaching and learning has shown great cognitive and affective benefits for students in higher education context (Whitman & Fife 1988, Boud & Cohen 2014, Davidson & Mayor 2014). Even though the course format is semi-standardized through linear course modules, the implementation veers away from 'one-size-fits-all'. Participants take responsibility for their own participation and interaction with fellow participants as well as for their own time investment in self-study and self-reflection activities. The learning process is prioritized over the final learning results. The knowledge that is collectively produced by participants emerges from peer exchange, centered around activities such as giving feedback on project ideas, pursuing live or forum-based discussions on course topics and sharing experiences from their sustainability activities in voluntary videocalls or private messages.

Service Learning

Within the course, service learning (also referred to as 'learning through commitment') is presented as a potential form for sustainability projects relating to societal (sustainability) needs. In addition, it is integrated in the course design as a perspective on voluntary activities in the university context. Also known as the 'third mission' of universities, it promotes social engagement and science-society interaction (Stuteville & Ikerd 2009, Zomer & Benneworth 2011,

Farrow & Burt 2020) and is increasingly acknowledged and prioritized in German higher education (Pearce & Manion 2016, Hernandez-Barco et al. 2020, Berghaeuser & Hoelscher 2020). The online course focuses on societal issues in the participants' wider contexts beyond the university that are relevant for their sustainability activities and thus also for strengthening the third mission. Service Learning as a form of experiential learning through service partnerships in a local setting contributes to participants' capability to address social issues outside the institution while simultaneously examining them within their studies (Barth et al. 2014). This is of particular importance in a context of sustainability transformation. The online course provides suggestions on how to integrate service learning into project ideas. In this way, participants develop social and reflexive competences and gain further experience in self-organized learning while taking responsibility for their social environment.

Situated Learning

Despite the virtual learning space, the entire course content and correlating activities are geared towards participants transferring their knowledge and skills to their student initiative and volunteering context through virtual or real-life interaction. The university setting is shared by all participants and provides a backdrop for their efforts to address sustainability challenges, which contributes to their formation of a community of practice (Lave & Wenger 1991, Wenger 1998). Participants can incorporate their experiences into the course and at the same time are encouraged to apply their learning process from the online course to their personal setting, thereby creating a continuous exchange between theory and practice as they complete the course. This process allows for an integrated situated learning experience despite the barrier between digital and real-life spaces, and it supports the

collective identity amongst participants as they share their experiences within a group that, despite being in different settings, addresses the same object.

Merging concepts for practical experimentation in digital future workshops

Within the online course, the digital future workshop method integrates aspects from each of the described educational concepts, for example in its critical, action-oriented approach with a focus on personal development. In order to understand sustainable development as a process that requires individuals' imaginative and prospective competences to create a desirable future, course participants receive guidance in taking on a future-oriented mindset. Based on the critical-normative, self-reflexive and participatory aspects proposed in the educational concepts, the digital future workshop represents a versatile platform for their implementation.

Aims of the digital future workshop as part of the online course setting are therefore:

- the co-development of ideas for sustainable university transformation to be brought together in the form of personal **projects** tailored to individual contexts throughout the process.
- the activation of participants' creative abilities to build on and complement the theory-based and reflexive modules of the course. This involves **knowledge and skill**

transfer into a safe space for practical experimentation which offers freedom to 'think out of the box'.

- ◘ the development of a personal **problem-solving technique** based on the method's phases and designed for application in participants' student initiative or other group settings.
- ◘ the formation of a **bond between participants** to overcome barriers within the digital learning process and encourage networking and collaboration beyond course completion in real-world sustainability efforts.
- ◘ the fostering of a deeper connection to and understanding of the method in order to activate participants' desire and capability to **carry out their own future workshop** as student multipliers in the higher education setting.

Taking digital future workshops beyond the screen

Beyond the framework of the online course, the digital future workshop acts as a catalyst to encourage student participants to transfer their experiences from the course environment to real-world contexts outside the digital space. This can take the form of participants implementing

the project developed in the workshop, teaching others about the method and its potentials or even carrying out a future workshop themselves. Regardless of the outcome, this process strengthens participants' perception of their own capabilities as 'change agents' (closely related to the 'multiplier-effect') and themselves as future-forming individuals in a larger collective, while promoting individual competences of structured futures thinking.

Facing a complex problem such as large-scale sustainability transformation, the experience of the digital future workshop with its open outcome and diverse potential for application can support participants in pursuing new approaches in their sustainability activities. In often rigid and hierarchical higher education settings, the method can improve inclusive and open communication between students and relevant stakeholders such as institutional administration. This can lead to more inclusive processes of decision-making concerning sustainability policies.

Altogether, the digital application of the future workshop in the course combines elements from various alternative learning concepts that influence course development and implementation as MOOC. Particularly the collaborative, learner-centered, creativity-oriented and competence-focused aspects are expressed in the method's interpretation. Their integration into the online course contributes to the empowerment and self-efficacy of participants as they experience the method in three different ways: as participants in the workshop process, as learners of the method and its components and as potential practitioners putting the method to use in a digital or analog setting outside the online course.

Ludwig Weh

Future workshops — a practical guide

Beyond experiencing the future workshop method during the online course, participants are encouraged to take the method off-screen and apply it to their individual contexts and fields of activity, either after completion of the course or as part of their developed projects. This requires methodological knowledge in addition to the experiential knowledge gained from participating.

During the course, after completion of each workshop phase, complementary meta-reflection on the method encourages participants to develop ideas for their own methodological implementation of a future workshop. To support this, the online course provides a practical guide as a learning material resource for insights into the method's goals, uses and possible application. This guide incorporates examples from the traditional future workshop process to offer orientation and inspiration as to how the method can be applied in offline settings.

Participants are given access to specific chapters of this practical guide following the completion of single phases in the future workshop. This allows them to match their impression of the method's digital version with a possible analog application and encourages the initial transfer from the digital learning space into their respective analog environments where they may act as multipliers.

The practical guide can also function as a basis and reference material for future workshop practitioners intending to implement the method as an online version, especially if they have not used the method before. In the online course, the future workshop was developed and facilitated as iterative learning process drawing on participatory knowledge exchange between workshop facilitators and participants. By using the practical guide as a basis for digital application, the future workshop adheres to the principles of the original method while becoming flexible to adaptations in digital space.

This chapter provides an overview of the future workshop method and the ways in which it can be implemented in the context of a workshop. Texts are kept considerably short and focus on application aspects of the method, with limited reference to its background and development. For a deeper understanding of the method, its theoretical description and intended goals, the following publications are suggested as further reading: Jungk & Müllert (1987), Apel (2004), Kuhnt & Müllert (2006), Vidal (2006), Lauttamäki (2014), Troxler & Kuhnt (2019), Alminde & Warming (2020), Armanto (2024), Lehikoinen & Tuittila (2024).

Future workshops: an overview

This section answers key questions about the future workshop method.

What is a future workshop?

A future workshop is a complex participatory group process for creative problem-solving, often used to develop interventions and innovative projects in the social sector. It is structured into different phases, typically involving a critique, a fantasy and an implementation phase. There is a particular focus on the workshop setting as well as materials and moderation, which can be adapted flexibly to the workshop context, its stakeholders and intended results.

What is the idea?

From the 1970s onwards, the social researcher, science journalist, futurist and political activist Robert Jungk and his students developed the future workshop (German: 'Zukunftswerkstatt') method to provide an integrative way to work out alternative views of a desirable future and translate them into realistic projects. This novel action-oriented approach voiced a desire for collective envisioning and democratic negotiation of real social alternatives in concert with emerging emancipatory social movements. Originally, the method had an explicit normative intention to improve human life in the future through joint active real-world engagement in future projects.

What is it good for?

Today, the method has transformed into a diverse and interactive workshop tool to make people think 'outside of the box' and remodel project approaches with creative impulses. If a group process should be animated with integrative, visionary and utopian thought, the method can help people leave their intellectual comfort zones and enable the development of new perspectives with regard to a certain topic.

What is the goal?

For a long time, future workshops were deemed the idle amusement of hippie-esque eccentrics with little interest in concrete action, preferring to spend their time daydreaming in a utopian space. In fact, the method itself formulates **concrete project outlines** as measurable goals of a process, which makes it increasingly attractive for agile work processes. These projects should be formulated so precisely that the workshop participants are able to start realizing the first steps **immediately** after the workshop ends. Other valuable results can be found in a detailed documentation of the process from which innovative ideas can be derived long after the workshop process has been concluded.

Who can participate?

Participants of future workshops should be motivated and committed to trying the method. They should be open to experiencing new and unconventional ideas; they should be able to tolerate a healthy amount of unrealistic thinking and possibly conflicting opinions; they should prepare to leave the spheres of common logic and reason, and to let go of established patterns and hierarchies. In a professional context, a suitable interpretation of these points should be negotiated during the preparation phase. Group size can vary between 5 and 20 participants, depending on workshop scope, resources, and available moderation capacity.

How much fun can the process be?

Spending time in imaginary space can be fun, and there is nothing bad about the group enjoying this space for constructive collaboration. Interactive elements such as listening or dancing to music, dressing up, roleplay, cooking or eating together can enhance the process. Creative methods such as drawing, painting, crafting, and building utopias can release the group's creative potential.

Focus should remain on a productive group process which does not exclude or discriminate against individuals. There should be sufficient breaks and space for individual retreat, especially during long and demanding workshops. Use of drugs should generally be banned and be ruled out explicitly, if necessary.

What is the time frame?
Future workshops can last from 1.5 hours to several days and weeks, depending on the participants' and moderators' time resources. **Short versions** require strict time management and skilled moderation to instruct and focus participants in the respective phases. They tend to be used in professional environments where time is a limiting factor and results must be obtained fast. Therefore, they also reduce creative elements in favor of strategic thinking and rather concentrate on real-world concerns and feasible solutions. **Longer versions** leave more room for experimentation and the flexible duration of workshop phases allows the group process to be adapted contingently. They can place increased emphasis on individual and collective experiences as well as the reflection of interactive process elements in the different phases. Unlike other methods of creative project development such as Dragon Dreaming, future workshops typically do not accompany projects over time. Their process stands alone as 'full-time activity' with clearly marked starting and ending points. A recommended time frame would be between half a day and two days.

What is the space like?
Future workshops are mostly held in functional indoor facilities such as workshop spaces, conference rooms or retreat centers. The space should be big enough to comfortably host the group in its size and allow different settings such as group plenary, side tables, poster walls, etc. at the same time. Having a bar or kitchen facility in the

vicinity would be optimal for providing or obtaining food supplies. The room should be friendly, inviting and should include a retreat area, like a couch corner. With access to nature, the space would provide the opportunity for spending time outdoors, like walking or other activities outside. If the location offers access to an outdoor area and the weather conditions are appropriate, walks or outdoor games can be integrated into breaks or active workshop phases.

What do I need for moderation?
Moderation is key for successful future workshops. An experienced team of moderators spends several hours preparing a future workshop. This includes team building, getting to know each other's strengths and weaknesses, assigning roles for co-moderation and knowing the participants and process stakeholders as well as their interests and concerns. In addition, an appropriate space and the workshop materials need to be chosen and thought has to be put into the designing of the group process. The team has to structure the workshop phases with specific activities whilst taking time management into account and making back-up plans in case something does not function as intended. Combining *information about* the process with *experience and reflection of* the process for participants is also important, as well as organizing the workshop documentation. These are just a few of the tasks moderators of future workshops need to accomplish. No process is ever the same and even skilled moderators advance their skills and experiences in every future workshop they hold. Learning the method is a steady process driven by steady practice. Throughout a future workshop, moderators should remain open and curious about the outcome of the process, since every workshop and its unique collaboration between participants and the team of fellow co-moderators can provide new and unexpected results.

In a professional context, a strictly external moderation is appropriate, while in more private or informal settings, 'internal moderators' may be part of the group or even participate in the co-creative process. Generally, one moderator for five to seven participants is an effective ratio. Moderators learn their skills from each other during repeated workshop processes. In fact, the method used to be forwarded and developed in participatory practice networks across Germany as a 'future workshop community'. Newly trained moderators can offer future workshops after experiencing one to three workshops as participants or learn as co-moderators within experienced teams. Experienced groups can manage their own process through internal moderation and assign roles such as narration, time management, documentation, etc. within the group.

What can go wrong?

As with any other group process involving participants from diverse backgrounds, you may face lack of motivation, loss of interest or even conflict within the group. Be aware of this and know your role(s) and competences as moderator. Clarify these again if necessary. Create trust and openness in case of initial unease or withdrawal on the part of participants and rely on the fact that they (generally) volunteer to join the process and are mostly curious and willing to learn. Pay attention to potential discriminatory elements and create an environment open to diversity. Some elements of future workshops may address deeper emotional layers and evoke unexpected reactions. Be prepared to handle these reactions mindfully and consider space for retreat and rest. Some people or groups may not open up to imaginary techniques very easily. Be understanding and do not push – it is up to them to decide how they take part in this process. Stick to your prepared workshop structure and avoid methodological experiments, even if this is requested by the group. In case some unexpected event severely compromises the process, offer to post-

pone or cancel the session. Be transparent, approachable and prevent conflicts, also within your team.

<u>What do I need for workshop documentation?</u>
Process documentation should be arranged in advance and to the needs of process stakeholders. Typically, a photo protocoll of the different workshop phases and their graphic results is prepared. If needed, this protocoll can be edited and expanded to a written report with a detailed description of process steps, key discussions and points of interest, innovative ideas, etc. A report would require extra attention to these points and their documentation during the workshop. Especially the translation phase and the implementation phase including the project development should be well-documented as workshop results. Performative elements such as presentations or role play can be filmed in agreement with the group. Participants must consent to being photographed or filmed as well as to the use of this material for documentation purposes – their written consent can be obtained already during registration for the workshop. Depending on workshop duration and group size, it may be practical to have an extra (professional) team member in charge of documentation. The most important source of process documentation is a well-structured and detailed plan for workshop moderation. For the benefit of all moderators of the process, it is important to collect (group/individual, open or written) feedback from participants. Time and space for feedback processes should be considered, including mutual feedback within the moderation team.

<u>What else do I need?</u>
High spirits, a strong team, lots of motivation. Every future workshop develops during a complex multi-layer, multi-method and multi-stakeholder process. A well-developed situational awareness and overview of the whole process may help, as well as previous moderating experience and

social skills. Things that make the participants happy and create a welcoming atmosphere may also contribute to a successful workshop – such as music, snacks, tea and coffee, etc. Make time for little energizers and entertaining games as well as sufficient breaks between sessions. Future workshops can be exhausting for participants; be prepared to adapt (and shorten) your plan.

<u>What is the process?</u>
Future workshops in all their diversity, flexibility and individuality are divided into separate standard phases: critique, fantasy, (translation,) implementation. Translation is usually not listed as a separate phase, although it is of vital importance to transition from utopian (explorative) thought to realistic (application-oriented) project development.

The following lists three principles which may characterize the process of a future workshop:

CRITIQUE   FANTASY   TRANSLATION   IMPLEMENTATION
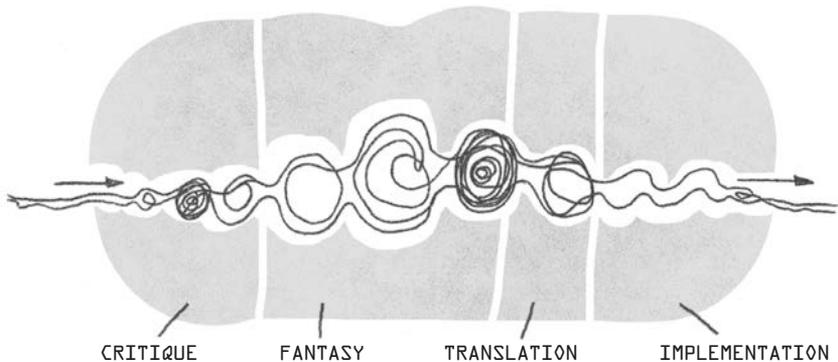
Figure 6: <u>Olive</u>. Resembling the shape of a chemical device called 'olive', participants assemble and spread again in the room multiple times during the process. This may be realized through seating formation, spatial arrangements in the workshop room, methods used, assignments given, breaks scheduled, etc. Without noticing too directly, participants should experience group dynamics in alternating moments of social closeness (group focus) and distance (personal or small group focus). The olive principle can also be applied to broader vs. more specific discussion of the workshop topic.

CRITIQUE   FANTASY   TRANSLATION   IMPLEMENTATION
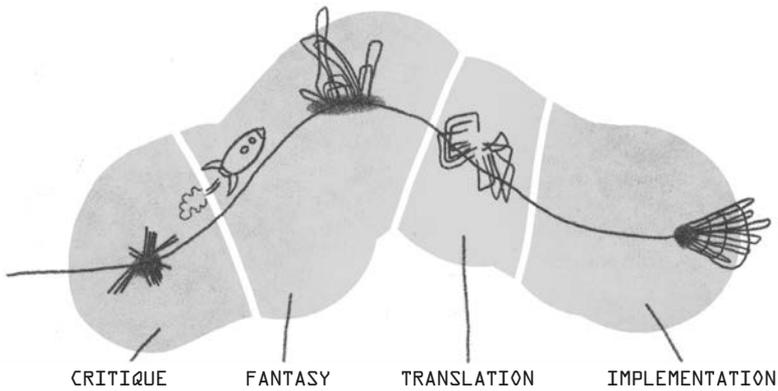
Figure 7: Rocket. The energy level of a future workshop is intended to resemble a classical literary plot with rising, climax and falling period. In theory, the end of the process should leave participants somewhat more elated than they felt initially and motivated to make a change. In reality, it mostly leaves them tired and a little exhausted. For the "plot" of the workshop process, it can make sense to create a climax during the fantasy phase, for example by moderating an imagined journey through space with groups who are open to role play elements.

TODAY   ←----------- LATER -----------→
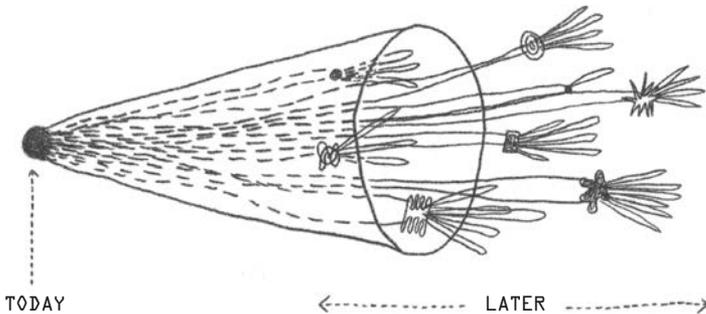
Figure 8: Funnel. Alternative images of possible future developments are often visualized as the 'futures cone' or 'futures funnel'. It demonstrates in a simple way how changing certain elements in the present moment with limited options can open a range of possibilities that expand into the future. More of a mental image, the funnel should remind people that there are more possibilities to create in the future than a simple extrapolation of present circumstances with some desirable changes. After sufficiently criticizing these present circumstances, future workshops aim to explore the funnel through 'mental time travel' in the fantasy phase and integrate the resulting alternative images of the future with realistically achievable projects in the implementation phase, reconnecting them to the present moment.

This section answers questions relating to the preparation of a future workshop.

<u>Save the day!</u>
Do not plan much else for the day you are preparing your first future workshop. Planning alone is a veritable effort in concentration, anticipatory thinking, advanced logistics and team psychology. For further workshops, you may draw on prior planning, practical experience and structures from previous workshops.

<u>Make a (real) plan!</u>
The most important result of your preparation should be a listed structure with a detailed timetable and description of all the activities and necessary material in the different workshop phases. There are a variety of ways you can interpret and implement those phases. This is (a) great, because you can choose methods and adapt them to local circumstances and personal preferences, but this is (b) challenging, because you are responsible for ensuring that your choices meet your stakeholders' needs and expectations.

<u>Talk to your stakeholders!</u>
It is your responsibility to know what participants expect from the process and outcomes of your future workshop. After all, they invest their time, creativity, and resources to make it happen. Therefore, it is your task to actively **reach out and talk** to them repeatedly; the earlier, the better. Stakeholder communication creates an early common ground for working together and makes sure you will have enough participants on workshop day.

Among the many things to talk about and to clarify with your stakeholders beforehand, a few examples:

◪ **Number of participants.** Go with a definite and confirmed minimum number and make it clear that you will cancel the workshop, if this minimum number is not met. This may seem harsh, but it creates commitment, a sense of professionality and might spare everybody potential disappointment in the end.

◪ **Dress code and hierarchies.** Groups usually bring their norms, values, roles, and related attributes. Future workshops intentionally challenge those. You should communicate this clearly and find out to what extent the group is willing to open up, if the method is really adequate and how it can be adapted to the group.

◪ **Scope, intention, and goals.** Do not make fun of yourself. You are offering a serious workshop format. From the beginning, present the method as a professional workshop tool. Listen carefully: what does the group expect, and what can be achieved realistically, considering the time frame and resources? You are the expert in this field, give advice and examples and make recommendations. Do not talk people into anything they do not want and do not accept to work with unrealistic expectations.

◪ **Time, space, resources.** The external conditions of a workshop are of particular importance. Find a good compromise between what stakeholders can invest and what you need to realize the workshop. Make it 100% clear who provides which resources and who is in charge of costs (space rent, catering, materials, etc.), including what you and your team will contribute. Resources also include your (team's) financial compensation. Professional moderators offer a future workshop from EUR 1,000.00 per day and per person.

◪ **Documentation.** What detail and format is needed and expected here? This strongly influences your and your team's workload during and after the workshop.

◻ **Methods.** Are there preferences or demands to include specific elements (interactions, film, music, play, dressing up, etc.) or wishes to try new things, experiment, be surprised? Find out what does and does not work with the group. Do not find out during the workshop. You determine the workshop structure and methodological interpretation, so do not ask permission for standard methods. However, talking about problematic aspects in advance, such as body contact or role-play, might prevent possible conflicts.

◻ **Topic and title.** What will the workshop be about? This question needs to be addressed with special care as it strongly influences the selected methods, workshop structure and preparation. This is so important that another section of this guideline is dedicated to this aspect specifically.

In conclusion, steady contact and frequent exchange with your stakeholders is not about small talk and not an end in itself. It is a crucial part of your preparation and shows that you are working seriously and professionally. It should answer all of your and your stakeholders' questions about the process comprehensively and leave both sides with a feeling of confirming confidence.

<u>Name it!</u>

A good future workshop starts with a good title. Which of these examples appeal to you?

- ◘ "The future of the world and mankind"
- ◘ "Future visions of public transport in rural Lower Saxony"
- ◘ "Dating in 2050 – interpersonal hot wires"
- ◘ "Gender roles in future fiction"
- ◘ "Perspectives and potentials of eco-materials for national toy manufacturers"
- ◘ "Build your sustainable dream city"

A good title is short. A good title is inviting. A good title creates relevance. A good title leaves room for speculation. A good title makes people curious. A good title entertains. A good title **depends on its context**. A good title **captures the essence** of the topic from a stakeholder **perspective**; this requires and reveals that you know **what the workshop will be about** and can express it **in one phrase**. Often, titles make references to the future or some specific year in the future. This is not always necessary. If there will be a documentation report of the process, it may go by the same title as the workshop. Consider this when determining the workshop title with your stakeholders.

Arriving at such clarity about the topic and title requires communication, research, fantasy and an intuitive feeling for the group and the process ahead. **A good title requires (and shows) good preparation**.

To specify the topic and title of a future workshop, some groups may need some gentle help to formulate their (real)

pressing issue(s). Be sensitive here and make them feel like they found (and named) topic and title first, even if this has already been a mutual, moderated process. In the end, stakeholders should approve of the topic and title; you should be comfortable working with it.

Build a structure!
The essence of your workshop preparation is a clear informative (tabular) structure you can easily edit, copy, forward and share. It should give an overview of the workshop phases (critique, fantasy, translation, implementation) with information about:

- timing
- methods
- goals
- expected results
- materials and resources

Add further information at your convenience. Leave space for further remarks. Make sure your moderating team knows the structure well in advance and knows **what every entry means**!

Prepare the moderation!
Now you have got a plan that you can put into practice. Prepare every element of every method you are planning to use in the workshop. Be absolutely exact and think everything through, down to the last detail. Along the process, there will be enough room (and need) for improvisation. Do you have all sticky notes and paper sizes, pen colors, glue, scissors, thread, clothes packed, camera charged, music and videos downloaded? Are hardware and software working? Have you briefed all your colleagues? Do you have a room key and janitor's phone number, just in case? Do you feel good about your preparation? Really? Check your list again, check with your team again; then you are prepared!

It goes without saying that you need to know the workshop space beforehand, prepare and later clean up and hand it over again. It makes sense to involve your team and workshop participants in the process. Also allow for enough time and resources to deal with unexpected problems arising while preparing the space.

Tips and tricks

Think of a future workshop like a child's birthday party. What do people expect from the invitation? What will get them together? What will break the ice? What do they like to do and in which order? What will make them feel weird and uncertain? When do you serve the lemonade, the cookies, the cake, the pizza? When will they get tired, when is it time to go? What will they take home, what will be **the moments** they remember? How do you remember your own birthdays as a child?

In future workshops, creating moments of identification and trust is invaluable, yet personal boundaries must be respected. In practice this requires some diplomacy: eating together may be pleasant. Doing the dishes together possibly not. Recognize (and organize) this in advance.

Future workshops aim to touch very personal and sensitive 'childish' parts in adults. Provide an environment where this is safe and accepted by everybody. Also manage how far people go in connecting to their inner playfulness **through methodological workshop design, not situational regulation**. Be cool, be kind. Be around. Anticipate the process beforehand, steer it during the workshop. Reflect afterwards: what went well, what did not go as expected? Where did conflicts occur, how were they solved? Get feedback in order to learn for your next workshop preparation.

Future workshops aim to bring up new innovative ways to look at problems, and new ways to address them. This sense of novelty should also define the process you are

about to facilitate. Innovative media selection, 'unconventional' and surprising methods, locations, techniques, experiences – think of what is possible and attractive in your context. Get tips from other practitioners; experiment and try out alternatives to find your style to help participants abandon their routines and think 'outside of the box', and to bring them back safely.

Often, participants are curious and want to learn more about the method of future workshops. Find a good balance between *allowing them to experience* the process and *educating them about* it, also to create understanding, trust and acceptance for the steps you are planning to take them through.

Prepare a visual agenda to guide participants through the workshop. Especially in lengthy processes, this provides orientation and helps you navigate through moderation as well. How about an interactive poster with the title, workshop phases and some key aspects of the topic?
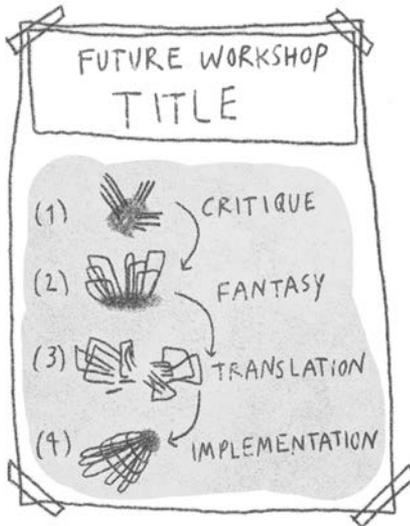
Figure 9: Interactive title poster with workshop phases for a future workshop process.

Critique phase ───────────────

This section introduces the critique phase of the future workshop method.

What is troubling you?
After a welcoming introduction and warm-up round, everybody should be ready to tackle today's topic for future world improvement. First and foremost, it would be good to know what is actually going wrong with this topic, and what exactly needs improvement. This is the time for critique.
A rather gratifying start since humans like to criticize their environment and tend to do it constantly, everywhere and all the time, more or less explicitly and openly. Now they are allowed to express all their criticism freely while engaging in active exchange. There are different methods to choose from and combine for structured critique:

◘ personal reflection (written)
◘ silent discussion, e.g. as
   writing exercise on paper in
   small groups
◘ shared discussion in pairs or
   small groups
◘ worst-case stories
◘ worst-practice role-play
◘ speakers' corner
◘ spontaneous hate speech
◘ collecting points of criticism
   on moderation cards
◘ etc.

To initiate the group process in the critique phase, create vivid communication for sufficient problem awareness for the points of criticism mentioned. After that, participants should reflect individually and note down their personal key points, one point per sheet of paper. Leave enough time for this important step. After enough points have been written down (three to six sheets per person), assemble the group in a plenary circle.

Clustering criticism

To move on, participants should form small groups in which they are going to continue working on an umbrella term within their clusters of criticism in the fantasy phase. There are several ways to create clusters of criticism, umbrella terms and small groups.

One convenient and participatory way of doing so is to cluster the pages with individual critique points together. This may function well in sun- or star-like radiant critique clusters, with participants reading out single points and attaching them to suitable rays. Moderators may help arranging the shape. After all sheets have been put down, debated, and regrouped (similar rays can be combined for complexity reduction), every ray receives an umbrella term on a separate sheet that can be placed at its top (in the center of the sun or star shape) or outside at the tip of the ray. Participants can now move around the shape quietly and stand behind the topic they would like to explore further. Small groups with three to six participants should be formed, matching the number of side tables prepared for the fantasy phase.
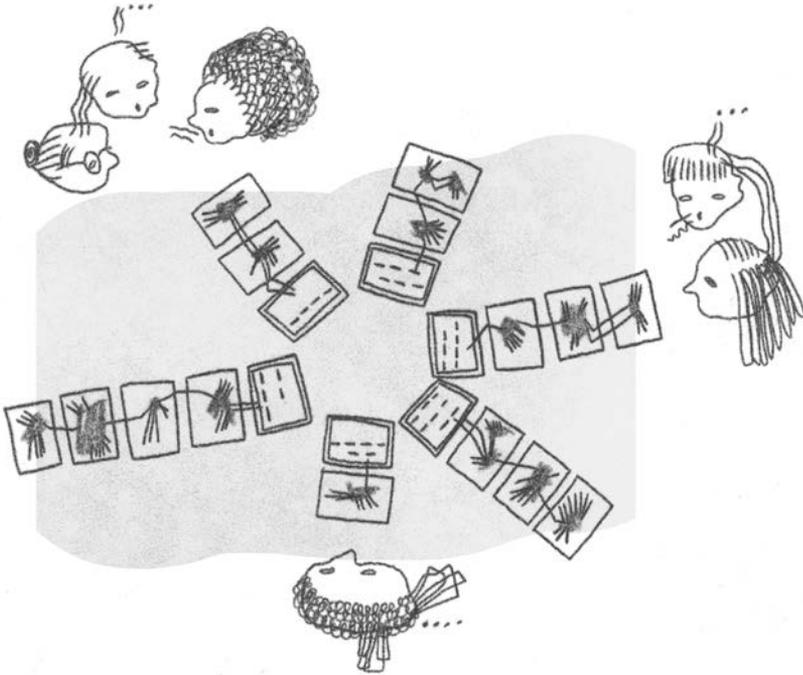
Figure 10: Critique clustering with umbrella terms (cards in the center) and formation of small groups.

Fantasy phase

This section introduces the fantasy phase of the future workshop method.

Engines on!

The fantasy phase (German: 'Utopiephase') is the heart and soul of a future workshop. It allows and encourages participants to abandon their routines, to leave their accustomed spheres of thinking and acting behind to enter a new, imaginary world – the kind of world they would like to live in if today's topic (and all other worldly problems) were

solved. But wait, how exactly have they been solved? This does not matter for the moment.

The fantasy phase is not the time to think about solutions. It is the time to let go and drift into an alternative reality where you (the participants) make the laws – if there are any. No gravity? No problem! Dolphin hyperloops for public transportation? There you go! Hypersonic cyber peace communities? You name them! It is not your role to guide or judge how participants behave and what they bring up in the fantasy phase (within a certain safety zone) – rather, it is your task to take them there swiftly and comfortably and leave them to their creativity!

There are different ways to take participants to planet utopia, starting from "Okay everybody, let's all imagine we are ten years into the future and can solve this problem in whatever way: now write down your ideas on these sticky notes, and then we will discuss." and ranging to elaborate dress-up role-play dream journeys through mysterious forests and mountain ranges until the promised land is reached and the group can build anything from scratch – anything is possible!

This is the crucial moment which defines the quality of your future workshop: how do you take people to their personal utopia – and how do you take them back? Consider: what was the workshop topic again, the social context, the (time and team) resources and the local circumstances? What would be appropriate here, how much work do you want to invest? How much can you and do you want to change the room setting before sending the groups to the side tables to create utopias? What is your style of time-travel?

Practical tip: A nice, short (15-20 minutes) and entertaining way to frame the journey is to visit utopia on another planet some light years away. You can make people dress up and equip themselves for the unknown conditions (for example with a prepared costume box or with their own costumes you asked them to bring or spontaneously with what they find in the room). You could dim the light and

arrange chairs like in a space capsule in front of a screen. Your team could play flight attendants and captain and describe the trip and the intergalactic destination. You could do the countdown, launch the space rocket, and hand out space snacks and drinks for the journey. You could play a space video and space music for the estimated flight time and then, after landing, you could tell people about the outside conditions they will find on planet Utopia and ask them to leave the capsule carefully. From there you could guide the groups to their prepared tables and let them create whatever they think they will find or need on this planet. After creation and presentation of the utopias, you should announce the end of their stay and take the participants back to Earth safely. After this little space trip of about one hour, a longer break (e.g. lunch break with eating together) would be just the right thing for both supporting group dynamics and offering relaxation: time travelling in imaginary space can be exhausting.

Connection first!
Entering imaginary space, participants get back into the small groups they formed in the critique phase and find group tables equipped with a note of their chosen point of criticism to work on, pens, markers, paper, stickers, scissors, thread and glue; anything it takes to craft an imaginary world (on paper). You can ask participants already in the preparation phase to bring their own crafting materials and tools! Here they are, maybe dressed up, and asked to build a fantasy world to solve a complex critique aspect with people they possibly hardly know. Some groups start immediately. Others find the situation disconcerting.

There are many ways to help people overcome their inner censor and connect to their creative potential – keep it simple: just offer something that will get people into the flow of free **imagination of a future fantasy world they would like to live in together**. A nice warm-up exercise is to let a group color a blank poster with wax crayons together,
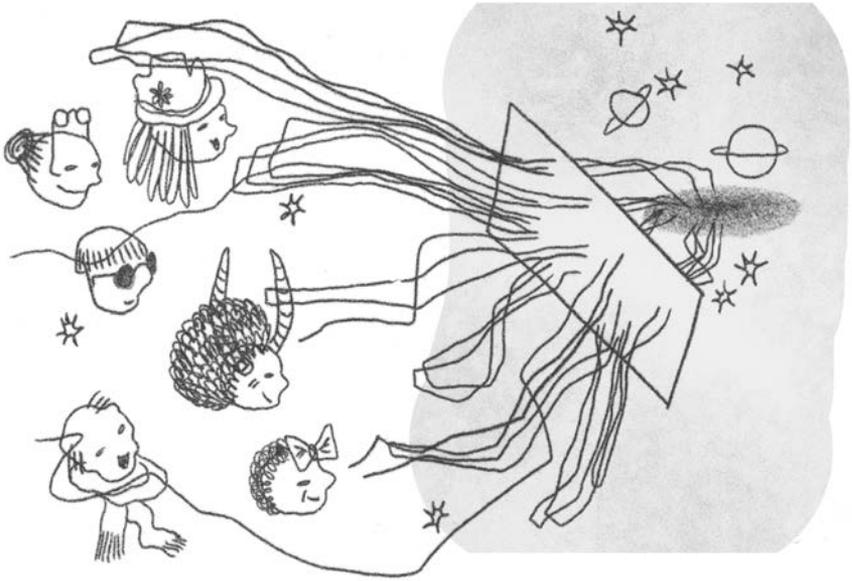
Figure 11: Video screen with rocket capsule chair formation of a dressed-up group before space travel to planet Utopia.

until there is no white spot left on the paper. This can get people connected before the actual creation starts.
Consider: Such intuitive techniques aim to address deeper emotional levels of human creative potential and may reveal strong individual group dynamics favoring dominant over sensitive people. Is this the right technique for your group? How else can people free their creativity on planet Utopia?

Time to create!
People in their groups have connected to their creativity

– crafting materials and endless opportunities are spread out on the tables before them! Now everything should be allowed … let them build anything they need – structures, routines, roles, rules, … it is their time to let their mind wander to the most unusual places … and your time for a breather. Be present, but do not interfere unless you see a clear need to do so. Creation time can last between 20 and 30 minutes in short workshops, in very detailed role-plays or world-building activities it can also take hours or days. In a day workshop, set a reasonable time span (50 to 60 minutes). Announce the end of creation time in advance and ask each group to prepare a creative presentation of their fantasy world.

Practical tip: Display the creativity connection poster near the group's workplace for inspiration.

Present it!

The presentation of the created fantasy worlds marks the end of the fantasy phase. It aims to explain to the other small groups or to each other again what was created, for which reason, and what problems were addressed and solved, if at all. It is absolutely all right if a group decides to spend a happy time in a fantasy space without thinking of any problems. Nevertheless, they should present why they chose to do so, how they experienced it and what was created to achieve this happiness.

Bringing fantasy creation to an end, you ask the groups to prepare one or two detailed presentations, e.g. for a visiting delegation from planet Earth. This presentation should inform total strangers about any possible aspect of life in this fantasy world. Presentations can be of any format: song, play, speech, guided tour, walkthrough, etc. It is important that the audience understands the character of this fantasy world explicitly and can document key aspects of it.
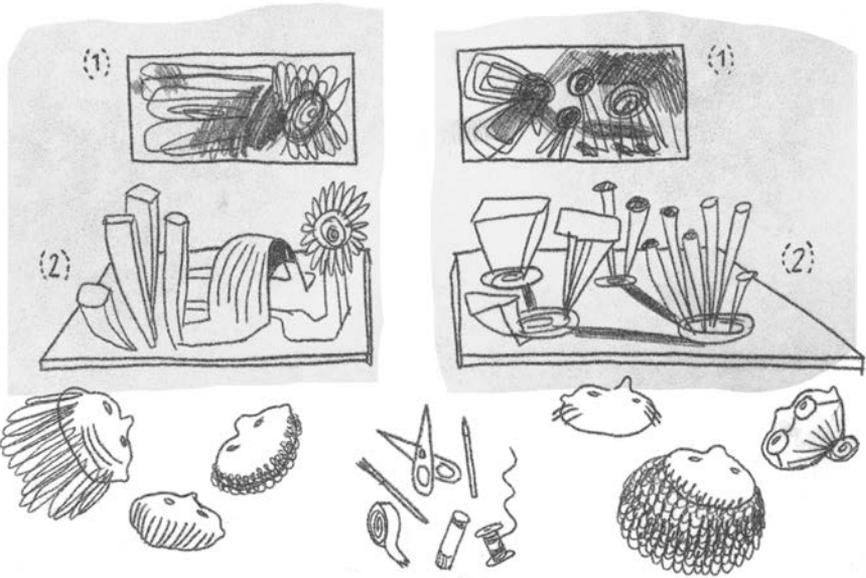
Figure 12: Abstract coloring exercises of two working groups for creativity connection (1), corresponding fantasy creations of the same groups as creative group work (2).

Stimulating questions for presentation can be: What is this world like? What can be found there? What do people do all day? What are the conditions, rules, roles, principles? How do they provide for themselves? What is new, innovative, surprising there? How does it feel to be there? etc. With these questions the moderator can gently remind participants of the workshop topic or the critique aspects they were working on in fantasy phase: how does your fantasy world solve the initial problem or address the aspect of criticism? This is only an option. Fantasy phases can be just as productive without such conscious reference to the topic. Decide what helps the process at this point.

It can make sense to hear two separate presentations of one to two minutes by two group members: (1) What do we find in this world? (2) How do you live there? These presentations in pitch mode create attention and help the group to focus.

How can you document the presentations? For later phases of the workshop, there will be a need to verbalize key ideas and findings of the fantasy phase in some sort of 'idea harvest'. This should be done in a participatory way: everyone can write a separate record; you can roll out a big piece of wallpaper on the floor and people can note inspiring aspects; you can hand people (piles of) moderation cards to fill with keywords and drop them to the floor; you can film the presentations, if people are comfortable with it. **Importantly**, collect all (also and especially weird and seemingly meaningless) presented details from the fantasy worlds – **they produce the value of a future workshop**. After presentation and documentation are completed, terminate the fantasy phase with a longer break.

Translation phase ────────────────

This section introduces the translation phase of the future workshop method.

In existing literature, the translation phase is not usually named as a separate phase of a future workshop. It aims to refer the 'idea harvest' from the fantasy phase back to the original workshop topic, which can be especially important if the harvested ideas are very abstract, vague or 'spacy'. In this case, an extended translation period can reflect on how these concepts might represent meaningful approaches to solve problems in present reality. For example, a fantasy transportation system called 'dolphin hyperloop' may translate as more animal-friendly cities, re-introduction of animal-based transport, better human-nature interaction, sustainable transport innovations, etc.

The translation phase serves two purposes: (1) if necessary, refer documented details from fantasy phase back to useful meaning and value for present problem-solving; (2) cluster these translated details and ideas and find suitable titles for the clustered groups.

In a similar way to the critique phase, clustering should be a participatory group process. Depending on what format you chose for documentation of the fantasy presentation, there may be a big section of wallpaper with written ideas to be cut into pieces or many moderation cards to be arranged. Try to make space on one or more tables, on the walls or on the floor, where all participants can access and change the clustering order. A sun- or star-shaped cluster may work here as well. The group should assign a specific and relevant title to every separate cluster with which they can continue to work in the ensuing implementation phase.
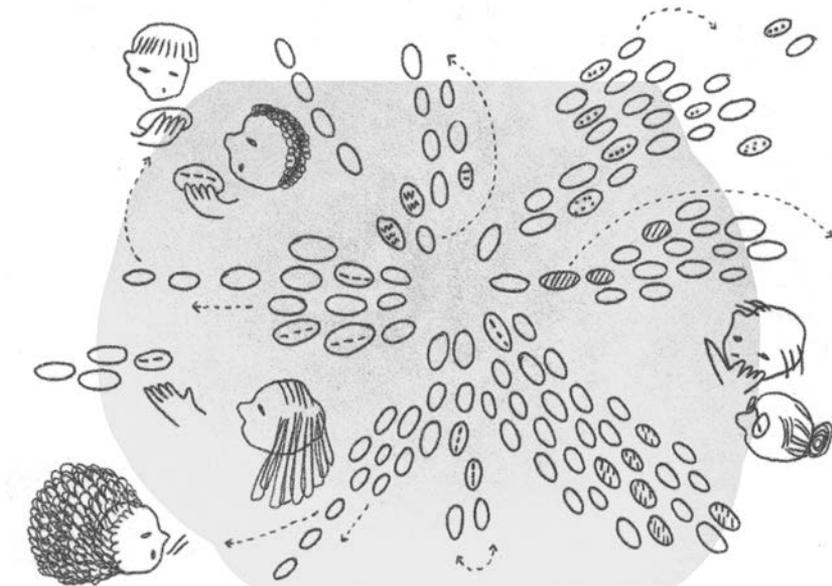
Figure 13: Clustering ideas on the floor with moderation cards and finding titles for them in the translation phase.

Implementation phase ───────────────

This section introduces the implementation phase of the future workshop method.

It has been a long day, with a lot of fun and focus. Now the important part begins: translating the creative impulses from critique and fantasy phases into a form which can be applied to reality for desirable change. – Wait, who makes the change? – Well, you make the change, or even better, you inspire your participants to do so. After the exertions of this busy day, you now hand them a fresh piece of paper to sketch out real-world interventions as project ideas.

These sketches constitute the results of the process that will also be described in the final documentation report of the workshop. So make sure there is enough energy left to sit and work on concrete project outlines. The quality of these project ideas, sketches, outlines, plans, canvasses, roadmaps, etc. shows the quality of your work and your workshop. Save up to one third of total workshop time for the implementation phase.

The degree of how concrete these project sketches are can vary – from "somehow still in fantasy land" to detailed timeline already considering resources to business model canvas. Once again, tailor that to your participants' needs. You can also offer two separate rounds – one imaginary project formulation round, one concrete round or workover of a pre-existing project or project plan. End each round with a short pitch or presentation session to bring the group together and for mutual inspiration. Also plan longer breaks towards the end of the process.

In the original sense of the method according to Robert Jungk, formulated projects should be so concrete and small-scale that participants could start enacting them right after the workshop. From thinking on a big scale and quite generally in the fantasy phase to a smaller and personal ideation process in the implementation phase:

what can you / your group / your organization change about your / their attitude or behavior today? In workshop reality, you do not need to be so strict with the workshop participants. Every form of project sketch will be welcome and will already contain all the good and weird ideas of the day, more or less visibly.

To make matters more complex, the implementation phase also aims to actively implement prior workshop steps in the final formulation of projects. There are many ways to achieve this. Following a straight sequence (see the phase overview), this would mean formulating new or reformulating existing projects to address the initial workshop topic using relevant aspects from critique as well as fantasy and translation phase.

You can get creative here: if materials from the critique and fantasy phases are still visible, send the participants on a gallery walk through the room to collect inspiration for their projects. Also regroup the participants in different constellations of small groups to sketch out projects. Encourage short discussions after the project presentations: which project elements would you like to implement right away? What would be nice to achieve on longer terms? Which project elements do not seem adequate in your context? – sometimes these impulses prove to be most valuable?

Anything that comes up as projects may be of value beyond your and the group's current vision: drawing a new logo or planning a collective trip may not save the world or improve the pressing topic; however, they may **strengthen the group's capacity to improve these conditions** through its activities. Future workshops often produce complex results that reveal their value in unexpected ways at unexpected points in time. That is why detailed documentation is so critical. Any impulse that has been overlooked may blossom within the right context. Not every idea will be put to use, but the atmosphere within which they were created will prevail. If done well, this multi-layer creative process can forge a bond among the group.
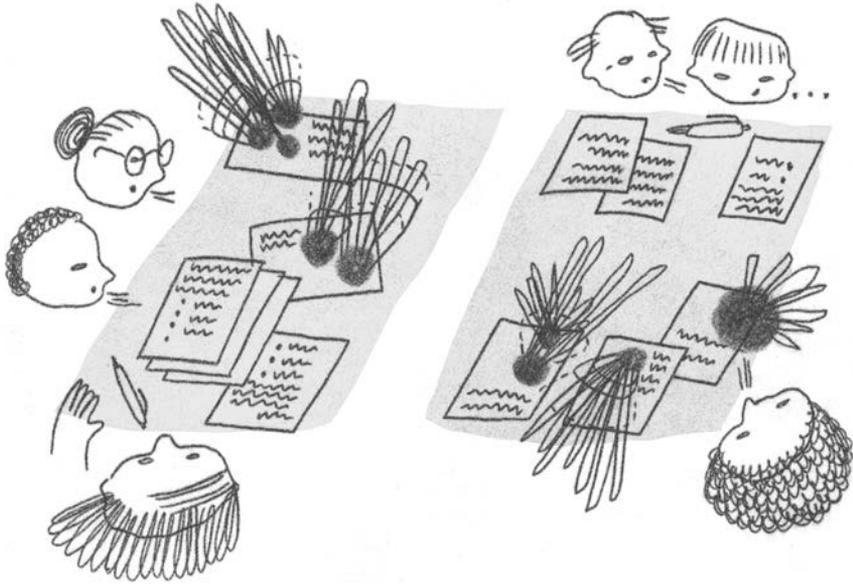
Figure 14: Project work and presentation/ discussion during implementation phase.

As the day is drawing to a close, a few participants are still working on their projects. Some may want to leave earlier, others may just chat with their friends; a few may become exhausted and tired. At this point, pay special attention to people's signals. Be understanding and offer different activities that correspond to their energy levels. Now you can slowly bring the group together again for final discussions, reflections and prospects. First conclude implementation phase with a presentation of the final projects. Then lead over to a feedback round. You might ask questions like: What was useful today, what was surprising? How did the process go, how did it feel? What did you like about it, and would you use the method in your personal or professional contexts? Why (not)? What else would you like to share with the group? Some groups may experience a state of creative intimacy. End the process with them harmoniously and sensitively.

If possible, consider 20 minutes for individual written feedback as well as open feedback from the group to itself. Ask for detailed (written anonymously and open) feedback on your team's work as well. Talk about the documentation, answer remaining questions, then clear up the workshop space, say goodbye to your participants. Go for a drink with your team or the group, or go home. It has been a long day filled with complex tasks. Get some well-deserved rest!

This section shows how the phases of a future workshop connect and progress in a real-time continuous process.
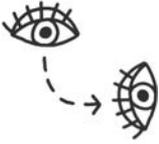
This overview may be helpful for planning, organizing and implementation of a future workshop. The following sections briefly introduce the phases and show good practice examples for application in sustainability workshops with student initiatives. More inspiration and possible variations can be found in the reading suggestions at the beginning of this chapter or can be experienced directly in practice, e.g. with future workshops held by local networks.

Table 1: Phases of future workshops with contents and specifications of input and output.

Phase	What is happening here?	Input/Output
Preparation	Stakeholder contact, defining topic and title; workshop planning; moderators: team building, preparing material and workshop space	Input: stakeholder information, collection of methods, experience Output: solid working relationship, workshop plan and structure
Welcome	Warm welcome to the group; introducing group, team, method and topic	Output: start of the process, motivated group and team
Critique	Problem assessment and dialogue; interactive	Input: topic, title, participants' critical assessment

	structuring of collected critique; selection of relevant topics for fantasy phase	of current circumstances <u>Output</u>: structured critique and specific aspects to elaborate on further in small groups
Fantasy	Guided access to an imaginary/utopian space where an ideal world is built and explored; presentation of this 'alternative future reality'	<u>Input</u>: criticized aspects, small groups, future hopes, dreams, expectations, creativity <u>Output</u>: creative presentation of (crafted, enacted) utopian reality, 'idea harvest'
Translation	Clustering and regrouping of 'idea harvest' from presented utopias; translation into realistic and currently relevant concepts	<u>Input</u>: ideas from fantasy phase, documented presentations <u>Output</u>: structured associations with present reality in relevant categories
Implementation	Reworking or novel conception of a project with focus on concrete and achievable first steps which can be realized immediately	<u>Input</u>: impulses from critique and translated fantasy creations <u>Output</u>: concrete project plans and outlines for immediate realization
Closure	Process recap, diverse feedback, closing circle, information on further contact and documentation, farewell, cleaning up and returning space	<u>Input</u>: process steps and results, moods, opinions, experiences <u>Output</u>: organizational information, feedback, process termination

Lisa Kinne, Ludwig Weh

Translation into digital space

As part of a massive open online course (MOOC), the future workshop method facilitates the development of sustainability projects by student participants and trains them to apply the method to support their activities outside the virtual space. The online course thus functions as a case study for a digital application of future workshops and provides an example for its potential educational use to support the bottom-up transformation of higher education structures. Participants are guided through the method online to address specific sustainability issues and experience participatory problem-solving processes.

This chapter describes principles and single steps towards the digital interpretation of the method and gives practical advice for its implementation.

Participatory development
of the online course ⎯⎯⎯⎯⎯⎯⎯⎯

To empower students through an online format, the intended multiplier-effect for participants was used as a starting point and informed the process of course development. Student multipliers and alumni from previous *netzwerk n* e.V. training programs were involved in the ideation of contents and course module creation in a collaborative effort. As course tutors with diverse backgrounds, they contributed their disciplinary and experiential knowledge from their studies and individual sustainability activities in higher education settings. Tutors' identification with the topics and their shared background with the target group of course participants enabled the creation of a course that followed a strong peer-based and learner-centered approach. Content was developed from a student perspective and accounted for their learning habits and requirements, especially during pandemic-related restrictions of classroom teaching. The resulting online course is composed of three interlinking didactic parts as shown in Figure 15, including (1) a learning management system (LMS) to provide information and tasks; (2) real-time webinars held by the project team to connect participants in collaborative processes; and (3) a social communication platform offering chat, messaging, photo sharing and group functions to allow content-related exchange.

This course development process enabled the integration of new methods like the digital version of a future workshop to arouse participants' curiosity and guide their conceptualization and implementation of a sustainability project based on their visions of a sustainable future in higher education. In a digital space characterized by physical distance and a certain degree of anonymity among participants, the digital innovation of the future workshop method encourages interaction and exchange for the collective development of solutions to tackle lacking sustainability efforts in higher education.

Learning platform and course structure

The overall objective of stimulating efforts and commitment for a sustainability transformation in higher education defines the three components of the course (see Figure 15) – introducing the course modules and central tasks in the Learning Management System (LMS), which serves as central interface for the contents of course modules; implementing group methods and discussions in real-time webinars; and communicating results, ideas and group decisions via the integrated social media functions of the course platform including chat and messenger, groups, forums or folders for saved or uploaded files and images. The integrated functions of this learning platform enable a creative methodological interpretation of the digital future workshop within the online course. The following elements are included and can be used deliberately:

SELF-STUDY LMS

· Learning manage-ment system (LMS) for asynchronous phases contains modules based on single topics or methods. Modules are arranged in three parallel tracks based on primary learning types: head, heart and hand.

· Integrated online and offline activities to test or deepen know-ledge from completed modules, e.g. in the form of quizzes, discus-sions, visualisations.

· Excercises for indi-vidual and collective self-reflection concer-ning sustainability efforts.

REAL-TIME WEBINARS

· Moderated by course team to encourage the application of various methods, e.g. for project conception/ implementation or for teambuilding in groups.

· Implementation of each future workshop phase through direct exchange and integra-tion of results into LMS for subsequent asynchronous study.

· Between two and four hours of synchronous exchange, depending on the amount of support needed for project development.

SOCIAL PLATFORM

· Integrated social platform paired with the LMS to enable group discussions, forums, individual chats, exchange of documents.

· Enhances visibility of participants in the digital space and encourages sharing of personal information.

· Communication between participants improves group cohesion and networking beyond the course content or project conception.

Figure 15: Three interlinking components of the online course platform and integrated future workshop. The structure of the online course includes (1) a self-study learning management system for knowledge transfer, (2) recurring webinars moderated by the course team, and (3) a social platform for exchange about course content as well as for private interaction and communication as a group. These components form the under-lying course interface used by participants to navigate content and to experience the digital future workshop.

Digital — analog or online — offline:

- Digital or online elements require course participants to access a digital, internet-enabled device, such as personal computer or tablet.

- Analog or offline elements can be worked on independently and off screen, such as crafting exercises, observations, or explorations in the real-world environment.

Virtual — real-world

- Virtual spaces correspond to the imaginary spaces of course participants. They can emerge from digital formats and screen-based contents, which may encourage participants to imagine alternative (learning) worlds.

- Real-world spaces include course participants' immediate field of activity, from their learning environment at the desk to their private and professional environment, e.g. the higher education institution.

Synchronous — asynchronous

- Course participants complete synchronous learning phases simultaneously and in mutual exchange on screen, for example during webinars or specific creative assignments.
- Asynchronous learning phases allow to work on course modules in individual timing without coordinating with moderators or other course participants.

- As a hybrid form, small groups can work on specific tasks in close coordination and 'internal' temporal synchronicity, while the overall cohort keeps working asynchronously and independently of dates scheduled by moderators or course supervisors.

In their interplay, these elements allow a varied interpretation of the course structure in single modules – this is crucial for promoting the transfer of digital learning contents to individual experiences of self-efficacy in real-world fields of activity. To stimulate this experience in an easy-access form, course participants were mailed sets of materials including markers, moderation cards, crafting materials and knead to their home addresses which they used in specific modules and creative assignments.

Facing the challenges of future workshops in digital space

Conceptualization and technical implementation of a digital future workshop are facing diverse challenges – they should:

- overcome the restrictions of a unidimensional (real-world) learning environment,
- prevent an overload of digital impressions for the participants,
- provide sufficient transfer strategies from cognitive virtual learning to a real-world practical implementation of the outcomes.

Screen-based learning primarily uses visual and auditive cues via a digital device and is therefore characterized by a limited sensory experience. This is an inherent challenge for a holistic training program based on cognitive-intellectual, affective-emotional, and practice-related elements that rely on an interaction with the outside environment and other participants (Zhan et al. 2015). It also requires a sufficient level of media competency amongst participants to use the digital tools and engage with the content. Motivational aspects are equally critical, as digital formats compete with a multitude of other online activities in student participants' private and professional contexts. To foster engagement through interactivity and address these difficulties, a variety of pedagogical approaches is used. The online course takes student participants' real-life circumstances into consideration, provides space for examples and experiences from their sustainability activities outside the course and allows for direct exchange. It creates a closer connection to fields of activity outside the digital space by means of incorporating personal questions in course tasks, one-on-one conversations through the social platform, group discussions during real-time webinars as well as online and offline tasks that require participants to share offline experiences. This supports a continuous transfer of course content into participants' university context and vice versa. Regular real-time exchange between the course team and participants furthers this personalized experience and a sense of community within the group. These elements mirror the didactic approaches and means of imparting of knowledge in the course.

Representing learning levels in virtual course contents

Figure 16A shows a threefold approach including cognitive, emotional and action-oriented modes of learning. To provide participants with a learning experience addressing 'head, heart and hand' (Sipos et al. 2008) and encourage them to also apply these modes outside the course, the structure of the LMS and real-time webinars follows this threefold approach.

Figure 16: Learning modes in the massive open online course. **A)** The learning modes of Knowing, Feeling and Acting affect the course structure and the methods used to engage participants in a holistic learning experience. These modes are implemented across all three components of the online course and combine both online and offline elements. **B)** The online course is structured in three parallel tracks featuring the integrated digital future workshop as the practice-related track. For eight weeks, participants are working on one module per track and per week in the LMS. The future workshop modules integrate with the other tracks, building on knowledge gained in the head track and reflections taking place in the heart track.

A)

KNOWING

Content covered in the course modules, exchange with other student participants in the course

FEELING

Relating the learning process to participants' social environment, reflecting on personal attitude and values

ACTING

Integrating practical tasks into offline sustainability activities, experiencing methods in real-time webinar

PARALLEL MODULE PROGRESSION OVER 8-WEEK COURSE STRUCTURE

HEAD-TRACK
cognitive-intellectual modules

- Topic introduction
- Sustainability in theory & practice
- Environmental psychology
- Sustainable universities
- University structures
- Project methods
- Animals in project work
- Toolbox for projects
- Networking for impact

HEART-TRACK
affective-emotional modules

- Topic introduction
- Volunteering experience
- Personal motivation
- Volunteering in groups
- Group dynamics
- Animals in volunteering
- Being a multiplier
- Trying multiplier methods
- Reflecting on the course

HAND-TRACK
praxis-related modules

- Topic introduction
- Brainstorming a title
- Choosing a title
- Critique phase
- Fantasy phase
- Translation phase
- Implementation phase
- Reflecting on the method
- Animals in a digital future

B)

TIME-FRAME

Week 0
Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Week 7
Week 8

Building on the three modes of learning, Figure 16B provides a more detailed overview of the overall course structure in the LMS, which is composed of three tracks (head, heart, and hand) that reflect these modes directly. In the tracks, the digital future workshop marks the space where participants' creativity and curiosity are fostered to create innovative project ideas. The knowledge and skills gained in the head and heart tracks remain abstract until they are applied to a real-world setting. Participants are provided with information that allows them to reflect on future longings, develop future wishes based on the status quo and voice their desires for a sustainability transformation. These aspects are expanded in the future workshop as part of the hand track to explore participants' future dreams regarding their individual and shared environment and provide a space in which prospective thinking is given a practical context.

To enable an application in practice within the digital future workshop, the method is separated into parts that reflect the phases from the original method to make the process clear and simultaneously engage with content from other modules. As an example from Figure 16B, the module on sustainable universities is planned for the same week as the critique phase, using the theory-based input as a foundation for criticism. The digital implementation of the method proceeds in a more asynchronous manner (participants do not necessarily complete phases at the same time), which requires the phases to last longer and be more flexible in their succession. Previous modules are not closed once the following phase begins but remain accessible to participants. Further details on the implementation of single phases of a future workshop can be found below in this section.

Setup and temporal structure of digital future workshops

Translating the future workshop method into digital space opens up a range of options regarding the concrete methodological interpretation of the single phases as well as their temporal progression:

◘ As a simple version, digital future workshops can be facilitated in a single synchronous webinar. Participants progress through a continuous sequence of the single phases while formerly analog elements such as drawing, noting down ideas or clustering are transferred to a digital whiteboard and small groups are organized in breakout sessions. This form maintains the original character of the method as well as the classical temporal structure of sequential phases.

◘ In a more expanded version, digital future workshops can benefit from the opportunities of digital work routines: spanning longer time periods, participants can experience a complex process of alternating synchronous (moderated) and asynchronous (individually organized) phases, e.g. to support an ongoing project over larger spatial and temporal distances.

◘ Digital media make it easier to document, save and enable access to intermediate results of the individual phases in real-time – in analog versions of the future workshop, this is more resource-intensive and often harder to accomplish.

◘ Future workshops in digital space thus do not require a continuous sequence of the single phases – however, group dynamics and motivation among participants should be maintained and the process, while containing asynchronous elements and discontinuities, should keep its typical plot curve.

◻ With sufficient preparation of a (digitally implemented) methodological framework, significantly more moderation competences of a digital future workshop can be transferred to the participants for self-organization. This strengthens the participatory character as an important feature of the method. Based on predefined surfaces on digital boards, recorded moderation notes or video tutorials, participants can prepare single phases independently as well as implement and develop them in collaboration. During synchronous phases, moderators can bring the group back together to assess and cluster intermediate results or to plan further steps.

◻ Alternating synchronous and asynchronous phases in digital future workshops can transfer the opening and reuniting dynamics of the analog process into digital space.

◻ As an example, the online course presented here produced a two-hour audio track with concrete work assignments for the fantasy phase. Following the audio instructions, participants form small groups and complete the fantasy phase during time slots they are arranging independently. They document the process as assigned by the audio and upload their results in the form of images and screenshots onto the course platform (asynchronous). In an ensuing webinar (synchronous), they present their results to the group, interpret the fantasy creation of the other groups to initiate the translation phase and share their experiences as a small group during fantasy phase.

Moderation teams should therefore adapt the structure and sequence of a digital future workshop to the needs and requirements of the participants, to the external conditions and technical resources – similar to the planning and preparation of a classical analog future workshop.

The digital future workshop stretches over six weeks in total, with a combination of asynchronous individual work and real-time synchronous group work in webinars. Based on an introduction to the method and a collective decision-making process on the workshop title, the digital future workshop progresses with one phase per week to provide enough time for individual and collective work. Due to the partially asynchronous mode within the course, a translation phase is included after the fantasy phase to allow participants a more in-depth engagement with the future visions of all other participants at their individual pace. This increases the connection to the group despite the distance and enables participants to use these visions for their own implementation ideas. Figure 17 provides a detailed overview of how the phases of the original method were transferred into a digital environment and integrated into the overall structure and time frame of the online course.

Reflection of the method takes place in the final week and after completion of the workshop. Furthermore, participants are encouraged to translate personal experiences into action with the help of the method. The course enables them to implement an analog or digital future workshop as student multipliers or to incorporate the method in their ideated sustainability projects. Throughout all the future workshop phases as shown in Figure 17, course modules additionally encourage participants to reflect on the method itself and give suggestions in terms of methodological alternatives to its implementation.

MODULES:
REFLEXION OF THE
METHOD, APPLICATION

Week 6

MODULES:
IMPLEMENTATION

Week 5

MODULES:
TRANSLATION

Week 4

MODULES:
FANTASY

Week 3

MODULES:
CRITIQUE

Week 2

MODULES:
GET STARTED!
NAME IT!

Week 1

Digital future workshop

DEBRIEFING
PHASE

IMPLEMENTATION
PHASE

TRANSLATION
PHASE

FANTASY
PHASE

CRITIQUE
PHASE

PREPARATION
PHASE

Analog future workshop
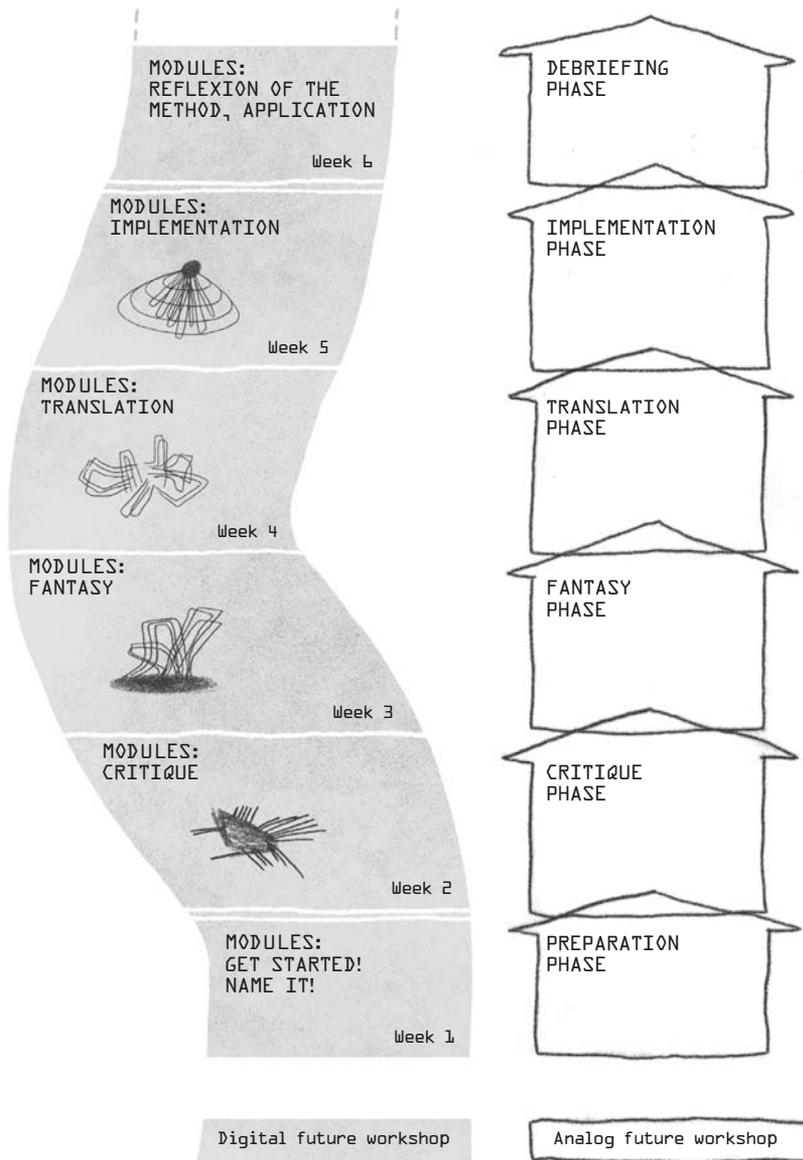
Figure 17: Progression of the digital future workshop modules within the online course over a six-week period, matched with the phases of the original method.

The digital future workshop implemented within a massive open online course merges synchronous and asynchronous phases. In synchronous phases, participants are guided through direct contact with the course facilitators and interact with each other for example in real-time live webinars. In asynchronous phases, they experience parts of the workshop independently while interaction with other participants takes place indirectly through the course framework, e.g. via a messaging function. This combination allows for a certain degree of freedom and participants can dedicate themselves to the process based on their own working capacities, in a continuous alternation between individual and group work.

Furthermore, to maintain participants' commitment throughout the process despite physical distance, the digital implementation of the future workshop includes a variety of group methods, different incorporated tools, and options for collaboration among participants. The toolboxes below give an overview of the method's digital application in its critique, fantasy, translation and implementation phases throughout the online course. They provide insight into a possible variant of implementing the method and further suggestions for practitioners intending to carry out a future workshop in the digital space.

Critique phase

Following a general introduction to the method, the critique phase creates a safe environment for the participants in which they feel free to express critical thoughts and feelings concerning the topic and title of the workshop openly. As participants have limited opportunities for interpersonal connection outside the workshop phases in the digital space – unless they actively seek out other participants –, the critique phase functions as the first point of direct contact between them. Therefore, the communication space should be framed by the facilitators as nonjudgemental and open to all opinions, thus encouraging participants to express criticism freely. The form of articulation should be open, so that each participant can find a way to express opinions that is most comfortable for them. This phase combines synchronous and asynchronous interaction wherein participants express criticism individually first, subsequently share it with the others and finally combine all points of criticism of the group in a moderated real-time process.

Premise:
The critique phase requires a problematic question or topic to be addressed, e.g. "What do you find unsustainable about your university?"

Goal:
Responses to the question result in multiple documented topic clusters of which participants can choose one to focus on in the next phase.

Step by step:

1. Participants record a short video or audio message (optional: written) to express their points of criticism and share it with the group.

2. Participants look at the messages individually within their own time frame and gather the points of criticism on a virtual whiteboard or in a virtual forum so that verbalized points of criticism are extracted and transformed into written form. This is an important step for participants to identify with the group's points of criticism rather than only with their own.

3. In a real-time setting such as a videoconference, participants are invited to discuss the points of criticism they have collected individually and find common topics among them.

4. In an interactive process of discussion, participants work together on the whiteboard to arrange points into related clusters.

5. Participants mark (either anonymously or with their names) which critique cluster they want to continue working on. The moderators save the results on the whiteboard.

<u>Tools required:</u>
• Digital device to record a video or audio message
• Virtual whiteboard to collect points of criticism
• Videoconference for real-time interaction

<u>Time needed:</u>
• Approx. 30 mins for asynchronous phase
• Approx. 2 hours for synchronous phase

<u>Recommended group size:</u>
• Min. 5 — max. 25 participants in whole group

<u>Autonomy of participants:</u>
Moderate

<u>Suggested preparation:</u>
Moderators should give clear instructions on the topic
or question concerning which participants express their
criticism. For the synchronous phase in webinar format,
they should prepare the whiteboard with a structure
that allows participants to cluster points of criticism
intuitively without additional instructions.

INDIVIDUAL
CRITIQUE

COLLECTIVE
CRITIQUE
EXTRACTION

COLLECTIVE
CRITIQUE
CLUSTERING

INDIVIDUAL
CRITIQUE
CLUSTER
CHOICE
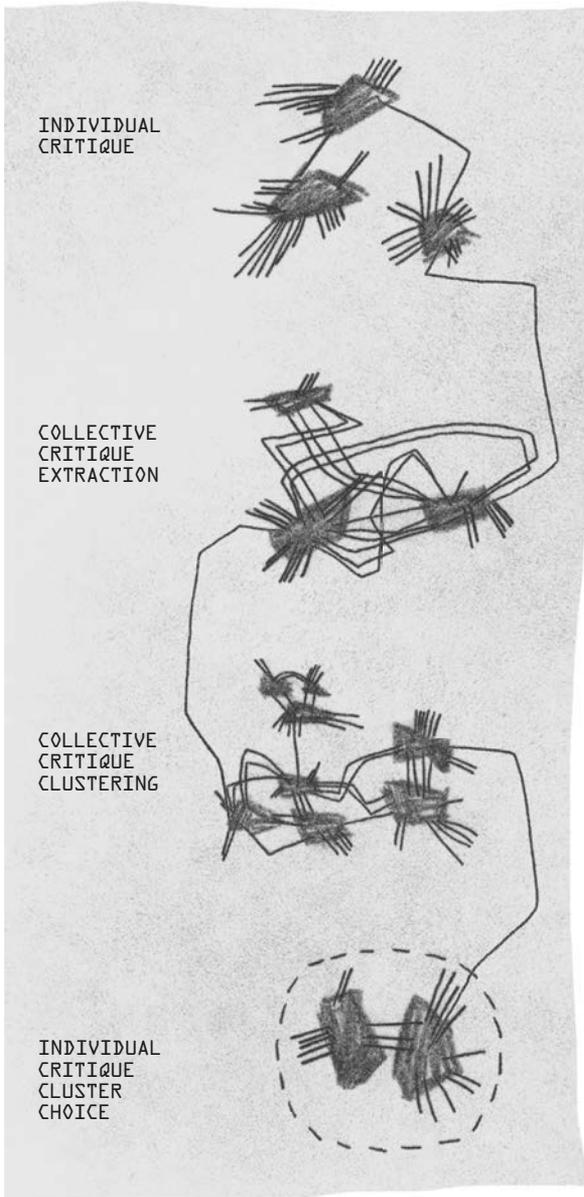
Figure 18: Interactive process among
participants in the critique phase.

The fantasy phase of a digital future workshop should appear as immersive as possible to stimulate participants' creativity and imaginative power. This phase is essential to transform the potentially negative emotions raised in the critique phase into a positive future perspective. To this end, the implementation of the fantasy phase should be primarily synchronous and either closely guided by moderators or well-structured with pre-produced material. Despite the physical distance between participants, this phase of the digital future workshop should be as personal as possible, making small groups preferable to a plenary session. Participants should also be encouraged to spend the fantasy phase in a comfortable setting where they are undisturbed and can fully engage with the virtual experience, as external disturbances can inhibit the creative potential unfolding in the process.

Premise:
The fantasy phase builds on the established critique clusters and turns the negative associations into positive visions by activating participants' creative future-thinking capabilities.

Goal:
Participants initially create individual future fantasies and then combine them with those of other participants to produce collective fantasies as a basis for the following phases.

Step by step:
1. Participants are provided with information on how to prepare for the fantasy phase, including the materials they should have at hand for the real-time part of the phase. Within the small group they have formed in the critique phase, they select one participant to act as small group moderator for the phase.

2. In a videoconference, the group simultaneously listens to a pre-produced audiobook that includes a meditative imaginary journey to a future utopia. Within the audio, participants are invited to engage in different creative tasks such as visualizing their personal vision of the utopian environment.

3. Based on their visualizations (drawings, sculptures, digital images…), group participants can share their visions and discuss similarities and differences. Based on this exchange, they are invited to create a short 5-minute video recording of themselves in which they describe their collective utopia, e.g. using specific items, sounds or gestures.

4. Following the real-time videoconference, the personal utopia visualizations and the group video are shared with all participants. Every participant is encouraged to watch the videos in their own time and write down their associations and ideas on a shared virtual whiteboard. These individual associations are transferred to the translation phase for further use.

Tools required:
• Pre-recorded audiobook (alternatively: real-time moderation with tasks)
• Writing material (pen and paper)
• Art/crafts supplies or digital visualization tools
• Videoconference with video recording option
• Virtual whiteboard to collect associations

Time needed:
• 3 hours for synchronous phase
• 30 - 60 mins for asynchronous phase

Recommended group size:
• Small groups of max. 5 participants in synchronous phase
• Min. 5 — max. 25 participants in whole group

Autonomy of participants:
High

Suggested preparation:
If pre-recorded material is used, a task guide should be provided to the group moderator to avoid confusion about necessary steps. Participants should be briefed on how to use all tools before starting.

INDIVIDUAL
FANTASY
DEVELOPMENT

COLLECTIVE
FANTASY
DISCUSSION

COLLECTIVE
FANTASY
PRESENTATION

INDIVIDUAL
FANTASY
ASSOCIATIONS
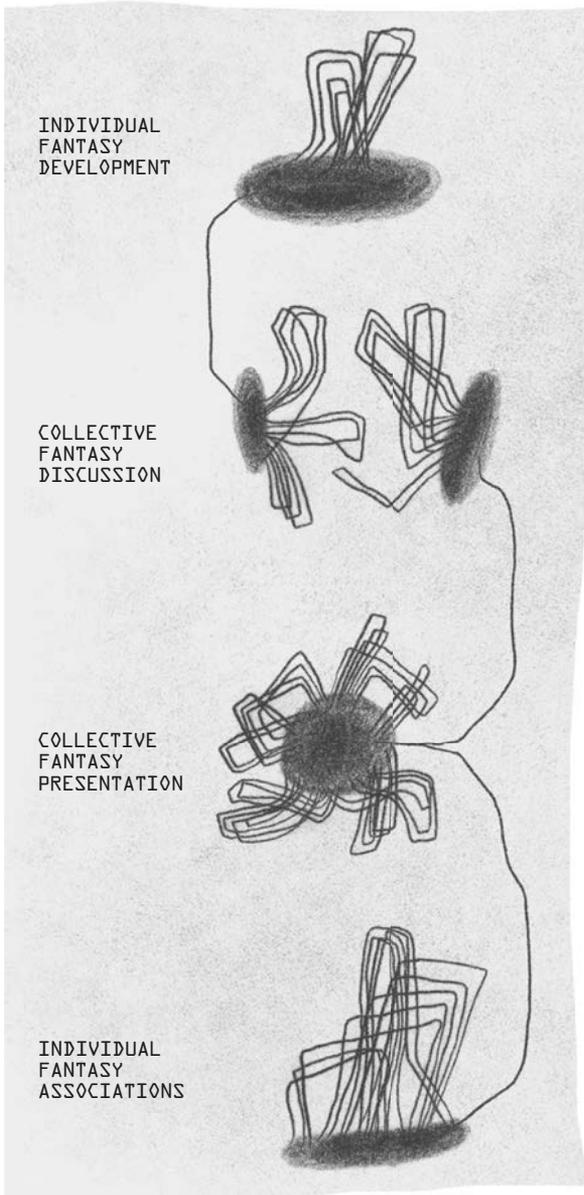
Figure 19: Interactive process among
participants in the fantasy phase.

Complementing the standard phases (critique, fantasy, implementation) of the original future workshop method, an additional translation phase can improve interpretation and transfer of fantasy contents to real-world application. The translation phase connects utopian thinking in the fantasy phase to project design for desirable change in the implementation phase. Particularly in a digital and asynchronous setting, where participants are not going through the method at the same time, the process can benefit from a translation phase. Implementing it gives participants sufficient time and space to engage with the content from the fantasy phase on a deeper level and derive their own thematic focus from it. This requires a framework through which they can revisit the fantasy phase as well as interpret and restructure its results. Even though this activity can be asynchronous with less interactivity, it should have clear instructions as a basis for participants' individual work. Alternatively, a real-time synchronous form can lead to more differentiated results and allows a more group-oriented and democratic translation process. Either approach requires concrete methodological instructions in order to use the translation process to form a content basis for project development in the implementation phase.

Premise:

The translation phase is an intermediate step between the fantasy and implementation phase where abstract and unsorted associations from the fantasy phase are interpreted to extract new topics.

Goal:

Participants identify similarities and connections between associations and cluster them to form small groups based on topic preference. These groups can pursue ideas for implementation.

Step by step:

1. The shared virtual whiteboard with associations from the fantasy phase forms the basis for interpretation of concrete approaches and project ideas in the implementation phase. Participants interpret these associations individually and in the group in order to derive major topics.

2. The associations are clustered under these topics on a new whiteboard. The individual associations thereby become collective associations and are connected in new ways to make abstract ideas more concrete.

3. At the end of the clustering process, participants can choose the topic they want to pursue in the following phase either by adding their name or marking it with a symbol.

4. This process can also be carried out in a real-time videoconference where participants have more opportunities to discuss potential topics among themselves before finalizing them on the whiteboard. This interaction can result in entirely new perspectives on previously gathered associations and thereby provide inspiration for the following phase.

Tools required:
• Virtual Whiteboards
• Videoconference for collective clustering (optional)

Time needed:
• 10 — 30 mins for asynchronous phase
• Approx. 1 hour for synchronous phase (optional)

Recommended group size:
• Min. 5 — max. 25 participants in whole group

Autonomy of participants:
Moderate

Suggested preparation:
Facilitators should prepare a structure on the white-
boards ahead of time to avoid confusion among partici-
pants about how to create clusters. Clear instructions
are necessary when working asynchronously, e. g. to
make sure participants do not delete topics they do not
agree with. Participants should also be informed about
the purpose of choosing a new topic to take into the
following phase.

INDIVIDUAL
ASSOCIATION
EXPANSION

COLLECTIVE
ASSOCIATION
DISCUSSION

COLLECTIVE
ASSOCIATION
CLUSTERING

INDIVIDUAL
CLUSTER
CHOICE
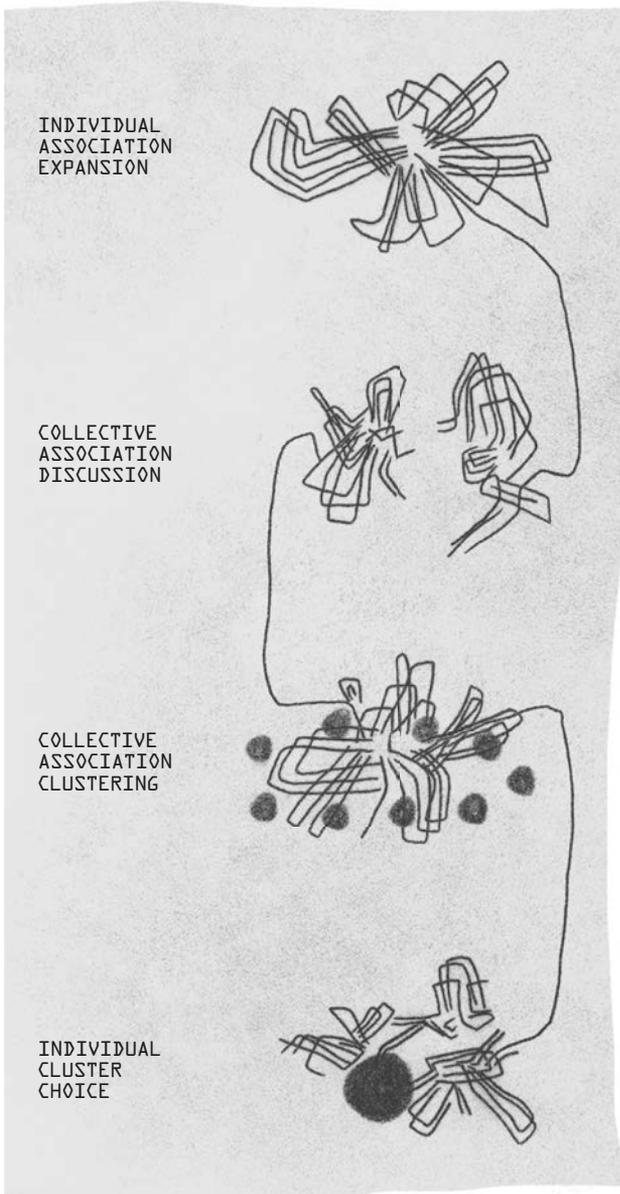
Figure 20: Interactive process among
participants in the translation phase.

The implementation phase encourages participants to refer their experiences from previous phases to the initial problem posed by the future workshop, and to their personal context. Participants should work in small groups to ideate and specify their future-oriented projects. In the digital space, this collaborative process requires a high degree of autonomy as the likelihood of subsequent project implementation depends on the extent to which participants can shape their projects to be applied outside the digital space. This phase benefits from clear instructions by moderators and a strong bond among participants in a project group which may have already been established during the workshop process. Depending on the level of interactivity in the group, the synchronous and asynchronous steps within this phase should be made transparent at the beginning to ensure that everyone is able to take part in the collaborative process and share their results at the end.

Premise:
Implementation phase marks the final step in the future workshop where results from previous phases are reflected on and new topics from the translation phase are processed and developed into concrete project ideas.

Goal:
Participants take inspiration from previous phases to develop an idea which they can turn into a project, create a plan for its implementation beyond the digital future workshop setting and share the idea with the other participants for feedback.

Step by step:
1. Participants formulate a project idea based on their chosen topic from translation phase and share it on a virtual whiteboard.
2. Other participants that have chosen the same topic can give feedback on the idea via comments and have the option of communicating directly via chat to contribute to further expansion of the idea.
3. Participants develop the idea individually (or in a small group) using a provided project canvas template of their choice. The completed canvas is forwarded to another participant (or group) to give written feedback based on predetermined questions.
4. Participants (or small groups) can rework their idea based on the feedback and present the final version to all other participants via a short video or audio pitch.
5. To close the phase and the future workshop, all participants can share their project plan and intentions for further development in a videoconference and discuss potential collaborations.

<u>Tools required:</u>
• Virtual whiteboards
• Digital project canvas (a planning template)
• Direct messaging or automatic peer review function
• Digital device for recording
• Videoconference for final presentation

<u>Time needed:</u>
• Approx. 3 hours for asynchronous phase
• 2 hours for synchronous phase

<u>Recommended group size:</u>
• Small groups of max. 5 participants in asynchronous phase
• Min. 5 — max. 25 participants in whole group

<u>Autonomy of participants:</u>
Very high

<u>Suggested preparation:</u>
Moderation can decide how complex the project development can be and how much freedom participants have in the process. Steps such as the peer feedback or pitch can be omitted if the results are not intended to be highly detailed or ready for implementation after the workshop.

INDIVIDUAL
PROJECT IDEA

COLLECTIVE
IDEA
FEEDBACK

INDIVIDUAL
PROJECT PLAN

PEER-TO-PEER
FEEDBACK ON THE
PROJECT PLAN

INDIVIDUAL
PROJECT
VIDEO/AUDIO
PITCH

COLLECTIVE
PROJECT
PRESENTATION
AND DISCUSSION
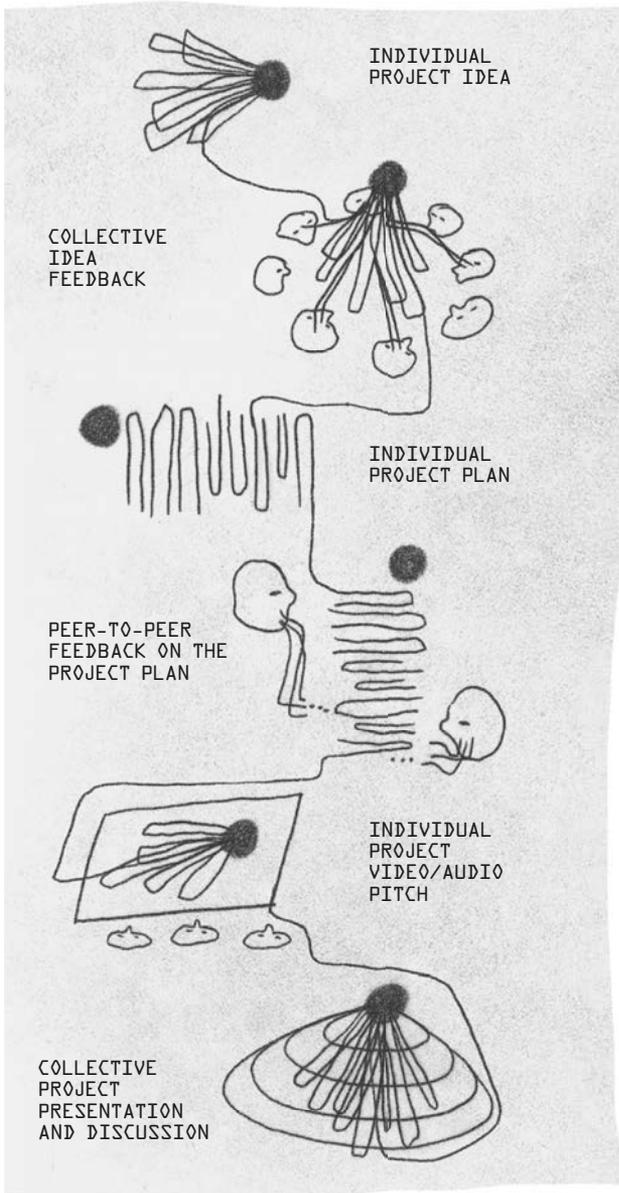
Figure 21: Interactive process among
participants in the implementation phase.

Design principles and elements ⸻

To foster motivation, recognition and commitment among participants, the course design including the digital future workshop followed two overarching principles:

1. Transparency — consistency — relevance — efficiency ⸻

This principle adheres to the quality criteria of good practical research (cf. Popp 2013, Gerhold et al. 2015) and ensures that single methodological steps of the digital future workshop were aligned coherently and presented in a consistent manner on the course platform (consistency). The course team shared and explained methodological selections and developments with the participants in a reasonable scope and framing, giving them insights 'behind the scenes' of the method and establishing a functional feedback culture and participatory elements in course development (transparency). Furthermore, through revealing structural elements and encouraging participants' own interpretation in their respective fields of activity, this principle enabled participants to conceptually test and subsequently apply the method (relevance). As a superior design principle, a clear, compact and direct presentation of methodological steps and contents defined the graphic design and textual descriptions (efficiency).

2. Reflexivity — participation — innovation — power discourse ⸻

This principle of course design follows the basic features of transformative research and education as outlined by Schneidewind et al. (2016), the elements of which are naturally intertwined and related.

<u>Reflexivity</u>

Analog future workshops are already characterized by multi-layer elements of reflexivity, to some extent explicitly in reflexive assignments during critique or implementation phase, to a greater extent implicitly through the dynamic process and its methodological steps. Adopting the participatory, co-creative and empowering character of the analog method, the modules of the digital future workshop within the online course include reflexive elements, e. g. in their visual design, methodological sequence, interactive learning contents and interaction with the group and the moderation team. Their inherent feedback culture allows participants to co-decide on parts of the methodological process or co-create in creative work phases. From this personal exchange and feedback, the project team learns about the efficiency of single methodological steps and possibilities for their refinement, further development and adaptation.

Course participants experience reflexivity for instance (1) with regard to the learning levels of the overarching course structure (head, heart and hand) during the digital future workshop (implicit); (2) while using the method and simultaneously learning about the method for application as multipliers based on a practical guide provided as learning material (explicit); (3) as dynamic role reflection relating to actors and fields of activity within and beyond the online course (implicit and explicit, e. g. in feedback conversations, co-creation of course contents, development and implementation of projects); (4) in a concluding module and webinar for presentation of results and reflection of the digital future workshop method (explicit).

Complex reflexivity and feedback structures as methodological design elements of digital future workshops support participants in referring contents developed during the course to their individual and collective experienced reality as well as in translating transformative learning experiences into their real-world fields of activity.

Participation

Above sections of this chapter discuss the participatory elements of the course design and interpretation of a digital future workshop in detail.

Innovation

Interpretation and development of the digital future workshop with the online course, as well as its results and the progression of its process, represent innovative processes with a socioecological and transformative claim of impact.

Power discourse

Coordination with the course team and among participants requires an implicit consideration of power structures and the formulation of feasible solutions that are acceptable for all members of the group. This may affect formal tasks such as finding a title and assigning roles in the future workshop, but also informal challenges such as creative tasks. Furthermore, explicitly critical course materials or reflection tasks encourage participants to confront existing power structures for example in higher education environments or the work in student initiatives. The classical future workshop according to Robert Jungk aimed to enable broader social status groups to participate in futures discourse. In this sense, a critical perspective regarding power structures represents an important element in designing a digital future workshop, in the direct course environment as well as in the extended field of activity of the course participants.

Following these principles, single design elements of the digital future workshop were deliberately chosen in order to create an accessible, enriching and entertaining interpretation of the method for student actors driving sustainability in higher education structures. These elements include:

- strongly personified content like visual narratives or stories
- playful and gamified elements
- emotional cues such as small jokes, animal memes or thought-provoking content
- quizzes with serious or not so serious response options
- course tutors personified as comic-like, talking Alebrijes (Mexican mythical creatures)
- visually attractive and interactive course design

In a digital future workshop, the development and moderation team selects design principles and elements which define the methodological interpretation of the method. These elements should be carefully adapted to the target group, requirements and (technical) conditions. Figure 22 shows various design elements of the digital future workshop as part of the online course.

Further suggestions for implementing digital future workshops

In contrast to the future workshop method in an analog setting, its application in a digital space is subject to disturbances that result from lack of familiarity with the technical setting. Besides introducing participants to the use of the digital tools and solving technical difficulties before the process begins, the digital future workshop should be planned and tested carefully with sufficient time to handle technical issues in all workshop phases.

Additional time and space for the development of a group dynamic should be allowed for as well, which depends strongly on the methods used in the digital workshop

Figure 22: Examples of methodical elements and course design.
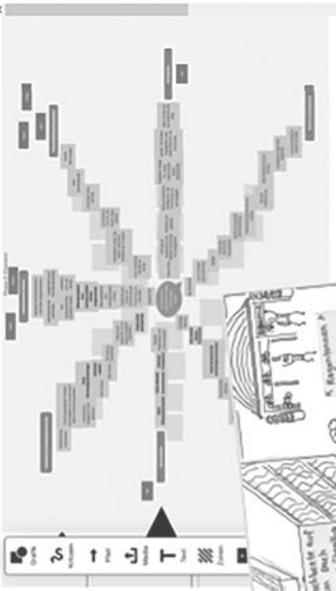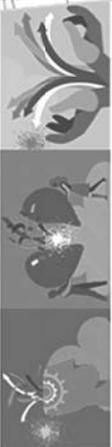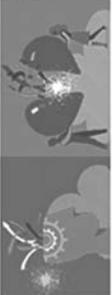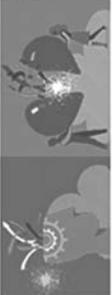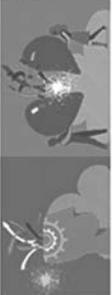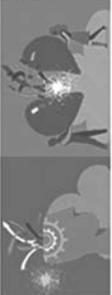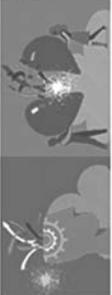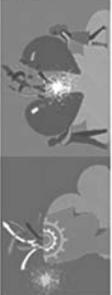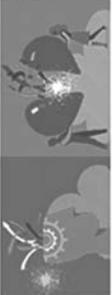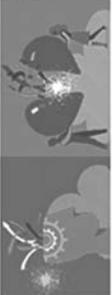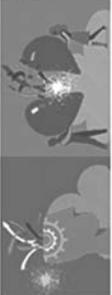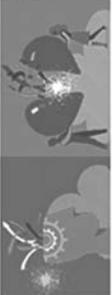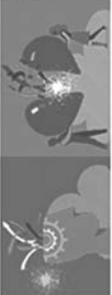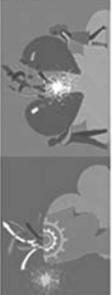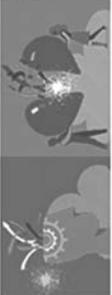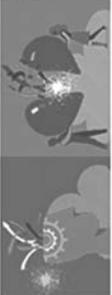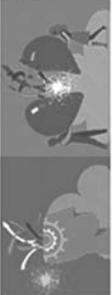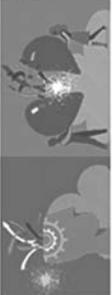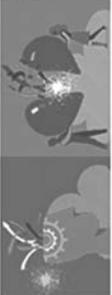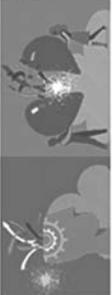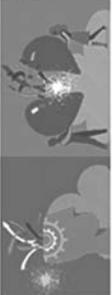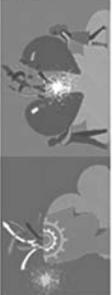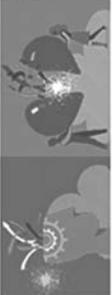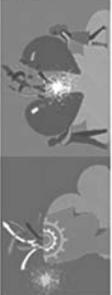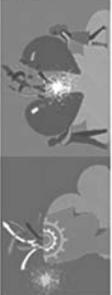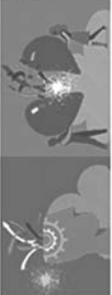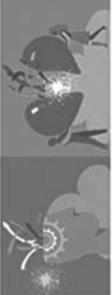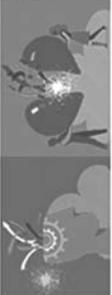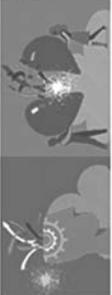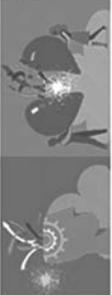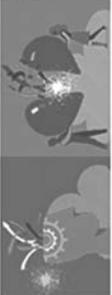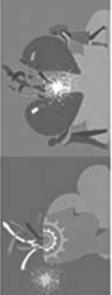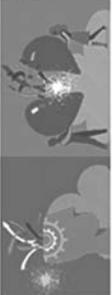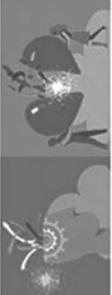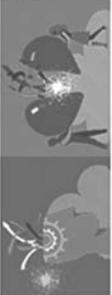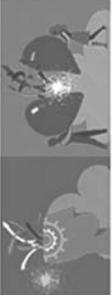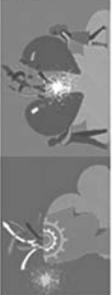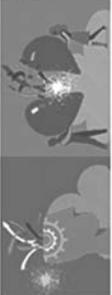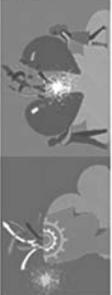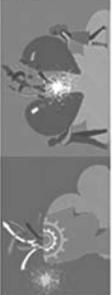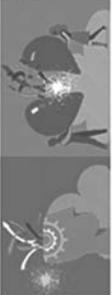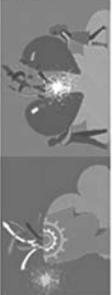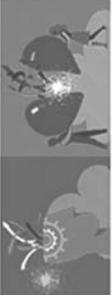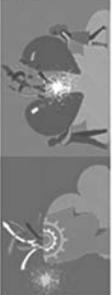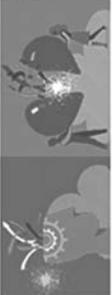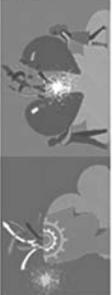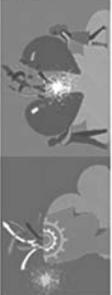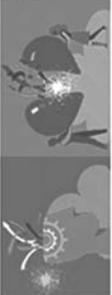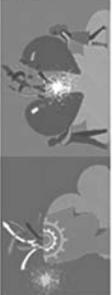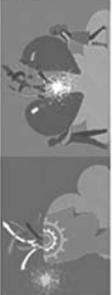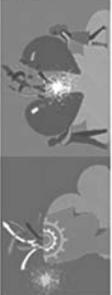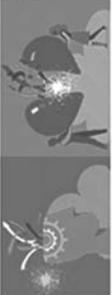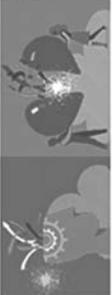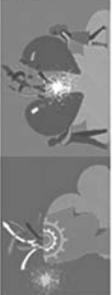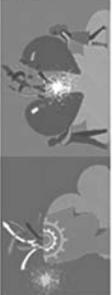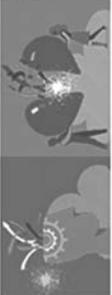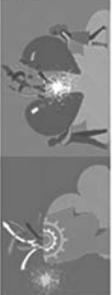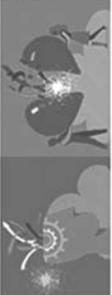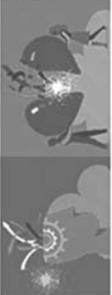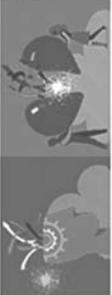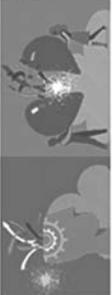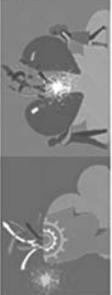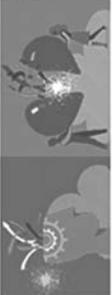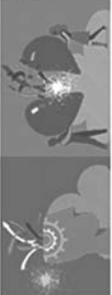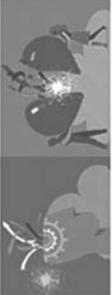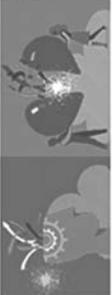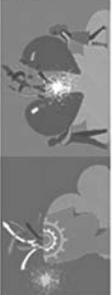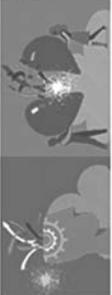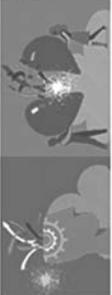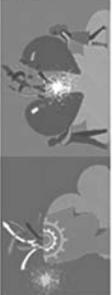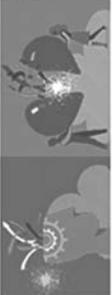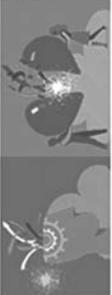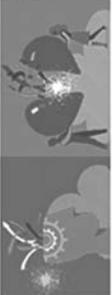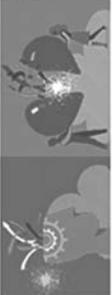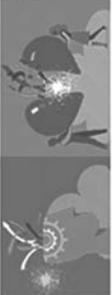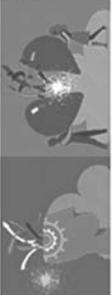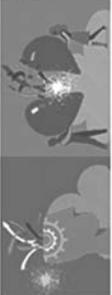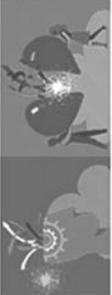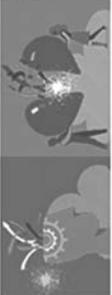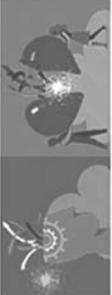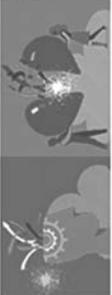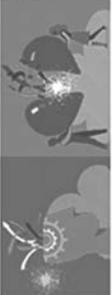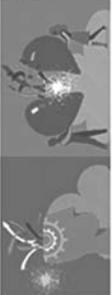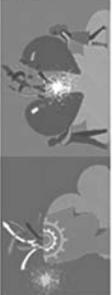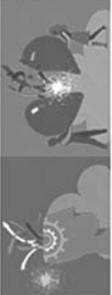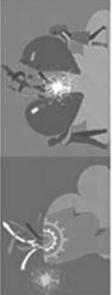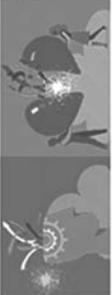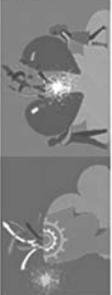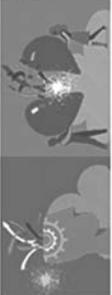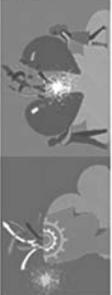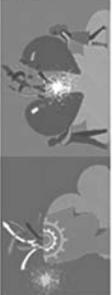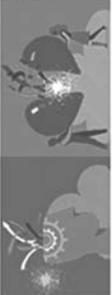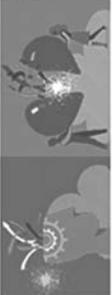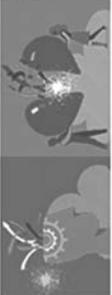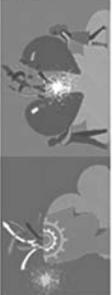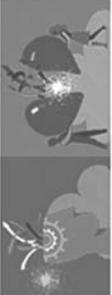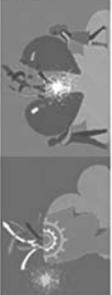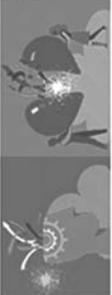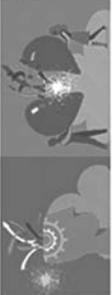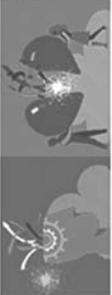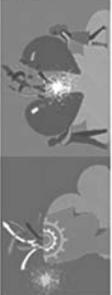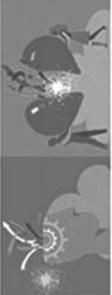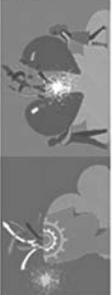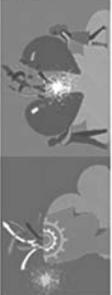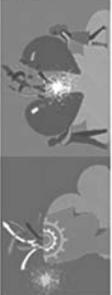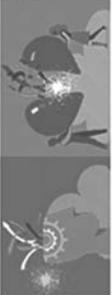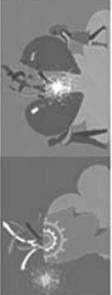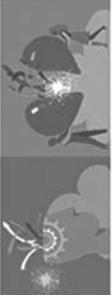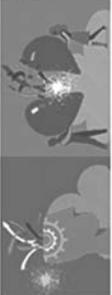
phases, but also on the time available for participants to engage with each other. This should be considered when using synchronous and asynchronous methods, specifically if each workshop phase incorporates both methods at different stages. Using reminders or deadlines can add more temporal structure to the workshop, help participants to manage their time and prevent the process from losing momentum.

Since the digital application of this method can become fragmented in participants' individual time management, the moderator plays an important role in providing structure and accessibility. Representing an identification figure and a guide for participants, particularly during real-time synchronous process elements, the moderator is an important constant in the fluctuating digital space. By remaining close to the participants throughout the phases, the moderator is responsible for steering the process in co-creation with participants and promoting the highest level of motivation, engagement and creativity possible in order to develop images of the future in the digital space.

In summary, the future workshop method in the digital space offers a variety of possibilities for application which are highly dependent on the time frame and tools available to the practitioner. The participatory and co-creative nature of the method should be a key objective of its digital application and be integrated in the available scope of technology-supported participant interaction. Vital components for the innovative and engaging implementation of this method include substantial methodological variety, the use of easy and intuitive tools, clear and frequent guidance by facilitators provided through regular contact with students, as well as a constructive balance between autonomous individual work and collective discussion processes.

Ludwig Weh

Reflection of and experience with digital future workshops

Pandemic-related contact restrictions caused major changes in higher education: digital formats had to replace classroom teaching as well as represent extracurricular training and student-led voluntary activities. Since 2012, the non-profit organization *netzwerk n* e. V. has supported student-driven sustainability transformation in higher education structures in German-speaking regions – during the COVID19 pandemic, its educational programs were also converted into digital forms. In this context, the regional project "Students shape sustainable universities in North Rhine-Westphalia (NRW)" developed a participatory online course starting in spring 2020. The course helped to fulfill the project mission of empowerment and networking of student-led sustainability initiatives within NRW as the German federal state with the highest density of universities.

Development of the digital future workshop

Developing a digital interpretation of the future work-shop method, the project team combined participatory and empowering course elements with the competence-oriented, learner-centered and value-based foci of various frameworks from Education for Sustainable Development. This approach encouraged innovative project development by students across the interfaces of academia/society and online/offline. The individual phases of the classical analog method were interpreted in a process of theory-led method development, which adapted its original processes, goals, and methodical steps to the conditions of online learning via the course platform. Of vital importance was the act of referring digitally acquired contents and results of the future workshop to course participants' direct environ-ment (e.g. their apartment) and their indirect field of acti-vity (e.g. student initiative, NGO, higher education institu-tion, private or professional environment).

Methodical interpretation and facilitation

The process of moderating digital future workshops faces novel challenges in digital space: it requires moderation competences beyond the necessary digital competences. Additionally, the digital platform and digital interpretation of the method should be designed consistently. Examples of challenges for moderation in digital space are:

- providing a clear outline of the methodological process and temporal structure of the future workshop with alternating asynchronous (to be organized individually) and synchronous (moderated or not moderated group phases in webinars) elements for orientation
- ensuring timely announcement and provision of necessary tools and materials (digital/analog) before the beginning of each phase of the future workshop
- creating an attractive visual design of the digital interface
- producing a 'lively' representation of the moderating team: personified in digital forums and learning materials as well as regularly available via email, chat and personal exchange online (on demand)
- scheduling regular group meetings in webinars – for getting together, exchange of experiences and coordination with peers, Q&A with the moderating team
- keeping up participants' motivation through reliable and available support of the methodological process in the digital space

To maintain the spirit, motivation and workflow, regular real-time exchange among participants and with the moderating team are of paramount importance. Group achievements and intermediate results, e.g. after individual phases, should be marked as starting points for subsequent steps and appreciated collectively.

Personal experience with the method and participants' feedback

Student engagement in higher education transformation is mostly organized within extracurricular structures such as work groups, initiatives, representations and boards or non-profit organizations. In these environments, sustainability is a topic 'close to the heart' of students who have a strong intrinsic motivation to change present circumstances. Institutions increasingly recognize the value of such nonformal education formats and attempt to integ-

rate them structurally, for example in practical or elective courses, semester projects, innovation contests or programs of advanced tuition. Including formerly extracurricular activities in curricular structures then adds forms of extrinsic motivation to sustainability commitment, such as study credits, and thus diminishes the intrinsic in favor of extrinsic motivation.

Accordingly, participants from extracurricular backgrounds appeared more motivated, passionate and creative in interpreting the methodological steps of the different phases during the online course. They invested their free time, were interested in solutions, exchange of experiences and networking while elaborating innovative project ideas in the fields of their preexisting activities. Their feedback highlighted the integrative value and connecting character of the digital future workshop which enable exchange on specific topics and solution-oriented project development across different learning and competence levels as well as across geographical and organizational distances. Extracurricular student participants criticized the multi-week design of the course as challenging and demanding in terms of arranging dates and appointments, self-organization and commitment – especially as the course competed with other mandatory forms of digital tuition at this time. Consequently, it appears appropriate to adapt the scope, duration and methodological design of the digital future workshop adequately to the needs and requirements of a respective target group. This may be achieved by implementing a 'standard version' which is flexibly adaptable with regard to its platform and methodological framework. In contrast, the online course as elective subject in curricular teacher training primarily raised questions about weekly effort, mandatory exam criteria and accreditation within the existing study program. Curricular participants found contents, methodological steps and educational approaches of the online course interesting from an educational standpoint, but related them less concretely

to their living and working realities and followed the course with less passionate and less personal involvement. The project outlines for sustainability transformation of their institution which they created in the implementation phase of the digital future workshop as a course exam addressed aspects of the higher education environment that are imaginable and directly accessible as well as its everyday structures. Superior, systemic levels of institutional sustainability transformation were considered to a lesser extent by this group of participants. In their feedback, curricular course participants appreciated the online course as well-presented and entertaining alternative to (at the time) classical forms of digital higher education, yet they criticized the open learning approach with few precise assignments and abundant additional information in the modules that was not relevant for course completion and the exam.

In summary, innovative forms of transformative sustainability education exist in a complex interplay of intrinsic and extrinsic motivation, which contrasts value-based learning and social action with formal and structural acknowledgement of study and work achievements. Both forms of motivation should be balanced so that they complement and amplify each other in their motivational effects.

Conclusion and outlook

Digital future workshops offer a wide spectrum of interpretation, ranging from simple '1:1' transfer of the classical analog method into digital space to more complex and 'temporally stretched' processes with asynchronous and synchronous elements complementing each other – the latter may adhere better to changing living and working realities in digital environments. For example, a simple transfer of the method can be achieved in a single webinar that is limited in time, with parallel assignments on a digital white board. Beyond this, digital transformation enables novel interpretations of formerly analog

processes – which can employ potentials and forms of interaction of online media in order to advance established analog processes.

This points to the challenge of transferring interpersonal exchange as well as the participatory and reflexive elements of analog future workshops to functional forms of digital interaction. New interpretations and applications of the method can emerge in digital space, going along with a broadening and diversification of its target group, scope and fields of application. The classical moderated group method thus receives a 'digital update' which may add additional value in terms of supraregional and international networking, spatial-temporal flexibility, and self-organization among participants.

Additionally, working in digital space creates new forms of methodological interpretation, participation and synchronous vs. asynchronous process design as well as new modes of interaction for participants among each other and with the moderating team. Major challenges lie in transferring digital contents to participants' real-world fields of activity and in activating and enabling the experience of self-efficacy in an action-oriented educational approach. These challenges can be met by forming local or regional small groups or by establishing a hybrid format with distinct analog steps within the overall digital process. Beyond the form of interpretation described in this book, 'digitally rejuvenated' future workshops offer a range of possible advancements and adaptations to changing working and living realities. Thus, the method can explore new target groups and fields of activity for its co-creative and transformative potential.

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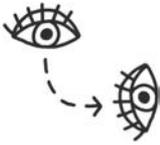
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About *netzwerk n*

The nonprofit association *netzwerk n* e. V. is an independent NGO without affiliation to a specific higher education institution. It serves the purpose of student-driven sustainability transformation of higher education structures in German-speaking countries. Its members are students, independent educators, and university employees with a background in sustainability activities at their (former) universities. These members organize their activities for the association between various groups and hierarchy levels in a broader context of higher education. Their projects and initiatives connect university students and employees, legislative bodies surrounding higher education such as ministries, as well as external organizations and networks focusing on the implementation and institutionalization of ESD.

Acknowledgement

Digital future workshops are exploring new forms of use, audiences and fields of application for the classical moderation method in digital space. Using the case of student-led sustainability transformation in higher education structures, this book describes in detail the development, application and reflection of a complex, multi-week form of digital future workshops. The authors reinterpret their historical backgrounds, theoretical premises and practical design aspects while offering inspiration for interested practitioners and developers.

Ludwig Weh, **Lisa Kinne** and **Reinhold Popp** combine their experiences in futures studies, adult education and transformative research and education into a multi-disciplinary and scientifically substantiated argumentation.

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