How to popularize futures thinking? Designing a training concept to support people's sense of agency toward the future

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As we move forward into the 21st century, we face a cocktail of challenges: growing polarization, decreasing trust in institutions and the pressing ecological crisis all underlie the urgent need for profound, systemic, and long-term societal transformations. These changes require capacities, both on the individual and the organizational and national levels, to manage the complexities of the present, but also the will and skills to shape the future. This thesis proposes that futures thinking is one element in those capacities.

The purpose of this thesis was to find ways to encourage people to shape the future. Therefore, this thesis sought to understand how futures thinking could be popularized to support this purpose. The objective of this thesis project was to design an open-access training concept to build people's future-oriented mindsets and societal-influencing skills.

The theoretical framework for this thesis draws on transformation, futures thinking and participatory futures. As a research-oriented development, the thesis borrows and mixes several qualitative approaches and methods to achieve its objective. The design process benefited from the principles of transformation design and followed the double diamond model. The process included the phases of discover, define, develop, and deliver. Desk research, interviewing and workshops were used to gather and analyze data and create insights, and vast prototyping and testing were utilized to deliver the outcome. Collaboration between disciplines and employing participatory design techniques were important features in the design process. An external developer team of 17 people from different fields of expertise participated in four co-design workshops.

The designed training concept "Futures Frequency" is an open-access, 3h workshop method that combines future-oriented thinking with change-making and stimulates the participants to think about a future worth imagining and striving for. The method includes an introduction to futures thinking and three phases in which future assumptions are challenged, preferred futures imagined, and futures thinking linked with action. The method is transferable to different contexts with different kinds of target groups. All the materials needed to organize and facilitate a Futures Frequency workshop are published online.

Keywords: futures thinking, participatory futures, transformation, design thinking

Kasvava polarisaatio, heikkenevä luottamus instituutioihin sekä yhä syvenevä ekologinen kriisi ovat kaikki merkkejä tarpeesta syviin, systeemisiin ja pitkän aikavälin yhteiskunnallisiin muutoksiin eli transformaatioon. Nämä muutokset edellyttävät kykyä niin yksilöiltä, organisaatioilta kuin valtioiltakin tulla toimeen nykyhetken monimutkaisuuden kanssa mutta myös halua ja taitoa vaikuttaa tulevaisuuteen. Tässä opinnäytetyössä tulevaisuusajattelu tunnistetaan yhdeksi keskeiseksi taidoksi vastata aikamme haasteisiin.

Opinnäytetyön tarkoituksena oli tunnistaa tapoja, joilla rohkaista ihmisiä vaikuttamaan tulevaisuuteen. Siksi tämä opinnäytetyö pyrki ymmärtämään miten tulevaisuusajattelua voisi tehdä helpommin lähestyttäväksi uusille yleisöille. Opinnäytetyön tavoitteena oli suunnitella avoin koulutuskonsepti, joka kehittää ihmisten tulevaisuusorientoitunutta ajattelua ja lisää taitoja yhteiskunnalliseen vaikuttamiseen.

Työn teoreettinen viitekehys ammentaa transformaatiotutkimuksesta, tulevaisuusajattelusta ja osallistavasta ennakoinnista. Tutkimuksellinen kehitystyö yhdistelee useita laadullisia näkökulmia ja menetelmiä, ammentaa *transformation designin* periaatteista ja etenee palvelumuotoilun tuplatimantti-prosessimallin mukaisesti kattaen prosessin kaikki neljä vaihetta. Tietopohjaa ja näkemystä kerättiin ja muodostettiin aikaisempaan tutkimukseen perehtyen sekä haastatteluiden ja työpajojen avulla. Kehitystyössä panostettiin koulutuskonseptin lukuisiin prototyyppeihin ja niiden testaamiseen. Muotoiluprosessissa painotettiin lisäksi yhteistyötä eri tieteenalojen välillä sekä erilaisten osallistavien menetelmien hyödyntämistä. Yhteiskehittämistä tehtiin projektiin liittyvän 17-henkisen kehittäjäryhmän kanssa neljässä työpajassa.

Kehitystyön tuloksena syntynyt "Tulevaisuustaajuus" on avoin, kolmen tunnin mittainen työpajamenetelmä, joka yhdistää tulevaisuusajattelun yhteiskunnalliseen vaikuttamiseen innostavalla ja helposti lähestyttävällä tavalla. Menetelmä koostuu johdannosta tulevaisuusajatteluun sekä kolmesta peräkkäisestä vaiheesta, joissa haastetaan tulevaisuusoletuksia, kuvitellaan toivottavia tulevaisuuksia ja yhdistetään tulevaisuusajattelu toimintaan. Menetelmä on siirrettävissä ja sovellettavissa erilaisiin ympäristöihin ja erilaisille kohderyhmille. Kaikki materiaalit Tulevaisuustaajuus-työpajan järjestämiseen löytyvät avoimelta verkkosivulta.

Asiasanat: futures thinking, participatory futures, transformation, design thinking

Content

1   Introduction

"We are called to be the architects of the future, not its victims." R. Buckminister Fuller

Phenomena such as climate change, loss of biodiversity, resource depletion, and environmental degradation have all been listed in various trends lists for the past decade. These phenomena are all drivers behind the urgent need for ecological reconstruction – a megatrend that will shape the decades to come (Dufva 2020). As the term indicates, ecological reconstruction will fundamentally shape the future. To understand the scale of the transformation, a few examples are provided. For the world to get on track toward the 1.5C temperature goals of the Paris Climate Agreement, global greenhouse gas emissions need to fall by 7.6% each year between 2020 and 2030 (UNEP 2019). This target means reducing emissions at an unprecedented scale within a window of 10 years. Nature's dangerous decline is demonstrated by striking numbers: roughly one million animal and plant species are threatened with extinction. That is more than ever before in human history. Human actions have deep impacts on the whole environment. Changes have been detected in three-quarters of the land-based environment and in about 66% of the marine environment. (IPBES 2019.) If we add growing polarization (Levitsky & Ziblatt 2018; Carothers & O'Donohue 2019), rising nationalism (Freedom House 2018; 2019; 2020) and decreasing trust in institutions (Edelman Trust Barometer 2019; 2020), we face a cocktail of challenges. On the other side of the coin, global extreme poverty continues to decline, life expectancy continues to rise (Roser & Ortiz-Ospina 2019) and the race to zero emissions offers vast business opportunities in cleantech and circularity (Material Economics 2018, Topping 2019).

To address these pressing challenges, and take advantage of the opportunities, there is an urgent need for profound, systemic and long-term societal transformations. These changes require capacities, both on the individual level and on organizational and national levels, to manage the complexities of the present but also the will and skills to shape the future. This thesis proposes that futures thinking is one capability in those capacities.

The need to think long-term and imagine new, alternative futures, and act for a better tomorrow, has been raised by many (Reeves & Fuller 2020; Mulgan 2020; Hopkins 2020; Krznaric 2020). Moore and Milkoreit (2020) refer to the challenges of creating pathways to more sustainable and just futures as the triple failure of the imagination. They propose that futures thinking, with its imaginative capacity, "plays a crucial, yet understudied, role in shaping the requisite transformations towards sustainability" (Moore & Milkoreit 2017). At the same time, several organizations (e.g. Nesta's Participatory Futures, The Action Foresight Global Swarm, The Centre for Knowledge Equity's Imagination Observatory), and experts

(Geoff Mulgan 2020; Özge Aydogan, Pupul Bisht, Kwamou Eva Feukeu, Sandile Hlatshwayo, Alanna Markle, Joshua Polchar, & Prateeksha Singh 2020) have called for more inclusive and participatory futures exercises to strengthen wider engagement and to foster imagination. Similarly, one of the six action proposals in the National Foresight in Finland 2020 report is to develop actors' foresight abilities through strengthening people's futures literacy and organizations foresight capabilities (Pouru, Minkkinen, Auffermann, Rowley, Malho & Neuvonen 2020). Furthermore, the "Ability to imagine guides change" is one of the six goals for public governance actions in 2030 in the Strategy for Public Governance Renewal in Finland (Ministry of Finance 2020, 6).

However, is thinking about futures enough? Futures are shaped by the actions we take in the present. As we move further into the 21st century, our ability to shape the future actively becomes even more crucial. This ability requires connecting short and long-term time horizons and linking thinking about futures to acting in uncertainty. A transition in foresight is "bubbling under." Although participation has been a key characteristic of foresight before, there is now increasing emphasis on broadening the participation beyond experts and "usual suspects". A broader inclusion of people into futures thinking can enable new ways to stimulate public imagination and build agency and action toward the future. For this to happen, what if we created new platforms for discussion, imagination, and participation?

This thesis reports the development process of the Futures Frequency workshop method that offers one response to these needs.

1.1 Research objectives, questions, and limitations

The purpose of this thesis is to find ways to encourage people to shape the future. Therefore, this thesis seeks to understand how futures thinking could be popularized to support this purpose. The term 'to popularize' means in the context of this thesis to make futures thinking more approachable, comprehendible, and interesting to the wider public. "Shaping the future" is understood as the deliberate decisions people make to act in order to create a preferred future.

The development objective of this thesis project is to design an open-access training concept to build people's future-oriented mindsets and societal-influencing skills. The concept should combine both futures thinking and change-making and it should be available to people outside the field of foresight. The format of the training concept was not initially specified in the beginning of the project. Therefore, the research questions for the thesis are as follows:

1. What are the main approaches to consider when designing a training concept that combines futures thinking and change making skills?
2. How do people perceive their agency toward the future and what are the tools people with no previous foresight experience need for future-oriented thinking and societal influence?
3. **What kind of training concept could support popularizing futures thinking and change-making skills that will support people's sense of agency toward the future?**

The first research question is addressed in the theoretical section of the thesis. The second question is addressed through exploratory, qualitative research using semi-structured interviews, workshops and analysis of existing concepts regarding training or introducing futures thinking. The third research question is highlighted because it stands at the core of this development project. The training concept is designed by applying principles of transformation design and employing the knowledge gained and insights gathered from both literature review and exploratory research. The training concept developed is called *Futures Frequency* and is presented in detail in Chapter 5.

It is worth noting the limitations of this thesis. The focus of this thesis is on presenting the development process of the training concept, from the start of the project until the delivery of the final outcome. The theoretical perspectives in the literature review were chosen to support the thesis' purpose to understand the issue and the objective in developing the training concept. It, therefore, limits the approaches discussed. Furthermore, integral parts of the project, such as designing a course to train facilitators to use Futures Frequency method and the development of the Futures Frequency website, are beyond the scope of this thesis. The materials produced to support the usage of Futures Frequency are presented, but their design process is not explained in detail.

1.2   Origins of the thesis: Project Future Makers

This thesis was undertaken as part of a project called Future Makers at the Finnish Innovation Fund Sitra. Established in 1967, Sitra is a public fund operating under the Finnish parliament. This internationally unique organization is described as an agent for societal change and a *think-* and *do-*tank, grasping complex societal challenges. Sitra's strategic choices are designed to support the sustainability of Finnish society and the wellbeing of people. The tools used range from foresight, analysis, and reports to experiments and pilots, as well as financing or building new models for governance or cooperation. Sitra's work is grounded in foresight and societal training aimed at increasing knowledge about the future, future-oriented thinking, capacity for change, and cooperation. (Sitra 2021.)

The Future Makers project is based on the idea that to drive change into a more sustainable society, we need to engage more people in discussions about the future and develop a more future-oriented mindset and the ability to imagine alternative futures. The underlying hypothesis behinds this idea is the stance that shaping the future is a skill that can be developed.

The objective of the project is to champion hope-inducing future views in Finland and engage people outside the field of foresight in futures thinking. The main goal is to both popularize and democratize futures thinking and strengthen the link from futures thinking to action. To achieve these objectives, the project sought to produce an open, accessible and easy-to-use training concept regarding futures thinking and societal-influencing skills. The ambitious goal behind this aim was to support people's sense of agency toward the future, and through that, advance the transition to a sustainable society.

The team developing the training concept consisted of four people: two were part-time, and two, including the writer of this thesis, were full time and, therefore, responsible for the planning and implementation of the project. The thesis writer was recruited internally to join the team to bring expertise in service design methods and tools. The other three team members had backgrounds in foresight, societal influencing and democracy, and sustainable education. The interviews, workshop design and feedback from piloting the training concept were designed to serve both the goals of the project and the data collection for this thesis. In addition, two outsourced service designers supported the design process in spring 2020 and took part in interviewing the potential end-users.

The Future Makers project started at the beginning of 2020, and the development phase of the concept lasted the next 10 months. In addition to developing the training concept, the Future Makers project team produced background analysis of futures thinking and change-making (Vaikuta tulevaisuuteen -report 2020) and designed a two-day course to brief the usage of the training concept. These two side-projects have been omitted as they are beyond the scope of this thesis. The author of this thesis continues to work on the Future Makers project, that continues until the end of 2022. At the time of finalizing this thesis, the Future Makers project was focusing on ensuring the impact and scalability of the training concept created.

1.3   Structure of the thesis

This thesis is divided into six chapters. First, the reader is introduced to the topic and its background. The first chapter also defines the objective and research questions for the development work.

The second chapter reviews the literature and builds the knowledge base and theoretical foundation for the development project. This project is an interdisciplinary development that merges the fields of futures studies and participatory futures and discusses societal transformation. The third chapter introduces the development approach. Then, stages of the design process toward the final outcome are presented in Chapter 4.

The fifth chapter introduces the results of the development work: the Futures Frequency concept. Finally, the conclusions, learnings, and reflections are presented in the sixth chapter.

2 Building capacities for the 21st century

The literature review of this chapter lays the foundation for the development work from a theoretical point of view. The objective of this thesis is not to validate a theory but build a theoretical basis for the development of the training concept. The central concepts in this thesis are transformation, futures thinking, and participatory futures.

First, discussing transformation and its meanings is essential for setting the scene. Second, approaches arising from the academic discipline of futures studies are discussed. Third, building on the previous two, the participatory futures as a means to build agency is introduced. Finally, the themes for the content of the training concept and the features of a participatory futures methods are concluded.

2.1 Driving transformation

As explained in the first chapter, this thesis is part of Future Makers project, which strives to support people's capability for change and cooperation by examinig the future and actively shaping it. The goal is a transformation into a sustainable society within the earth's carrying capacity. But to begin with, how is transformation actually defined and what is meant by it?

No single, exact, or undisputed definition exists for the term "transformation." Instead, the term has been conceptualized in various ways across disciplines (Feola 2015). According to Moore and Milkoreit (2020), definitions concerning transformation on the societal level share the notion that fundamental changes are needed in the structures of power and resources, in societal practices that reproduce those structures, and in norms, values and beliefs, as well as in their connections with ecological systems. An increasingly used term is "socioecological transformation," which underlines the scale of the changes required, both in thinking and practice, to avoid pushing the earth's systems into unstable states and to address

environmental challenges (Pigott 2018; Braun 2015). Transformation can also be discussed from the viewpoint of organizational development. Similarly, like the definitions above, Sangiorgi (2011, 36) argues that organizational change is also about radical transformations in the way people think and behave. Furthermore, according to Sardana (2015, vii-xii), organizational transformation, in a broader perspective, is also aligned to the strategic goals of that organization and has also been interpreted to signify success in business. In addition, transformation can be discussed from psychosocial perspectives or from the viewpoint of how changes happen on the physical or qualitative level, be it, for instance, in technology, finance or governance. In this thesis, the focus is especially on the societal levels of transformation aimed at more sustainable futures. Therefore, the interesting question regarding transformation is how changes come about? And what role could futures thinking play?

Similar to the descriptions above, transformation only in social structures is insufficient. Societal transformation is foremost a question of how people think and what they value. There are several theories of change that look at transformation from the societal viewpoint. For example, the Multi-Level Perspective (MPL) theory postulates that socio-technical system transformations towards sustainability and resilience happen through interaction in different levels of regime, landscape, and niche (Geels 2001; Geels & Schot 2011). The regime refers to the current structures and practices such as institutions, technologies, infrastructure, which are quite stable. Niche is understood as the level of experiments and innovations which differ from the prevailing regime. Landscape forms the background for the previous two, something that is beyond direct influence of different agents. The landscape is influenced, for instance, by climate change, or digitalization, or rapidly by wars. Transformation requires changes in all three levels. (Geels 2001; Geels & Schot 2011.)

One framework to consider is proposed by O'Brien and Sygna (2013) in the context of responding to climate change: three spheres of transformation. Their model, presented in Figure 1, is a useful tool to understand how, why, and where transformation toward sustainability could occur. In addition, viewing the spheres of practical, political, and personal, together, the breadth and depth of transformation, become evident. O'Brien and Sygna (2013) emphasize that the ordering of the spheres is significant, and that transformation in one sphere may facilitate changes in others. Furthermore, actions in some spheres have more impact than in others. (O'Brien & Sygna 2013.)
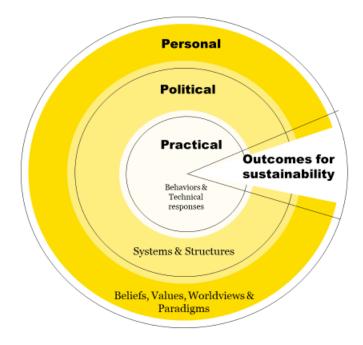
Figure 1: The three spheres of transformation, adapted from O'Brien & Sygna (2013) and Sharma (2007).

What is interesting is the role of personal space in which transformation of individual and collective beliefs, values and worldviews occurs. Building on Torbert at al. (2004) and Meadows (2009), O'Brien and Sygna (2013) argue that transformation on this personal level is considered to have the most powerful consequences, but, it cannot be forced. When beliefs, values, and worldviews change, they affect the actions viewed possible in the other spheres. In this thesis, it is relevant to consider how futures thinking can impact beliefs, values, worldviews and paradigms.

Images of the future are discussed in greater detail in the following subchapter, but here a few words on causal layered analysis (CLA) by Sohail Inayatullah (1998) are in place. CLA is a research theory and a futures method that seeks to unpack worldviews and ideologies as well as archetypes, myths, and metaphors, and through these, create alternative futures. CLA views the world through four vertical levels. The first level is called litany, which includes the conventional perception of reality. At the second level is the system of social causes: for instance, social, political, economic, or environmental interpretations can be explored. The third level is called worldviews. Finally, the fourth and deepest level constitutes myths and metaphors. When these different ways of knowing are explored and analyzed, they help to discover and consider alternatives. According to Inayatullah (2004, 8), CLA is not concerned with predicting the future but with providing spaces to create alternative futures. If CLA is used as a framework in a similar manner to the three spheres of transformation, it helps to

explore and analyze what our perceptions about the present and the future are based on. The predominant perceptions are not irrelevant. For example, Göpel (2016) stresses how paradigms or patterns of thought are crucial since mindsets guide policies. For instance, what do we consider to be *progress*? Or what do we perceive as *normal*? Furthermore, Wright (2010) acknowledges the significance of beliefs about what is actually possible regarding transformation processes. For instance, path-dependencies can also be viewed as myths and are, therefore, significant to address. O'Brien (2018) notes the dangers of dismissing a particular vision or goal as "unrealistic" even if the evidence suggests for the opposite because the impacts might be profound. Riedy (2013), applying CLA to explore the human transformation required for more sustainable futures, suggests that transformation in human values as a short-term solution to sustainability challenges is unrealistic but should not be discarded. Riedy argues that, "at the deepest level of myth and metaphor, stories and images of dystopian and techno-utopian futures hinder the potential for transformative practice" (2013, 255). This view implies that how we see the future is far from trivial.

To conclude, there is a need for broader and deeper approaches to transformations. O'Brien (2018) calls for there to be a recognition regarding engaging people as agents of change who can impact the low-carbon transformation. She underlines the power of critical reflection of individual and shared assumptions, beliefs and paradigms that can shift norms and institutions. However, how can you challenge those assumptions, beliefs and paradigms and generate novel paths? One framework is CLA, but applying it requires expertise, time and resources. Moreover, if transformation is framed as creating new and alternative futures, it inevitably requires imagination. As Moore and Milkoreit (2020) argue, when imagination is related to transformations to sustainability, it should be understood as a potential capacity of agents and communities to create, shape and impact decision-making and, ultimately, contributing to creating sustainable and just futures. Therefore, fostering imagination is an inseparable part of both futures thinking and driving transformation.

2.2   Thinking futures

Futures thinking is a field of social inquiry that is action-oriented and focuses on change in the world. In this thesis, the term "futures" is used to refer to the subject matter, and "futures thinking" to the competence and practice. Often, futures thinking is also referred to as foresight or futures studies (Sardar 2009). The term is based on concepts and methodologies used to explore and consider change in the present and how it impacts the future (Morgan 2003; Voros 2003; Bell 2003). Foresight seeks to address the question: What kind of developments are evolving and how over the next five to 15 years, or even further in

in the future (Dator 2009; Voros 2003)? Thus, futures thinking helps to identify alternative futures, cope the uncertainty and shape a preferred future.

Futures thinking is conducted in diverse ways. Widely known concepts within the field are for example megatrends, trends, weak signals, and scenarios. Minkkinen, Auffermann, and Ahokas (2019) have developed a categorization of six foresight frames, presented in Figure 2, that is useful for understanding the different approaches to foresight.
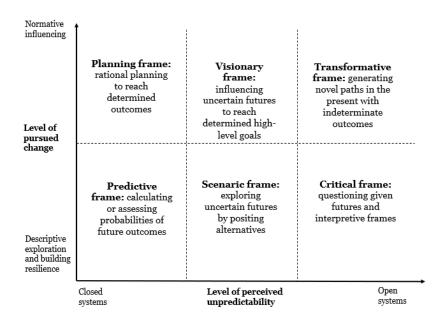

Figure 2: Six foresight frames (Minkkinen et al. 2019).

The categorization is formed around two dimensions: level of pursued change and level of perceived unpredictability. The planning frame strongly emphasizes the actions and tools to achieve determined outcomes. In the planning frame the level of pursued change is high, but the level of perceived unpredictability is perceived lower. Regarding the predictive frame, calculating trends or producing economic forecasts are typical examples in which the objective is not much in normative influencing but more in predicting probabilities of future outcomes. The visionary and scenario frames take the stance that futures are both uncertain and even dangerous to predict. In the visionary frame, the level of pursued change is higher because the aim is to reach a determined goal whereas in the scenario frame the unpredictable futures are embraced through different alternatives. Finally, the transformative and critical frames focus on making sense of the assumptions of the future and challenging them instead of describing futures. (Minkkinen et al. 2019.)

The concept development discussed in this thesis falls within the transformative frame, but it has features from both the visionary frame and the critical frame. In the concept development, consideration of unpredictability is central, and the objective is also to question the present assumptions and opportunities. However, since societal change-making plays an important role, it is important to emphasize the role of generating novel paths and expanding the scope of possibilities which are central in the transformative frame.

Since the emphasis of the Future Makers project has been to champion hope-inducing future views and popularize, or even democratize futures thinking, the role of future images is now discussed. Future images are perceptions about the future that are based on understandings of the present and past, insights and interpretation, observations, beliefs, anticipations, values, hopes and fears. Often, images of the future are related to scenarios in which a future image is a description of a particular future. Futures studies is interested in future images because they help identify and understand how current ideas and actions regarding the future also shape the future (Dator 1998, 298-319). One of the pioneers of futures studies, sociologist Fred Polak, called attention to future images and how they influence people and whole societies. Polak (1973) studied Western cultures from ancient times to post Second World War and noted that images of the future were characteristically optimistic, though often presented in religious terms as prophecies; however, in the 20th century, they were mostly dystopian; that is, negative future images. According to Polak (1973, 19), "The rise and fall of images of the future precedes or accompanies the rise and fall of cultures. As longs as a society's image is positive and flourishing, the flower of culture is in full bloom. Once the image begins to decay and lose its vitality, however, the culture does not long survive." It is difficult to examine whether Polak's argument - the strength of a culture and its significant correlation with the strength of its images of the future - is valid, but the effect future images have on a societal level is worth exploring. Rubin (2013) argues that people compose profound assumptions and beliefs about the present, the past and the developments, and then draw conclusions about how the future will be. Therefore, future images affect decision-making, choices, behavior, and action. Through the decisions we make, we either foster a future in our preferred future image or we try to prevent a negative image of a future to realize. Furthermore, as Pigott (2018) proposes, emotions of apathy and surrender, whether stemming from dystopian or utopian ideas, can decrease agency, whereas hope and rage can foster it. When "the future" is understood as part of the present social reality, we can try to understand how those images affect our current actions and decisions, and how we can shape it by creating our own images (Ficher & Menhert 2021, 26).

Future images are not always intentional: they might not be articulated, or they are subconscious and hidden. Despite this vagueness, the images might be powerful and promoted

by influential people or institutions. Dator (2009) suggests that all future images can be clustered into four categories: continued growth, collapse, disciplined society, and transformational. Continued growth is built around the expectation that the current trajectory of development will continue, and it is often the "official" view of the future. This category usually refers to economic growth. Collapse indicates that, because of some unexpected cause, the current system will revert to lower development or to a dystopian state. Disciplined society refers to development in which the society chooses to organize itself around some values or principles instead of continued growth, which is considered harmful. Finally, transformation is the expectation that today's behavior, beliefs or norms will unfold or be succeeded by new norms to address current challenges. In this future image, societies change in transformative ways. Dator's framework is based on two claims about our relation to future. First, the future cannot be predicted, but it can be thought of in terms of various possible futures. Second, people tend to make sense of the future and past in similar ways - by telling stories about it. Often, those stories fall into one of the categories identified by Dator. Bochetti, Price and Walker (2016), in addition to Dator, have formulated the following identifiable categories for future images: social crisis, eco crisis, techno-optimism, power and economic inequality, social transformation, traditionalist environmentalism and science fiction. Examining existing future images, or the stories we tell about the future, through frameworks such as these, is insightful when analyzing how fundamentally different the stories are. Some future images are more predominant than others. Furthermore, when a particular future arrives, the categories reveal how people understand the current state. Is the situation interpreted, for example, as transformation or as collapse?

In addition to future images, the futures cone (Figure 3) offers useful concepts for futures thinking. The cone is widely used diagram in the futures field and the version developed by Joseph Voros (2003; 2017) is so far the most extended version. The diagram illustrates how we tend to view future as a linear development, starting from our present viewpoint on the left.
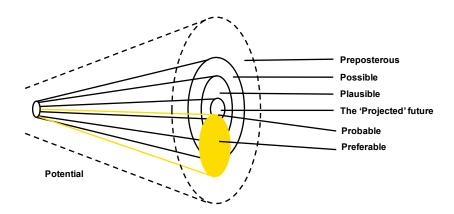
Figure 3: The futures cone, adapted from Voros (2017).

At its simplest, futures can be placed in three categories: possible, probable, and preferable (Amara 1974). Voros' model goes further by identifying seven alternative futures: 1) Potential (everything beyond present moment), 2) Preposterous, 3) Possible, 4) Plausible, 5) Probable, 6) Preferable, and 7) Projected. The further into the future we go, the less certain we can be, which explains the shape and length of the cones. Therefore, the probable futures cone is quite narrow compared with the possible or preposterous futures. The model demonstrates that we live in uncertainty and that we cannot predict the future. The cone visualizes the plurality of futures, but it also challenges our current assumptions about the future. By understanding futures in the plural, the cone enables us to see the alternative futures and our own agency to impact them (Ono 2003).

Different approaches (especially in Critical Future Studies) aim at recognizing how the current reality receives meaning from the imagined futures, and how those meanings affect our decision-making and actions (explicitly or implicitly) in the present. Artifacts, practices, and discourses are impacted by dominant power relationships. (Fischer & Menhert 2021, 28) Consequently, future images often reproduce the inequalities that exist in the present. Moreover, creating new images of the future is an intellectually intense and difficult exercise because we must question things we have learned, taken for granted and what we have believed in (Ono 2003, 739).

In this thesis, futures thinking is considered as a tool to become aware of and challenge existing images of futures, and to generate novel paths in the present. Every futures thinking method produces an image of the future and these images should be viewed critically since they rely on the information available and are always interpretations from a certain

viewpoint. Futures thinking concerns, above all, thinking, analyzing and challenging the images about the future that we as individuals, societies or as humankind create. The next step forward is to figure how can we use those images in the present to shape a future we prefer.

2.3 Building a sense of agency

In addition to championing hope-inducing future views in Finland, the Future Makers project aims to engage people outside the field of foresight in futures thinking; that is, to popularize futures thinking. The objective is to support transformation to more sustainable futures. Therefore, the need for participatory approaches in futures thinking is discussed next.

Although foresight is both an academic discipline and a profession, it seems, people don't think about the future often. According to a survey by the Institute for the Future, 32% of Americans never think about the future. Thinking more further is even more uncommon: 53% of the respondents rarely or never think about the "far future" or something that might happen 30 years from now. (IFTF 2017). On the other hand, a survey by the Finnish Innovation Fund Sitra found that 89% of Finns were interested in the future (as defined the next 10 years), and 83% believed it is possible to influence the future (Dufva et al. 2021). Cultural factors might be one explanation for the differences in these results, but also the difference in framing the survey questions: it is one thing to think actively about the future, but another to say you are interested in the future when asked. People also tend to favor short-term or present-time payoffs over long-term benefits or rewards. In behavioral economics, this tendency is called present bias (O'Donoghue & Rabin 1999). On a societal level, this tendency is manifested as the difficulty to agree on the decisions people are willing to take for long-term gains and benefits. Regarding complex challenges such as climate change and loss of biodiversity and the need for transformation, philosopher Roman Krznaric frames the following question: "How can we be good ancestors?" (Kznaric 2020). Shaping the future requires not only thinking about the future or being interested in it, but above all, acting upon it.

However, how does one encounter futures thinking? If visions for the future are created behind closed doors, among experts and consultants, large organizations, and decision makers, it is evident that futures are written by a particular section of the society. For ordinary people, it might be that there is never the time and place to explore and articulate alternative and preferred visions for the future. Furthermore, what people view as possible might be shaped by those who get to create the prevailing visions and images of the future. Exclusive foresight processes have been challenged by the demand for wider inclusion of agents, which indicates a considerable change from the perception that the foresight-ability

of individuals/organizations is the consequence of inevitable cognitive or power hierarchies (Nikolova 2014, 1-9). Future studies have placed more importance to participation (van der Helm 2007), and it is increasingly recognized that focusing on theoretical approaches has little impact on future-shaping actions (Candy & Potter 2019). There is also a question of democratic participation regarding how we succeed with the needed transformations; who is involved in the discussions of the future and who can impact them? This question coincides with increasing interest in the theories of deliberative and participative and collaborative democracy. Involving citizens in shaping the future has been discussed as a means to ensure citizen participation and involvement, and ultimately, to strengthen democracy (e.g. Ramos et al. 2019; Pernaa 2017). Currently, the transition to sustainable futures is discussed and conducted by selected experts who construct the visions and action-plans and pass these plans to the policy-making processes. Researchers from different disciplines are searching for means to involve the wider public in these futuring processes to prevent locking-in a certain future. In futures studies, the importance of a more inclusive foresight has been raised by many (Loveridge 2005; Loveridge & Saritas 2009; Bourgeois et al. 2017). Citizen participation in foresight processes impacts agenda-setting (Bourgeois et al. 2017), but also engages people in shaping the future participants actually want (Könnölä et al. 2007).

The idea of inclusiveness in the futures field is not new. For instance, Alvin Toffler, in his bestseller book *Future Shock* in 1970, made the case for popularizing futures thinking among the general public. He argued that the acceleration of technological and social change would cause people to have difficulties to adapt. For Toffler, the habit of anticipating the future and cultivating an interest in the future at all levels of the society, would be crucial. (Toffler 1970.)

One answer to the challenge of involving the public in the futuring processes has been offered by an emerging field of participatory futures (also *participatory foresight*). According to Nikolova (2014, 2), the participatory approach in foresight requires "the inclusion of agents, which have traditionally been considered 'external' for the foresight endeavor." Ramos et al. (2019, 15) define participatory futures as a practice that can be considered a crossover between public engagement and the field of futures studies. Since the term "public engagement" emphasizes the role of those in governmental or public institutions discovering people's views and opinions, in this thesis I broaden the term "participatory futures" toward the objective to involve more people in the discussion about the future.

Participatory futures exercises already take place in various forms. For instance, projects such as the Decolonizing Futures Initiative (2018) by designer and futurist Pupul Bisht seeks to include marginalized perspectives and voices, historically marginalized epistemologies, and

alternative ways of understanding the world in the futures discourse. On a local level, Newcastle City Futures 2065 project (2014) in the UK is an example of a city's future development being planned in a city-wide participatory process. Another interesting approach has been taken in Japan, where a project involved imaginary future generations who participated in decision-making on the local level. The results indicate that decisions were made for the favor of future generations instead of short-term gains (Hara et al. 2019).

Another noteworthy, applied approach within futures studies is *futures literacy*, which from the viewpoint of participation emphasizes the capabilities and level of inclusion in futures thinking. Futures literacy refers to a person's ability to use the future in the present (Miller 2018; Pouru & Wilenius 2018). In practice, this approach means the ability of a future-literate person to understand how our views about the future affect our actions in the present, and vice versa. The emphasis in futures literacy is in broadening our perceptions about the futures and challenging our thinking, paying attention to rising and surprising phenomena. UNESCO, a promoter of futures literacy, has been organizing Futures Literacy Laboratories (FLL) around the world and seeking to democratize the processes of forming future images and empower people and communities to become more futures literate.

Using exploratory methods in futures thinking does not necessarily need categorical engagement with creating the future (Nikolova 2014). However, in the context of this development work, building the capacity to crate and shape the future is essential. When people participate in a process dealing with long-term issues, it is expected that they be empowered to impact policy (Sisto, van Vliet & Prosperi 2016, 42-54). Empowerment refers to the inner feeling of power and capability of the individual (Thomas & Velthouse 1990; Siitonen, 1999), and people might feel empowered to influence on issues other than policy. Therefore, in this thesis, the point of influence is understood more widely; it could be policy within an organization, local community or national level, or be something other than policy.

Bourgeois et al. (2017, 180), reflecting on the role of scenario building, argue that "empowerment is a process aiming at developing the capacity to use the future and by its usage to self-determine it." I share this point of view and agree with their notion that empowerment is not an action by itself but a capacity. Empowerment in this context means the ability to use the future. Ideally, this empowerment would lead to the linking of futures thinking to action, and through that, build a sense of agency toward the future. Similarly, involving more people in futures thinking processes, enables organizations to escape the idea of the eternal present, which means they could be anticipatory and shape the future instead of just reacting to it (Ramos et al. 2019). Foresight can inform and inspire transformation toward ethical goals by inspiring people from different backgrounds to become agents of

change who create pathways and strategies toward alternative and preferred futures (Ramos 2017), but we need more in-depth understanding regarding whether a causality from futures thinking to action exists.

Retuning back to Fred Polak (1973), he also discussed the role optimism and pessimism play in our images of the future. Polak delineated two dimensions concerning our assumptions about the future: the course of the development and our ability to influence it. We tend to think that the future is either better or worse, and we also tend to believe that we can shape the future or that we cannot. These dimensions form a matrix, presented in the Figure 4 (Hayward & Candy 2017), which is a useful tool for exploring what may lie beneath people's various stances toward futures and their feeling of agency toward it.

The world is
getting better

We have to work with the larger forces and play our part.

We can act to make things even better.

I can not
have an
impact

I can have
an impact

There is nothing I can do about it. I cannot make things worse so I am free of the responsibility of trying to do that.

But I can act to make a difference here and now, in this place. It may not change the futures but it is still worthwhile.
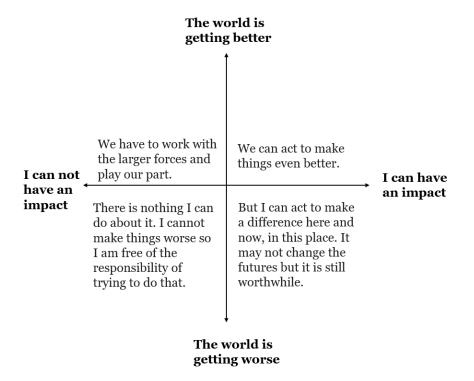
The world is
getting worse

Figure 4: A matrix based on Fred Polak's thinking, adapted from Hayward & Candy (2017).

As the matrix demonstrates, the feeling of agency to shape the future can be viewed from the perspectives of optimism and pessimism. The interesting point is that optimism or pessimism toward the future are as important drivers as the feeling of agency. According to Polak (1973), if a person believes he or she can have an impact, he/she will try to shape the future.

Another look at agency is taken by Emirbayer and Mischen (1998) who formed the foundation for the classical definition of the concept. They frame agency as including three temporal

dimensions in which actions are either oriented toward the past (iterational element), the future (projective element), or the present (practical-evaluative element). Emirbayer and Mischen (1998) argue that in different contexts and moments people emphasize different temporal dimensions and, therefore, adopt different orientations in their agency. Their framework offers an interesting approach to consider how envisioning alternative futures and imaginative distancing from the present assumptions could support the projective element and orientation toward future, and build people's transformative agency (Emirbrayer & Mische, 1998).

Finally, it must be emphasized that participatory futures methods, while valuable, are not in themselves panaceas to drive transformation to more fair and sustainable futures. However, methodologies that can trigger and elicit more imaginative processes have an additional transformational capacity to create motivation for change which has often been overlooked (Pereira et al. 2019).

2.4   Framing themes for the training concept

This subchapter summarizes the presented theoretical approaches by proposing themes that should be incorporated into the training concept. The summary addresses the following research question: *What are the main approaches to consider when designing a training concept that combines futures thinking and change-making skills?*

Participatory futures, referring to a range of approaches, offers a useful framework for the design of the training concept which aims to popularize futures thinking and link it to change-making. The following illustration (Figure 5) presents the key takeaways from the literature review and forms a collection of criteria to consider in the design process. The boxes on the right demonstrate the gains participatory futures methods can produce: 1) they generate insights that, without participatory elements, could not be collected; 2) they create alternative futures by involving more people and greater diversity in the discussions about the future, and through that, challenge the preconceptions about the future; and 3) they build agency to participate in discussions and actively shape the future. The circles on the left side present features to consider when designing a concept that falls into the category of participatory futures.

- **Accessible**: Does not require any previous foresight expertise or experience and enables access for different types or people from different backgrounds.
- **Action-oriented**: Emphasizes the notion that future can be shaped through the actions we take.
- **Unlocks imagination**: Offers space and inspiration to imagine alternative futures.

- **Promotes plurality of futures**: Emphasizes futures in plural and expands the scope of possibilities, as opposed to the idea of a deterministic path.
- **Encourages critical thinking:** Underlines how futures assumptions impact the present and the need to challenges them.
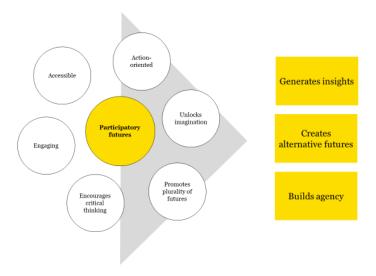- **Engaging**: Uses methodology that inspires and engages.

Figure 5: Illustration of the elements in participatory futures based on the theoretical discussions in Chapter 2.

In addition to the six features presented above, three themes arise that form the foundations for the content creation of the training concept: 1) the effect of future images, 2) imagination potential, and 3) agency to shape the future. Themes 1 and 2 are inherently interlinked: future images are products of human imagination, and human imagination has the potential to generate alternative visions for the future. Themes 1 and 2 guide the development work to place future images in the center of the concept because they, on the one hand, should be perceived critically, and on the other hand, form visions that can empower and activate people to shape the future. In conclusion, this thesis seeks to develop a concept that combines all three levels, 1) future images, 2) imagination, and 3) action.

3   Development approach

This chapter explains the development approaches utilized in this thesis. It discusses design thinking and different perspectives to design processes in detail and the collaborative nature of the project. Then, the research orientation of this thesis is outlined.

3.1   From design thinking to transformation design

When presenting the development approach, the relevant question to begin with is, *why design thinking*? The conventional training planning or traditional methods of problem solving in which you find a solution through predetermined steps, did not seem suitable for the case at hand. Furthermore, the team was realistic about how ideas come about: there is often a process of iteration and examination through which ideas are generated, identified, and developed, which requires diversity of thought, tools, and processes.

The challenge to create a training concept to popularize futures thinking was complicated. Before anything, the brief needed to be validated. First, before designing a training concept, we needed to ask questions. Second, our target group was people. We needed to understand them, their pains, gains and needs. Third, we wanted to build on cooperation. As Sitra is a public fund, we wanted to design with the people and for the people.

Design thinking seemed to provide a practical approach to the development process. The next question that follows is, *what is meant by design thinking?* Design thinking is a broad concept that lacks a single definition. Carlgren, Rauth and Elmquist (2016, 52) propose that design thinking is both an idea and the enactment of design thinking. Based on an extensive academic review and interviews, they frame design thinking in five common themes: 1) user focus, 2) problem framing, 3) visualization, 4) experimentation, and 5) diversity. One frequently used definition is by the author and CEO and President of IDEO, Tim Brown. Brown states that design thinking "uses the toolkit of a designer to integrate the needs of people, the possibilities of technology, and the requirements for business success" (Brown 2008, 84). Design thinking can also be applied to challenges outside business, and ever more designers (Brown included) are discussing the benefits of design thinking for addressing social needs or solving so-called "wicked problems." A recent example of these developments within the design field is the update of the famous Double Diamond model to Systemic Design Framework by the Design Council (2021), emphasizing the potential of design to achieve real change and promote sustainable development.

Thus, as Docherty (2017, 270) puts it, "design thinking can be considered a process and a mindset and is widely viewed as mechanism for addressing "wicked problems" and exploring possible futures." Expanding our understanding of design thinking, Burns, Cottam, Vanstone, and Winhall (2006, 9) argue that the same process used for designing the world's most successful products, services, and innovations, is transferable. Burns et al. (2006) set forth the term "transformation design." Their argument is that design is increasingly oriented toward transformative aims and can and should be applied to new contexts and problems. Burns et al. (2006, 21) suggest that since organizations need to cope with constant change,

the challenge is no longer how to design a response to a current problem, but how to design mechanisms capable of continuously responding, adapting and innovating. Therefore, transformation design should generate not only the shape of a new solution, but also the capacity, tools, and skills for the organization to cope with ongoing change. Describing transformation design as "a new discipline" (Burns et al. 2006) has invited criticism and the suggestion that perhaps it is more of a rebranding of the same approach to problem-solving that design approach has always been (Davey et al. 2015, 68). Novel framings and disciplines keep evolving, the latest being the *systemic design* approach proposed by the Design Council (2021) already mentioned earlier. Nevertheless, there has been growing interest in the broader role of design and its usage for social change and societal challenges, and this is also evident in the curricula of esteemed design schools (e.g. Stanford University Institute of Design's d.School, Hasso-Plattner Institute at the University of Potsdam, Aalto University Creative Sustainability Program).

Design thinking is a creative way of considering problems, regardless of the context. One needs to embrace ambiguity and the freedom to see things from new perspectives to enable innovation (Plattner et al. 2011, xv). Design thinking is, by nature, iterative, and to drive innovation it encourages framing and reframing to explore approaches to complex and ambiguous issues (Mootee 2013, 65).

Several models have been proposed by different scholars, designers, institutions, and organizations for applying design thinking in practice. The Hasso-Plattner Institute of Design at Stanford suggests a five-phase model, in which the design teams should, 1) empathize with the users; 2) define the user's needs, their problem and your insights; 3) ideate by challenging assumptions and creating ideas; 4) prototype to start creating solutions; and 5) test those solutions. The stages suggested by the Hasso-Plattner Institute are by no means sequential, but are, instead, iterative. Another widely used framework for applying design thinking is the key principles of service design by Stickdorn and Schneider (2018). Service design is a competence area in which design thinking lays the foundations but it focuses on the human-centered development of services, service business and customer and employee experiences (Koivisto et al. 2019). The key principles that should be incorporated into the development process in creating services, according to Stickdorn and Schneider (2018), are as follows: 1) Human-centered, 2) Collaborative, 3) Iterative, 4) Sequential, 5) Real and 6) Holistic.

Although there are several ways to define and describe the phases of a design process, at its core, Buehring and Liedtka (2018, 138) note that, design is a hypothesis-driven process

focused on learning and iteration. Design thinking can be adapted into different design challenges with different principles.

Since the development work at hand addresses the objective to transform people's thinking and build their agency, the six characteristics of transformation design (Burns et al. 2006) were adapted and applied in this thesis. The characteristics are as follows:

1) Defining and redefining the brief (since neither the problem nor its direction or outcome are clear at the starting point, working with stakeholders to understand the scope of the issues is essential)
2) Collaborating between disciplines (complex problems can be addressed only through truly interdisciplinary collaboration and expertise, and mediation between diverse points of views is needed)
3) Employing participatory design techniques (various degrees of participation and co-design all target making the design process accessible to "non-designers")
4) Building capacity not dependency (design is never done - the objective is to leave behind not only the shape of a new solution, but also the tools, skills and organizational capacity for ongoing change)
5) Designing beyond traditional solutions (transformation design asks designers to shape behavior – of people, systems and organizations – as well as form)
6) Creating fundamental change (transformation design works by identifying needs and then creating solutions to answer those needs, and these are often solutions that have no obvious client)

3.2   Designing together

From the beginning of the project, it was clear that the design process should be as transparent, open, and collaborative as possible. The objective was to create an open-access training concept, which meant that various stakeholders should be invited and involved in the design process. This approach is often referred as the co-creative (Stickdorn 2010) or participatory (Tschimmel 2012) nature of design thinking. The goal was to gain richness in insights and foster collaboration between different disciplines, but most important, underline the human-centric approach throughout the design process. Potential users of the final training concept needed to be involved in the design process. Furthermore, it was essential to create shared ownership of the concept because it would be available for everyone to use. In line with this perspective, Sangiorgi (2011) suggests that in transformation design, tools be provided for adequate participation to ensure shared ownership of the final outcome, and of the process and methods themselves. Therefore, to ensure all the above-mentioned points, our team put out a call for an external developer team to join the design process.

The announcement about the developer team was published in January 2020, and the application period lasted until February 2020. We required the applicants to commit to four meetings during spring 2020, during which the training concept would be co-created. It was important to underline that the Sitra team was in charge of concept development and that the developer team's role would be to comment and advice on a voluntary basis. We emphasized that we were searching for people from various backgrounds and with different types of expertise to ensure collaboration between different disciplines and diversity of thought. Furthermore, the applicants were viewed as potential end-users of the concept. To our surprise, 396 people applied, which we interpreted as a strong sign of interest toward the project and the training concept. In addition, the applicants were keen to collaborate with a multidisciplinary group and build their networks. Applications were reviewed based on the applicant's motivation, expertise, and ability to commit to participate in the four workshops. It was important that the applicants chosen were as diverse as possible based on expertise and career background, age, gender, and place of residence. Finally, 17 people were chosen to conceptualize and develop the concept with us. They are referred to as the "external developer team" later in this thesis.

3.3   Research-oriented development

This thesis is an example of research-oriented development, in which the activities attempt to modify something concrete rather than produce knowledge in the sense of research. The action is objective-driven and directed to achieve the determined goal. According to Rantanen and Toikko (2011, 5), in research-oriented development, research enables the continuous re-evaluation of the goals and means of development activity. The voice of the user is brought to the development. Developing the concept was highly iterative and various stakeholders influenced the output.

Since this thesis is not about exploring or forming or testing a theory, solely employing inductive or deductive research methods was not convenient. Therefore, abductive thinking, which combines inductive and deductive thinking, suits this research context, which is unpredictable, complex and the observations available are incomplete (Faljic 2020). Dubois et al. (2002, 559) state that abductive approach works best when the objective is to discover new things, concepts and develop models that already exist rather than to confirm existing theories. In this thesis, the theoretical framework in Chapter 2 steered the development process in a fluid and malleable way and affected the final concept, together with the empirical findings. However, no theory was proved or tested. Abductive reasoning is common in design practice (Stickdorn et al. 2018; Faljic 2020), and for the case at hand, it was

important to be able to move back and forth between theory and empirical material from the interviews and workshops, and to make conjectural leaps.

As a research-oriented development, this thesis borrows and mixes several approaches, principles, and methods to achieve its objective; that is, the final concept. According to Rantanen and Toikko (2009, 167), this approach is typical for research-oriented development. If a research paradigm must be selected, this thesis considers the world from the constructivist perspective. In this perspective, it is assumed that all knowledge depends on the social actors and the environment of the interaction (Mertens 2019, 16). This view implies, for example, that the insights and findings gathered during the development work could have been interpreted in multiple ways. Furthermore, research is always affected by biases in human thinking and behavior (Heinonen 2018). Therefore, when evaluating the final concept, the development context should be considered. For instance, a method designed in Finland by Finnish people might not be transferable into other cultural contexts. According to Ojasalo et al. (2015, 38), implementation of the developed solution, and evaluating its practical usefulness and benefits are integral to constructive research. Although this thesis is not purely a constructive study, following the advice of Ojasalo et al., much emphasis was placed on testing of the multiple versions of the concept with different types of target groups in various circumstances. Feedback from the tests was then analyzed from different angles. The evaluation and benefits of the final concept are, however, beyond the scope of this thesis.

4   Design process

The main research objective of this thesis is to design a training concept that popularizes futures thinking and builds participant agency toward the future. This chapter focuses on the design process explaining how design was utilized and what methods were used in the different phases of the development work. This chapter discusses the two final research questions of this thesis: *How do people perceive their agency toward the future, and what are the tools people with no previous foresight experience need for future-oriented thinking and societal influence?* And: *What kind of training concept could support popularizing futures thinking and change-making skills that will support people's sense of agency toward the future?*

Characteristics from transformation design, as presented in the previous chapter, were applied in the development work (see Table 1). However, it should be noted that the development work was not strictly a transformation design process. Instead, principles and

tools from different design approaches were utilized when appropriate. The table summarizes the applied principles, but the entire design process is explained in more detail from Subchapter 4.1. onwards.

Transformation design characteristics (Burns et al. 2006)	Application in this thesis
1. Defining and redefining the brief	Qualitative data were collected from different stakeholders, focusing on their perceptions, needs and ideas. Various initial ideas were generated and tested to understand the scope of the issue and to redefine the brief to guide the development of the concept.
2. Collaborating between disciplines	The core team consisted of experts from different backgrounds. Furthermore, the 17-member external developer team was recruited based on the criteria of multidisciplinary knowledge and competence. Diversity of views was embraced.
3. Employing participatory design techniques	Different stakeholders and target groups were actively engaged in collaboration via workshops, interviews, and testing the different versions of the concept.
4. Building capacity not dependency	Several rounds of testing the concept were aimed at human-centered design at every touchpoint of the concept, which would then transfer to an easy-to-use concept. The purpose was to ensure that the final concept builds capacity for ongoing change.
5. Designing beyond traditional solutions	A holistic perspective was present throughout the process. The aim was not to design a product, but a service or/and a process.
6. Creating fundamental change	The objective behind the concept development was to create something that can initiate change

	in the participants' thinking to enhance their agency for shaping the future.

Table 1: How transformation design characteristics were applied in the development process.

One of the most well-known and oft-used design process models is the double diamond developed by the British Design Council (2007). The model visualizes the two stages of divergent thinking and convergent thinking, in which the first diamond is concerned with the problem and the second focuses on finding the solutions. The process the diamonds visualize is divided into four stages: discover, define, develop, and deliver. Each time the diamond diverges, choices are created, and when it converges, choices need to be made.

Figure 6 illustrates the double-diamond process and the methods used in different phases of the design process in this thesis.
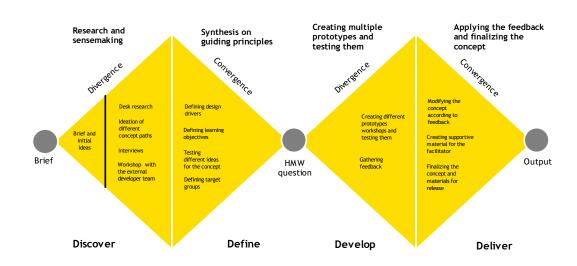

Figure 6: The double-diamond process in the thesis.

Design, in general, and a variety of methodologies were employed for creative problem-solving. The starting point – or the brief – for the project was reframed and focused by using abductive reasoning. Interviews and workshops were conducted to employ divergent thinking to ensure that a range of possible solutions was explored before converting and narrowing the solutions to the best and most practical option. Although the design process presented in the two diamonds may seem linear and clearly defined, in reality steps were taken back and forth, with "fuzzy" points of little or no clarity. Brown (2019, 70) describes this issue

precisely when saying, "Insights rarely arrive on schedule, and opportunities must be seized at whatever inconvenient time they present themselves." Nevertheless, the design process is possible to describe using a structure (Schneider & Stickdorn 2010).

4.1   Discover

The discovery phase focused on gathering data and understanding the issue at hand instead of assuming what it might be. In addition to understanding the issue, the objective was to understand the opportunities to work on. Therefore, initial ideas for the concept were generated and explored already in the discovery phase. The discovery phase requires divergent thinking and, therefore, multiple data collection methods are essential (Stickdorn et al. 2018; Design Council 2007). The discovery phase consisted of desk research, interviews with potential end-users, and workshops with the external developer team and with the inhouse team. The process of gathering and analyzing insights is now presented. Key takeaways are then turned into design drivers, learning objectives and target groups in Subchapter 4.2. Although the research methods and their findings are presented in sequence, in real life the stages were overlapping and happened partly simultaneously.

4.1.1   Desk research

The desk research objective was to understand the context better and to explore what types of concepts had already been developed. Online searches and discussions with our team provided an overview of the latter. Examining different surveys revealed what is known about people's perspectives on the future.

Surveys are an insightful tool for examining how people perceive their agency toward the future. There is no particular survey available that would offer a comprehensive answer to the question of *how people perceive their agency toward the future*, but some surveys do offer indications. Nesta (2020) found that 62% of Britons felt uncertain about the future, and two-thirds (66%) thought their country lacked a long-term vision for the future. The Pew Research Center (2019) found that Americans (56%) regarded their personal future somewhat optimistically, but when the focus turned to America's future, their views were pessimistic. For instance, 44% of Americans believed the average family's standard of living will worsen in the next 30 years. (Pew Research Center 2019). A global attitudes survey by the same Pew Research Center revealed that a median of 56% of people in the 18 relatively prosperous nations surveyed expected their country's children to be worse off financially than their parents (Pew Research Center 2018). The survey also found that people felt the past was better than the present: in 15 of the 27 surveyed countries, people stated that, compared with 20 years ago, the financial situation of average people is worse. Finland was not included

among the surveyed nations. However, the Futures Barometer was a survey commissioned by Sitra in 2019 (the most recent survey was published in 2021), asking Finns about their views on the future. According to the results, the majority of Finns (88%) were interested in the future, and they thought they can impact it (83%). However, fewer Finns believed they knew how to influence the future (63%). Furthermore, 52% of the respondents regarded the future as sometimes frightening, sometimes inspiring (Dufva et al. 2019). Although all these surveys reflect attitudes and approaches in different contexts, and cannot, therefore, be directly compared, they do send a clear message: the future seems to be shrinking. Confidence about the future does not seem strong; instead, it seems that people find it difficult to imagine plausible and preferable futures.

However, are there already tools to learn futures thinking and build agency toward the future? Several training concepts already offer both guidance for futures thinking and methods for participating in futuring processes. For instance, Futures Thinking Specialization is a beginner level online course offered by the Institute for the Future via the Coursera platform. The course takes approximately six months to complete, and participants can earn a certificate. Enrolling is free but there are study costs. In Finland, the Futures Research Centre (FRC) provides academic education. Several Finnish universities collaborate with the FRC, offering non-degree studies in futures studies, which are usually subject to a fee. More hands-on methods for futures thinking are offered by many organizations (e.g. Futurice, Nordkapp, OECD, Sitra, Future Today Institute), with their online toolboxes and canvases.

Moreover, several games aim at introducing and engaging people in futures thinking (Sweeney 2017). For example, *That thing from the Future* by Stuart Candy and Jeff Watson is a card game that challenges players to imagine and describe objects from different possible futures (Situation Lab 2014). A different approach was taken by the International Red Cross, with their *WhatFutures* game in 2017, played entirely via WhatsApp. The game was one-off event played for 10 days in around 120 countries. The idea was to chart the risks, opportunities, and changes of 2030 and through that, generate insights into Red Cross strategy 2030. (WhatFutures 2017.)

Another, more theoretical approach to futures thinking through gaming is offered by the Sarkar Game. Developed in 2004 by prominent futurists Peter Hayward, Joseph Voros and Sohail Inayatullah, the role-playing game helps participants discover novel ways of knowing and creates new types of leadership to transform the future (Inayatullah 2013). Through engaging experiences and enhancing interaction among participants, serious games can strengthen foresight (Dufva et al. 2016). For example, the Institute for the Future offers a

selection of different future-focused serious games designed for particular projects, from city-planning to exploring the future of the hospital (Institute for the Future 2021).

Closely related to games are different workshop methods. Future Workshop is probably the most well-known and was developed by Robert Jung and Norbert Müller in the 1950s in Austria and Germany. The starting point in the workshop is a problem or challenge in the community, which is then explored. The workshop can take from one day to several months, resulting in actions to change the current state being ideated. (Jungk & Müllert 1989.) Futures Clinique is another participatory and exploratory workshop developed by the Finland Futures Research Center. The process begins with diagnosing the topic, then proceeds to probing the root causes and, following a prognosis, a design for constructing "healthy futures". The Clinique takes one day, but the process involves preparing the session and documenting it afterwards. (Heinonen & Ruotsalainen 2013.) Furthermore, Futures Literacy Lab, which was mentioned in Chapter 2, was developed by Riel Miller and UNESCO to increase futures literacy by raising participants' awareness of anticipatory assumptions (Miller 2018).

There are also many newer workshop methods developed for online use solely. For instance, the Imagining Feminist Futures After COVID-19 (IWDA 2020) is a tool designed and published by the International Women's Development Agency to support feminist movements to think how the COVID-19 crisis has affected future trajectories. The workshop is open access and available to anyone, including all the materials needed to host a Feminist Futures convening.

All these future workshop methods share the intention to gather people and discuss, share, collaborate and ideate together. Many futures games share the same objective, and some of them are more playful than others. Few of the workshop methods are open access, under the creative commons license or easy-to-use for anyone interested to facilitate a workshop. On the contrary, majority of the workshops are meant to be led by an expert or professional futurist, which in many cases is wise and justifiable. But could there be more methods that could increase wider inclusiveness in futuring processes - not just from the participants' perspective but also from the facilitator's viewpoint?

4.1.2 Interviews

Interviewing is a widely used research method in qualitative research. Using qualitative research interviews helps view the research topic from the perspective of the interviewee (King 2004, 11). Depending on the objective of the interview, its length, style of questioning and number of participants can vary greatly.

The project team had completed several background interviews with experts from the field of foresight before the author of this thesis joined the project in January 2020. The insights from the background interviews underlined the need for a training concept and the desire to link futures thinking more closely with change-making. However, to understand more deeply what the training concept could be, we needed to delve deeper into the life of one person - the potential end-user of the concept. Therefore, an in-depth individual interview methodology was chosen. The objective was to obtain understanding of the potential end-users as early as possible, and following Portigal's (2013, 3-4) advice, gather insights to guide the development process of the concept.

The strategy for choosing participants for the interviews was purposive. Recruitment criteria consisted of the following: works in an expert role, presumably has ideas about foresight and has a role in driving change, whether in a societal or business context. Since the goal was to understand the potential users of a training concept that combines futures thinking and change-making, it was important that the participants were in a position in which they could either apply the training concept in their own organization or that they worked closely with different stakeholders for whom the training concept could be relevant. Altogether eight people were interviewed, and they represented public sector, civil society organizations, lobbyists, and business.

The interviews lasted 60 to 80 minutes, and they were conducted face-to-face by the thesis writer with two consultants between February and March 2020. In-depth individual interviews offer an open-ended and non-directive approach and consist of predetermined themes, but the flow of the interview depends on the interviewee and is, thus, flexible (Polaine et al. 2013, 50; Hirsijärvi & Hurme 2009, 47). A field guide was prepared according to Portigal (2013), consisting of questions of specific interest regarding the development process. The field guide is included as Appendix 1.

The author took the lead and used the field guide as a manual for the interview. One to two co-interviewers took notes but also posed questions if they felt there might be more to be disclosed. The interviewees were told that the interview was anonymous, that their personal information would be handled confidentially, and permission to record and transcribe the interviews was asked. At the beginning of each interview, the interviewer presented the topic and the objective. In addition to the interview questions, the interviewees were allowed to reflect on the topic, ask questions and share their opinions.

The same field guide was not used in all interviews because, as the understanding grew, it was essential to modify it. The synthesized information gathered during the team's inhouse ideation workshops and the first four interviews was used to summarize and visualize

alternative options or design directions for the concept (see Figure 7). These options were then tested with the external developer team and in the last four interviews. The last four interviews had the same structure and questions as the four previous ones, but the interviewees were provided with illustrations of alternative design options and given time to explore them. To avoid steering the interviewees' opinions, questions regarding the illustrations were left intentionally open, and the author just asked what thoughts come to their mind when they looked at the illustrations. The interviewees were also asked to choose the illustration they found most compelling.
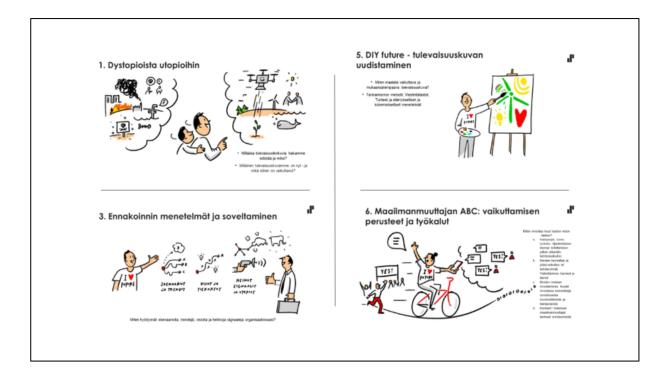

Figure 7: Examples of alternative design options in the discovery phase (Illustrations by Solita).

Analyzing the interviews

The transcribed interviews were thematically analyzed. The first round of analysis was done immediately after the interview. Most themes arose purely from the data, and during the interviews the researcher had an idea of the main issues. This factor indicates that the insights gathered were also analyzed from the researcher's own experience of the world. It is essential to note that data obtained through interviewing are tied to the context of the interview and situation. Chipchase (2017, 343, 348) underlines the cognitive biases, beliefs and values of the researcher and how they impact the interview situation and the outcome. Additionally, as Hirsijärvi and Hurme (2013) note, it is important not to overstate the results.

The transcriptions were later coded in a Word document and then thematically analyzed. This method is useful for identifying themes and patterns of meanings in the data in relation to the research questions (Braun & Clarke 2013, 178). The analysis followed a commonly used model, including four steps: (1) data preparation, (2) data reduction, (3) pattern recognition and (4) critical assessment (Ojasalo et al. 2015, 138). After transcribing, the most interesting quotations regarding the research questions of this thesis were highlighted with colors. Then, these quotes were extracted to a separate document and grouped into second-order themes. The data were iterated through several rounds, compared with the themes recognized immediately after the interviews, and then abstracted into final, first-order themes identified in each interview (see Figure 8).
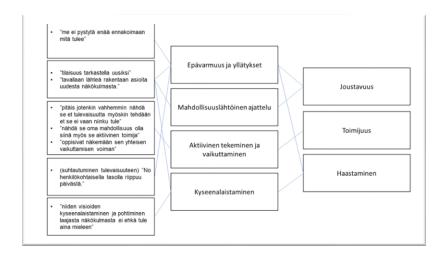

Figure 8: Example categorization from one interview. The first column contains quotes, the second column contains second-order themes, and the third column contains first-order themes.

In addition, empathy mapping as was used as a framework for analysis because it helps to develop deep, shared understanding of and empathy for the stakeholders in a given context (Gray et al. 2010; Gibbons 2018). From each interview, the main insights were clustered under the following categories; pains and gains, what is the interviewee feeling, saying, hearing, and seeing, as presented in Figure 9. The pains and gains clusters proved especially valuable in the development process since they provided direction regarding what pains the training concept could realistically solve. Since the interviewees represented different sectors, their specific needs and desires for the training concept varied greatly. This variation indicated that the training concept should apply to different settings. Above all, it became clear that the training concept should be entry-level to serve the needs of a wider audience. For instance, supporting industry-specific scenario-building or trends analysis would require a

completely different approach and would not fit the limits of this project nor support the objectives of the Future Makers project. In addition, empathy mapping also revealed interesting notions that helped define the target groups. The tool was also useful for sharing the data with the team members who had not been present in the interviews.
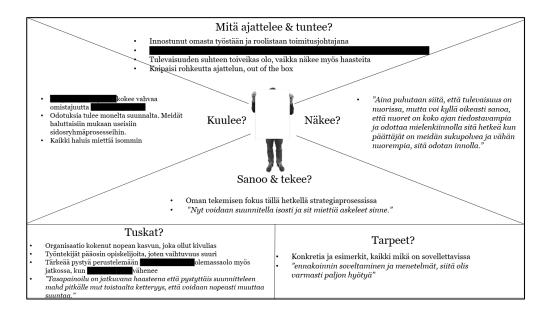

Figure 9: Example empathy map from one interview. To protect the interviewees' anonymity, certain parts of the text are hidden.

4.1.3 Workshop

Four workshops were arranged with the 17-member external developer team. The first workshop was organized for the discovery phase. The one-day workshop was planned, organized, and facilitated by the team in March 2020. It was held face-to-face in Helsinki, Finland.

The workshop had two objectives: first, to set goals for the external developer team's work and to get to know each other; second, to address the research question: *How do people perceive their agency toward the future, and what are the tools people with no previous foresight experience need for future-oriented thinking and societal influence?* The desired output was to learn how the participants perceive futures thinking and change-making skills and what they view as the building blocks for a good training concept. The output would also serve as the basis for the remaining four interviews (at that time).

The day consisted of a facilitated meeting with new people, warm-ups and lectures that introduced the theme, as well as agreeing on practicalities and the working methods of the developer team (see Figure 10).

Figure 10: External development team workshop in March 2020.

The first session considered the topic and aimed to generate insights for the development work in a 1h dialogue. The group was divided into two subgroups, seated in chairs in a circle, and the author and another team member led one group each. The dialogue was facilitated based on the timeout method, a constructive and equal way of having a discussion (Sitra 2018). The method was chosen because it creates a trusting atmosphere and deepens the participants' understanding of almost any topic. At best, the method generates unpredictable insights and new thinking. At this point, we were especially interested in the specific opportunities and challenges the participants would identify. In the session, the ground rules for the dialogue were first introduced and agreed upon, and then the topic was presented. The participants were asked to discuss what needs they themselves and the people around them have regarding futures thinking and societal influencing. Notes were taken from both dialogues by two observers who did not participate. The main themes that arose in the dialogues were as follows:

- prevailing hopelessness and need for hope
- difficulties in discovering the individual's role in the system and possibilities to have an impact
- need to drive change on several levels, not just on the societal level but individual, business, strategy, students, leaders etc.
- challenge to create positive and radical images of the future
- adapting to future versus shaping the future

We then moved toward the theme of making change in the society. After a short introduction of the theme, six influencer profiles based on a study of Finns as civic activists and survey data (Ojajärvi et al. 2020) were presented.

The six profiles each described a persona and his/her motivations and means of influence in society in the role of a citizen. The task for the participants was to familiarize themselves with the personas and find the one that felt most relatable. Then, a discussion was facilitated on the motivations to be a change-maker. The discussion prompted important questions regarding the target groups for the training concept. Should people with no interest in societal influencing be excluded from the target groups, or should we focus on them? Power and relationships as resources were also discussed. It was concluded that the tools necessary to become a change-maker should be simple and accessible.

The building blocks of good training concepts were then elaborated. First, the concepts were introduced to provide a shared understanding within the group. The introduction included presenting a few existing training concepts and analyzing their development and elements of success. The group was then divided into smaller groups, and the assignment was to share personal stories of moments of learning. Based on this sharing, each group was tasked to document an example of an impressive training, describing details about it to a template. Based on this group work, the elements of a good training concept were identified as follows:

- coworking and networking
- practicality and concrete tools for continuing the journey
- applicability and scalability
- usage of various pedagogical forms
- evokes both rational and emotional thinking

The final part of the workshop concerned testing preliminary ideas for the training concept. The ideas had been generated by our own team in an inhouse workshop, and the purpose was to focus on the content of the training, not the form. Eight preliminary prototypes were presented as posters, with illustrations and short texts that described the focus of the training (see Appendix 2). The posters were grouped on the walls of the room, and the developer team was divided into three smaller groups that would work with one wall each for 15 minutes. Each wall had green and yellow Post-its. The groups were instructed to use the green Post-its for critique, comments and improvements, and the yellow ones if they identified suitable target groups for that particular prototype. Each group took three rounds and commented on all the prototypes. A wrap-up discussion was held to summarize the comments and discussion. Since the prototypes were essentially rough sketches and preliminary ideas, it was important not to overemphasize their role, but to regard them more as prompts for discussion and ideation.

The team held a debrief after the workshop, and all the observations, notes and Post-its were merged into one Word document and then discussed and elaborated.

The workshop data proved a rich source for understanding how people perceive their agency toward the future. However, the workshop produced no clear answer to the question of what tools people with no previous foresight experience need for future-oriented thinking and societal influence. Related to this point, the building blocks for a good training concept offered some insights into the pedagogical choices that support learning. The findings easily aligned with the insights from the interviews, and nothing contradictory was found.

4.2   Define

In the defining phase, data from the previous discovery phase were synthesized and formulated into key insights. At this point, the focus was on convergent thinking since the objective was to use the insights to make decisions and choose the directions before starting the development phase (Design Council 2007; Stickdorn & Schneider 2010).

4.2.1   Turning data into insights

After the desk research and analysis of the interviews and workshops, we were able to test our assumptions and now had a deeper understanding of the context and thinking around the theme of futures and change-making. Working with stakeholders had helped us to understand the scope of the issue and generated insights to specify and redefine the brief.

The analysis phase indicated that, yes, there definitely is demand for a training concept that combines futures thinking and change-making. This finding was reinforced both in the interviews and in the workshop. Furthermore, certain characteristics that define both the content and the design were uncovered. However, at this point, the target groups for the training concept remained unclear, and it was evident we needed to elaborate them further. Next, both the design drivers and the learning objectives are presented following the key insights relating to them. Then, the process of determining the target groups is explained.

4.2.2   Design drivers

Combining the findings from the interviews, workshop and desk research and incorporating them with the theoretical approaches in Chapter 2 resulted in defining the design drivers for the development work. The drivers are presented in Figure 11. Design drivers are features that guide the design process. They can be considered tools to communicate the sensemaking from the discovery phase toward the development phase. How the chosen design drivers were understood in the context of this thesis is explained next. All the drivers describe *how* and *what kind* the final concept should be.
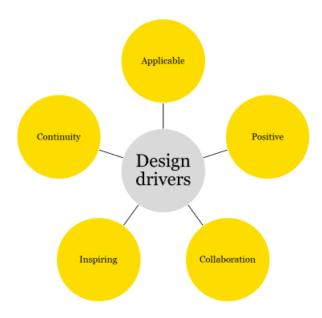
Figure 11: Five design drivers for the development.

1. **Applicable**. The concept must be simple in the sense that it is easy to use and share. In practice, this simplicity means that different organizations or individuals could use it in their own context. The concept should include tools that can be adapted to different situations. Keeping the key objective in mind, popularizing futures thinking and change-making, the concept should be entry-level.

2. **Inspiring**. To stand out and be interesting, the training concept should be emotionally uplifting and inspire the users or participants. Futures should inspire rather than discourage.

3. **Positive.** The hopelessness of the current discourse regarding how the future looks was raised in the interviews and workshop. Both the interviewees and the participants in the workshop felt that dreams had been downgraded to hopes, and that this should be challenged. The training concept should generate preferred future visions.

4. **Collaboration**. The concept should bring people together to think, share and act, and through these build new networks. "Future is made together" was a phrase repeated often both in the interviews and in the workshops.

5. **Continuity**. Finally, the concept should not offer a one-off experience but build on cooperation and bring about action.

4.2.3   Learning objectives

The learning objectives are synthesized in Figure 12. The basis for the learning objectives was identified before the interviews and workshop. The main question our team pondered was what the balance should be between futures thinking and change-making, and how deep into different means of societal influencing we should explore.

Learning objectives

1	2	3
Challenging assumptions, images and statements about the future.	Imagining preferred futures and discussing them with others.	Linking futures thinking to action by identifying different means to shape the future.

Figure 12: Three learning objectives for the training concept.

The insights indicated that the focus should be on popularizing futures thinking and turning it into something easily comprehendible. The reasoning was that change-making and skills related to it highly depend on the context and objective. For instance, driving change in the business context would differ greatly from a civil society organization. The challenge was that the concept should apply in both settings. In addition, futures thinking was perceived as something novel that people were unfamiliar with. Therefore, the learning objectives were formulated into three, from which two focused on futures thinking, and the third made the link from thinking to action.

4.2.4   Deciding on the concept format

At this point, the form of the training concept was still unclear. Following the desk research, interviews and the workshop with the external developer team, several design directions were open. The team formulated these different directions into different options that would

facilitate the comparison and decision-making. The different options are presented in Table 2.

Format	Main points
Open-access online course	Different modules on futures thinking and change-making. Independent participation from wherever and whenever.
Course integrated into an existing curriculum (e.g. in the Open University)	A distinct course on futures thinking and change-making, completion would be awarded with European Credit Transfer and Accumulation Systen (ECTS).
Workshop method	Tool to bring people together to discuss futures and to collaborate in shaping the future. All materials and instructions for organizing a workshop would be open access.
Game or simulation	Gamified experience that incorporates futures thinking in shaping the future. The player needs to influence other players to drive change.
Training program	A training program organized by Sitra, with admissions procedures. Different modules on futures thinking and change-making.

Table 2: Different options for the training concept in the defining phase.

The team compared the alternatives with a method called idea portfolio (Stickdorn 2018). The method was helpful for clustering and ranking the options and making informed decisions. The two axes were feasibility (from low to high) and impact (from low to high). In our analysis, compared with other ideas, the workshop method would have rather low feasibility but potentially high impact. To enrich and diversify our perspectives, the options were also evaluated and commented on by nine colleagues who were not part of the core team. The core team organized a 1.5h workshop in the form of a gallery walk in which each option was presented and explained by one team member, and the nine commenters were provided with a template to offer feedback. Furthermore, discussion and critique were encouraged though

prompting. The team's own evaluation and the feedback received were all in favor of the workshop method. The reasoning was that a workshop method is a tool that is easily applicable, it brings people together and it can be modified and adapted into various contexts. Moreover, the workshop has the potential to reach different types of audiences and, thus, popularize futures thinking and change-making skills. A workshop method would also be the most feasible option to scale the output of the project. Finally, the analysis based on the idea portfolio was in favor of proceeding with the workshop method development.

4.2.5   Narrowing the target groups

The second workshop with the external developer team took place on March 26th, 2020, and by this point, the global COVID-19 pandemic had already caused a lockdown in Finland. Therefore, contrary to our plans, the workshop was organized online. Luckily, the entire external developer team was able to join. Due to the online circumstances, the original one-day long workshop plan had to be modified into half.

The objective was to obtain more insights about the target groups for the training concept. The conducted interviews and the first workshop had already generated some data concerning the target groups, but we still needed more understanding to support our hypothesis. The hypothesis was that the groups that would benefit from the training concept most would be people in certain work roles, but potentially also university students. Although our mission was *to popularize* future capabilities, "people in general" was a far too wide target group. Furthermore, we deliberately avoided using the term *to democratize* because, for instance, marginalized groups or minorities were not the focus of this project. Finally, we needed to increase our understanding of potential end-user groups to verify the findings from the interviews and the first workshop. For the purpose of the second workshop, the potential target groups were clustered into five segments. The segmentation was based on the findings from the interviews, first workshop and desk research.

> a. Experts working in Non-Governmental Organizations (NGOs) or the public sector with an interest but no or little experience of futures thinking
> b. Experts in developer roles in business with interest but no or little experience of futures thinking
> c. Citizens with interest in futures thinking
> d. People working in expert roles within an organization or as consultants
> e. University students

Essentially, the first three groups (a-c) were those who already had some interest toward futures thinking, and the latter two (d-e) were identified as groups that would not have

initiated any interest in advance. Since the members of the external development group had firsthand knowledge and experience of certain target groups, or they themselves were representatives of a target group, it seemed purposeful to elaborate the segmentations with them further. Our aim was to narrow the target group definitions and to obtain a better idea of which learning objectives would be most relevant to different groups.

Since the workshop was half as short as originally planned, a preliminary assignment was agreed so everyone would attend the workshop prepared and bring fresh insights. The task for everyone was to conduct a short interview with a person from one of the above-mentioned groups to discover what 1) futures thinking and 2) change-making mean for that person. Furthermore, they were to discover whether that person would be interested in learning how to facilitate a workshop on futures capabilities or in attending one. It is important to note that the external developer team had been kept up to date between the workshops regarding the decision to make the training concept format a workshop method.

In the workshop, the data gathered in the preliminary assignments were further developed. The entire group was divided into five smaller groups, with each focusing on one of the five target groups presented earlier. Groups 1 and 2 ideated content for training that centered on learning how to facilitate a futures workshop. Groups 3, 4 and 5 focused on generating ideas for the content of the futures workshop from the perspective of a participant. Guiding questions and prompts were given to the participants to ease the ideation. Each group documented their ideas in the online platform Howspace. The groupwork lasted for 30 minutes, and a further 30 minutes were reserved for reviewing each group's suggestions and recommendations.

Figure 13: Facilitating an online workshop.

Our team had never facilitated an online workshop, so the situation was new, exciting and a little stressful. Figure 14 demonstrates the facilitator's novel position. However, it was new to everyone, including the participants, and it felt as if there was a mutual ambition to succeed. Everything went extremely well. The objective of the workshop was to obtain more insights into the target groups for the training concept, which was achieved. We narrowed the target groups to the following:

As facilitators for the Futures Frequency workshop, we were especially looking for people

- working in development roles in the public sector
- working in development roles in NGOs
- teaching in higher education institutions
- working as consultants in both the private and public sector

The target groups as participants attending the Futures Frequency workshop were not defined because that would be the responsibility of the potential facilitator. The task was to develop a workshop method that would enable entry-level participation and that could be adapted and modified to meet the needs of each context.

To conclude the defining phase, we chose the workshop method as the format for the training concept. Also, a decision was made that the working title Futures Frequency would be a final title for the concept. Furthermore, we defined the design drivers and learning objectives for the workshop, which would now guide the design and the contents of the workshop method. Finally, we narrowed our target group and separated them into two: the ones we were targeting to facilitate the Futures Frequency, and the ones who might participate in the workshop. The latter target group we left deliberately undefined and identified potential facilitators as the main target group. Now, referring to Chapter 3 and the notion of abduction in the sensemaking process, at this point we had a statement of purpose that made the most sense based on the insights gathered. The statement of purpose was to develop a workshop method.

4.3 Develop

The objective of this thesis is to explore what kind of training concept can combine futures thinking and change-making. In the development phase, the design problem evolved into a more precise form: *how might we design **a workshop method** to popularize future-oriented thinking and change-making skills that will support people's sense of agency toward the future?* To achieve this objective, we needed to create, prototype and test different ideas.

Through rounds of iteration, a feasible, viable and desirable solution can be identified (Stickdorn et al. 2018; Design Council 2007).

The development phase is envisaged as the third step in the double-diamond model (see Figure 6 in Chapter 4) and is closely linked to the next phase - delivering the solution. Both the design drivers and the learning objectives functioned as guiding principles for the design process. It was important to perceive the workshop method from a wider perspective than just a facilitation tool. We needed to consider how all the content related to futures thinking and change-making would be integrated into the method. Consequently, the design required us to integrate learning objectives in a way in which the workshop would be applicable, inspiring for both facilitator and participants, generate positive images of the future, and build on collaboration and enable continuity.

The two final workshops with the external developer team were organized during the development phase. The third workshop involved testing one of the prototypes, and the fourth concerned training the facilitators.

4.3.1 First prototype points the direction

To assure that different ideas were considered, all four team members individually prepared a backbone prototype for the workshop method in a Power Point (PPT) format. The objective was to embrace diversity of thought and ensure divergent thinking at the beginning of the development phase. The versions were compared, discussed and then merged into one. That version became the first prototype of the "Futures Frequency" method. Prototypes are often used in the early phases of the design process to receive rapid feedback (Morelli 2021, 28; Kurokawa 2015, 57-60; Stickdorn & Schneider 2010, 124). The idea was to discover, as quickly as possible, whether the design process had taken the right direction. The first prototype workshop included six assignments, of which two were group work. Thematically, the spoken parts of the workshop focused on future images, where they stem from, ecological reconstruction, and various ways to effect societal impact. The facilitators' role was to deliver short lectures on each theme, which also functioned as introductions to different assignments. The outline of the workshop and description are presented in Appendix 3.

To check how the prototype worked in practice, five people were invited to the first test. Two team members facilitated the workshop and two team members played the role of participants to experience and observe the workshop from the participants' perspective. Thus, the first testing workshop had nine participants. The participants were told that the workshop was a pilot and that all feedback, comments and questions were highly welcomed. The prototype workshop took about 2.5h and, due to the pandemic, was organized via

videoconferencing. Thirty minutes were reserved for a feedback session at the end since it was essential to explore the experience from both the facilitators' side and, most important, from the participants' side. The feedback discussion was documented, and written feedback was collected afterwards. Later, the feedback was synthesized, and key takeaways were identified.

The team analyzed and discussed the feedback in an inhouse workshop and identified the main points of improvement. The feedback concerned three themes particularly: 1) practical arrangements; 2) the contents relation and connection to assignments; and 3) the flow of the program. These themes are now elaborated in greater detail to indicate how they impacted the further development of the concept.

First, the feedback concerning practical arrangements referred to issues with time management, technical challenges with workshopping online, and the group dynamics. The majority of the participants felt they did not have enough time for group discussion and there was a feeling of being rushed. Furthermore, a place for joint documentation would have been useful since now everyone documented their ideas on their own on their own computers or notepads. This method meant a lack of shared understanding because the ideas were not documented jointly. The group was relatively small, and the participants had outgoing and social personalities, but the question was raised of whether the format would have worked if the participants had been less active and keen to discuss with strangers.

Second, the participants felt that the linkage between the content (the introductory parts) and the assignments was weak or difficult to grasp. Both the individual assignments and the group work was evaluated as difficult. This point was not only due to the technical issues collaborating online; the participants felt there was too much of everything: themes, assignments, and transitions between different stages.

The third issue concerned the overall flow of the program. As stated above, issues with the time and linkage between introductions and assignments were pointed out. However, there was also a deeper concern about the arch of drama in the workshop, meaning what happened in which stages of the process and why. The feedback circulated around the question of what the main points of the introductions and assignments were. The participants felt unsure about what were they supposed to learn and achieve through the experience.

The most important insight, and a little discouraging at that point, was that even though the participants enjoyed the workshop, no one reported being inspired about futures thinking or felt they now had more agency toward the future. The main features of service design thinking were, at this point, not about avoiding mistakes but exploring them as much as

possible (Stickdorn & Schneider 2010, 123). It was evident the prototype contained many mistakes and needed to be developed much further.

The facilitators of the prototype workshop, including the author of this thesis, could agree with all the observation from the participants perspective. In addition, the experience underlined that the facilitators would need detailed timetables, speakers notes, and other supportive material. The facilitation of the prototype workshop had been more or less "go with the flow", but that would not be sufficient in the next testing rounds.

Drawing conclusions from the feedback, our team decided to simplify the prototype. There needed to be a more precise focus on the workshop and fewer transitions between different themes and tasks. This change meant that the content and the key messages of the workshop needed to be elaborated. In addition to the design drivers and learning objectives, the theoretical framework needed to be reflected upon. What methods would help the participants understand the concept of future images, and what would help them to imagine alternative futures? How should this be linked to shaping the future? Was the theme of transformation to a more sustainable future too large a theme for a 3h workshop? Furthermore, to support the development process, the feedback procedure should be elaborated. Discussing the experience after the workshop might generate biased and/or false insights because the participants might not feel comfortable in providing direct and honest feedback. To avoid this issue, the team used an anonymous online survey in the following tests. Also, the role of the facilitator needed to be considered in greater detail. In the coming weeks, the team agreed to reserve time for the development of the concept from the facilitator's side. Since the aim was to create a training concept that could be easily adapted and utilized, the design of the materials for the facilitator should be operated as a separate design stream.

Given the circumstances, the rather quick set-up of the prototype was a successful learning experience. It was also a textbook example of a stage in the design process in which it might be necessary to pause and reflect. At this point of the development, the challenges were as follows: the team needed to shift from operative levels (designing the outline and methods in the workshop method) to different levels of abstraction (deciding on the content of the workshop) simultaneously. Stickdorn and Schneider (2010, 118) refer to the shifting between different levels as the need to make "recurrent leaps between designing in detail and designing holistically."

4.3.2   Two streams of development

Following the first prototype, the design process in the development phase involved two intertwined streams:

1) Developing the Futures Frequency workshop method
2) Developing support materials for the facilitator

The first stream included developing both the content and the methods in the workshop. The second stream followed the first stream and focused on the facilitator's role and perspectives. An important phase of the design process was the pilots of the Futures Frequency workshop method. By October 2020, 19 pilots had been organized.

Developing the Futures Frequency workshop method

The first stream of testing was to evaluate the workshop per se. Twelve workshop tests were facilitated by our team. One test was organized for the external developer team which means that the third workshop for the external developer team was testing Futures Frequency prototype. Each test took approximately 3h, including feedback discussion at the end. Since the objective of the project was to engage people outside the field of foresight in futures thinking, the participants for the tests were invited based on these criteria.

The large number of testing rounds means describing each would serve neither this thesis' reporting nor the reader. Therefore, they are presented in a separate table in Appendix 4. The table includes information about the date and location, number of participants, and a brief description of the features of each prototype workshop to provide the reader with an overview of the process of developing the final concept.

The workshops were facilitated by two team members (with one exception), and in some cases we had the opportunity to have someone from our team observing. Due to the pandemic, 11 workshops were organized online and only one face-to-face. However, it was crucial to be able to test the method face-to-face to ensure that the same format works both ways.

During the development phase, the objective was to assess both the content and the flow and outline of the workshop. Every test followed the process of facilitating the workshop, collecting feedback and debriefing the team afterwards. The feedback discussion was led and documented by the facilitators of each workshop. An additional anonymous web survey was sent to the participants to obtain honest opinions and to give voice to the participants who

might be hesitant to share their opinions when other people are present. The survey questions varied a little due to the evolvement of the prototype workshops, but in general the outline of the survey stayed the same during the development phase. This consistency enabled the comparison of the feedback and identifying problematic elements in the workshops. Appendix 6 presents an example of a feedback survey used in one workshop. The survey included open-ended questions also. Two anonymous comments, below, demonstrate the open-ended feedback.

> *I have enjoyed taking part in the workshop, and it has certainly been good to think much more globally than we tend to in the sector (i.e. beyond what the organization is focused on), and with a longer-term vision.*

> *The workshop made me wonder [about]…my own life and the decisions I make. Also, it felt meaningful to work together in smaller groups with issues that matter.*

When gathering feedback, our team was especially interested in what elements the participants found interesting or inspiring, were they able to challenge assumptions about the future, did they imagine alternative futures, and did they feel a sense of agency to shape the future. Moreover, comments about the structure, balance between introductory parts and various assignments, technical matters and overall feeling were also of interest. The table in Appendix 4 provides a more detailed description of the test workshops, but the main steps in the development are discussed in Subchapter 4.3.3.

Developing support materials for the facilitator

The second stream of the testing concerned exploring how the workshop is to facilitate. The purpose was to understand what type of support a facilitator new to the subject and to the method needs. It was evident that we could not address this question only through our own experiences in facilitating Futures Frequency workshops. We needed to consider the future facilitators as the end-users of the method. To solve this dilemma, we contacted people who had demonstrated interest in the concept and asked them to test the workshop method by facilitating their own the Futures Frequency workshop. Six people volunteered, among whom four were members of the external development team. Luckily, the testing contexts varied greatly, which generated rich insights to support the development further. An overview of these tests is presented in Appendix 5. The facilitators also matched our target group definitions, and we were able to have facilitators who represented an NGO, higher education, consultancy and the public sector.

We arranged a meeting with each facilitator to help them prepare for the workshop. In these meetings, we covered the workshop structure and timetable, invitation procedures, speaking points, PPT slides, assignments in the workshop and technical issues because most of the workshops were arranged online. Furthermore, we discussed the importance of gathering feedback from the participants as we were still in the development phase of the concept.

In the testing phase, the support material for the facilitator included an invitation text to be used for marketing the workshop, PPT slides, speaking points in a Word document and a rough timetable to run the workshop in 2.5 to 3h. Furthermore, templates to be used in Miro were provided, as well as a Webropol survey to collect participant feedback.

Similar to the first stream of development, every test followed the process of facilitating the workshop, collecting feedback from the participants, and then debriefing with the Sitra team. Of course, the focus was now more on the facilitator's perspective: how had the experience been for her/him? How did the existing supportive material work? What did she/he lack during the workshop? Also, it was important to discuss in the debriefing meetings whether the facilitator had detected points in the Futures Frequency prototype that needed further development. Moreover, it was interesting to discover whether the facilitator felt that the method had been useful in her/his context. These insights built our understanding regarding how applicable the method was.

The facilitator needs were further elaborated in the fourth workshop with the external developer team in May 2020. The workshop was dedicated to identifying the main themes for separate facilitator training to build competences for facilitating the Futures Frequency workshop. Due to the scope of this thesis, the fourth workshop is not discussed here in detail because it dealt mainly with facilitator training.

4.3.3   Feedback steers the development

The pilot workshops generated feedback, which advanced the development work. Data were gathered from different perspectives: feedback from the facilitator, feedback from the participants through discussion after the pilot, and a web survey (see Appendix 6) sent to the participants at the end of each workshop.

From the first prototypes onwards, Futures Frequency started to take its shape according to the learning objectives: 1) challenging assumptions, images and statements about the future; 2) imagining preferred futures and discussing them with others; and 3) linking futures thinking to action by identifying different means to have an influence. The idea was to proceed from abstract to concrete. The vast testing meant we were able to trial different versions

simultaneously, which enabled revisioning to be done in an agile manner. If some part of a certain prototype received critical feedback, we could modify it quickly to the next version and test how it worked. Similarly, if the facilitators felt that something was difficult or irrelevant, we could remove it and check how it affected the feedback. The most problematic stages were easy to detect as the feedback data started to accumulate. Those parts are discussed next.

Iterating toward delivery

First, concerning the content of the Futures Frequency method, in the first versions the introduction to futures thinking was relatively profound and multilayered, and it soon became evident that it had to be simplified and the main points crystallized. Based on the participants' feedback and the team's observations, megatrends were removed and the introduction to futures cone model was shortened. Furthermore, three key points about futures thinking were chosen. The removal of megatrends was validated through the feedback which indicated that covering megatrends would need more time in the workshop, a closer link to the assignments, and subject matter expertise from the facilitator. Moreover, a story by the late futurist Elise Boulding proved to be an inspiring start for the workshop.

After the introduction to futures thinking, the first part of the workshop addresses futures images and the need to challenge them. In the prototype versions, the participants were introduced to the concept of future images via pictures and short texts that described identifiable, even clichéd images of the future. The pictures served as prompts for group discussions. Based on the participant and facilitator feedback, this section functioned well and stimulated active discussions. However, we noticed that some participants became stuck on the texts added to the pictures, which sometimes took the discussion in directions that did not serve the purpose of that element in the workshop. The idea was to identify different assumptions about the future and break free from them, and not, for instance, discuss whether a certain future seemed probable or preferable. Furthermore, there were signs in the feedback that the workshop should offer something more immersive and experiential; something that would evoke emotional thinking instead of just rational reasoning. We decided to try audio plays. The author produced two prototype audio plays that were both 2-3-minute stories from two different futures. The feedback confirmed these plays worked well. Thus, with a company specialized in audio production, we created 11 audio drama pieces for the final concept. To point out why challenging preconceptions about the future is crucial, the images of the future had to be easily identifiable and understandable. Therefore, the images had to be familiar and similar to those people are often exposed to (e.g. from private technology companies, media, or political parties). Each piece was 3-4 minutes long and dealt

with, for example, the eco crisis, fake news and transhumanism. The scripts were inspired by Dator's (2009) and Bochetti et al.'s (2016) future archetypes discussed in Chapter 2.

The second part of the Futures Frequency workshop focuses on imagination. During the development phase, this was the part modified the most. When we facilitated the prototype workshops, we always felt that neither the script nor the assignment worked. The challenge was how to help and inspire participants to imagine alternative futures in a short timeframe. To look forward, we should look back twice as far (Saffo 2007), and, at the same time, the workshop needed to make the point that futures are surprising in surprising ways. History tends to appeal as a linear story, but when you look deeper, developments always contain discontinuities and surprises. Therefore, we added a new group assignment in which the participants filled in a timeline and identify phenomena, events and other elements that have been shaping our present for the past 100 years. This assignment followed a task to identify aspects that affect our future. The new added feature became one of the most liked assignments in the workshop; the participants felt it gave them a sense of perspective. The task was also a way to bring the entire group together because filling the timeline was a joint group effort. After the timeline exercise, the participants proceeded to imagine a preferred future; first, individually, and then in smaller groups in which they had created a shared vision. Preferable futures are more emotional than cognitive (Voros 2003, 14), and the dialogue in the small groups became an essential part of the process since it led the participants, ultimately, to discuss what is important to them. Envisioning helps participants recognize the possibilities of new images of the future and obtain new myths about the future (Ziegler 1991, 516-527, as cited in Ono 2003), which presumably explains why several participants mentioned in the feedback that they felt they had new ideas and thoughts about the future.

Finally, the third part of the workshop involved linking futures thinking to action. This aspect was the main feature of the entire workshop, which would also distinguish the method from many other methods in the futures field. Therefore, the workshop should offer a framework and a process to transfer thoughts into deeds. Furthermore, since the third part was the end of the workshop, we wanted the participants to feel empowered and inspired and equipped with new tools and ideas regarding how to shape the future. The problem was that the third part and its assignments were rated as the least liked part of the test workshops. The feedback indicated that there was too much content and the methods were too complicated. In addition, ideating actions without any structure did not seem to work; it left the participants with no tools to approach change-making. Drawing on this feedback, our team adapted the spheres of transformation model (O'Brien & Sygna, 2013) and used it as a framework for ideating actions in the workshop. Since the participants had created a vision in

the previous part of the workshop, they now ideated actions using the perspectives presented in the transformation spheres. In practice, this part meant that the participants task was to identify actions that would affect thinking, structures and behavior.

Identifying facilitator needs

The feedback from the facilitators was very clear: the facilitator needs a comprehensive guide on how to plan and conduct the workshop. From the process perspective, however, the designing of the guide was challenging because the workshop method development was still in progress. Therefore, every time the workshop was modified, the guidance for the facilitator needed to be modified as well. Nevertheless, our team started to design the facilitator's handbook in line with the workshop development. The handbook was formulated around three main chapters:

1) Background information on the method, including information on how and with whom to use the method, for whom it is intended, how to add a theme to the workshop, and describing the facilitator's role.
2) How to plan a workshop, including invitation procedures, requirements for online or face-to-face workshop, and scheduling.
3) Workshop stages step by step, including all the speaker's notes, instructions for facilitation and a minute-by-minute timetable.

Three facilitators who had been facilitating a test workshop read the draft of the handbook and offered us ideas for improvement. Most importantly, they stated that the speaker's notes were insufficient, and that the handbook should include sources for more information on the speaker's notes, so the facilitators could familiarize themselves with the topic more deeply. Furthermore, more tips for the facilitation of certain parts were called for.

Since organizing the workshop would require materials in addition to the handbook, and the handbook would also need a place online where it could be found, we also designed a separate website for the workshop on the Sitra webpages. The website should function as both the source for information about the method and for the materials required for running a workshop.

The facilitator feedback also indicated that not everyone would feel comfortable or willing to speak the introductory parts on the workshop. At the same time, we had become even more certain that the workshop method should be applicable also from the facilitator's side, meaning it would not require any foresight or expertise to organize and facilitate. This ease would, in our team's opinion, further popularize futures thinking. Therefore, we created an

option for those facilitators who prefer not to talk about futures thinking or other introductory parts in the workshop. The option was that we recorded all the introductory parts as videos that could then be used in the workshops, replacing the speaking parts. This method enabled the facilitator, if she or he wished to do so, to focus only on facilitating the workshop process and the assignments.

4.4   Deliver

Delivering the final concept (the open-access Futures Frequency workshop method) is the final phase in the double-diamond design process (Figure 6). The design process of the method was finished in November 2020, and after that our team focused on producing all the materials to be ready for release. The Futures Frequency method was published on January 12th, 2021.

In the delivering phase, the team decided on the final modification before the launch, as discussed in the previous chapter. From the thinking-mode perspective, this phase of the process meant convergent thinking and focusing on what can be delivered in the given time with given resources. For our team, this phase meant decisions that are always compromises. We could not include everything in a 3h workshop method. The earlier stages in the development process had made it clear that 3h was an absolute maximum for a workshop that would be used online also. The design drivers provided guidance to finalize the concept and make it applicable, inspirational, positive and to build on collaboration and continuity.

The decisions then directed the process of producing the support material for the facilitator. The main output was the facilitator's handbook. The aim was to create a guide that would give the Futures Frequency facilitator all the instructions needed to run a successful workshop. These instructions include background information on the method, guidance for preparation both online and for live workshops, and then step-by-step instructions to run the workshop. Based on the insights gathered during the development phase, the team designed a website that would serve at least two purposes: 1) collate all the information and materials about the Futures Frequency workshop; and 2) the website could be used as a supportive framework to facilitate the Futures Frequency workshop. Therefore, the team designed the website to follow the same structure as the workshop. To ease the role of the facilitator, all the lecture-style parts of the workshop were captured as videos and published on the website. The purpose was to offer the facilitator the option to focus only on the facilitative role and not to prepare or speak the introductory parts. However, if the facilitator chose to give the introductory parts him/herself, all the speaking points and background information are provided in the facilitator's guide.

In addition to the Futures Frequency website and the facilitator's handbook, PowerPoint slides, printable templates, model boards for Miro, visuals, and the audio drama pieces were finalized in the delivery phase. Furthermore, planning the launching event and the communication materials relating to it kept the team busy. The launch event on January 12th included a 1h webinar presenting the Futures Frequency workshop method and a keynote speech from philosopher Roman Krznaric, followed by four Futures Frequency workshops open to anyone (pre-registration required). Furthermore, a call for applicants to a Futures Frequency facilitator training course was opened.

5   The Futures Frequency workshop method

The final outcome, the Futures Frequency workshop method is now presented. The training concept, Futures Frequency is an open-access workshop method designed to be used and applied by anyone. All the materials are available on Sitra's website, www.futuresfrequency.fi, in both Finnish and English and partly in Swedish. The purpose of the Futures Frequency method is to increase participants' ability to imagine different futures and act toward the realization of a preferred future. The underlying aim is to popularize future-oriented thinking skills and strengthen people's agency and faith in the future.

The Futures Frequency has the following four main functions:

1) to introduce futures thinking and build agency toward the future
2) to challenge preconceptions about the future
3) to imagine alternative futures and discuss them with others
4) to act and influence the future

As with other futures workshops, the Futures Frequency has an educational function: to popularize futures thinking. Therefore, the workshop can be used as the first step to familiarize oneself with futures thinking, and the method suits a wide range of target audiences.

The Futures Frequency is not about diagnosing a problem or solving it, but more about opening up the realm of futures thinking. The challenges or problems identified by the participants are not dismissed, but the underlying thought is that if we want to address a problem (e.g. the loss of biodiversity, reduce poverty etc.), we need to imagine what alternative potential futures could look like.

The Futures Frequency is based on participatory methods, and great emphasis is placed on group discussions and group work. The aim is not to achieve a unanimous view about what the future should look like; rather, the purpose is to encourage participants to think about various alternative and preferred futures and identify steps toward making them happen. The method helps build cohesion by facilitating dialogue between participants about the future. Working together is designed to embrace a diversity of perspectives to build a richer view of alternative futures. Furthermore, the process in the workshop connects the individual, group and societal levels.

A distinctive feature of the Futures Frequency method compared with many other futures workshops is that it is designed to be led by non-futurists. This aspect stems from the idea to popularize futures thinking and make it more inclusive and understandable. Following the principles of transformation design, the outcome of the project seeks to build capacity, not dependency. Therefore, both the workshop and the facilitator materials were designed to be easy to understand, use and apply, independently of Sitra. Participating in the Futures Frequency workshop or facilitating one requires no previous experience of futures thinking. The facilitator's role is to empower others to articulate what they want the future to look like and how to achieve this.

Another noteworthy element in the workshop is its strong emphasis on linking futures thinking to change-making. Change-making in this context refers to influencing and shaping the future. The process in the workshop proceeds from abstract to concrete, the latter being the part where the participants consider shaping the future in concrete terms. In the final part (3), the participants focus on ideating actions to realize their group's vision. Although the focus is on ideating actions (and not planning them), the purpose is to help determine how to "use" the future in the present. In other words, the objective is to help participants to reframe the future from something distant to something that matters right now and should be acted upon now. Moreover, emphasizing the participants' role in shaping the future helps build their agency toward the future. The capacity to create alternative futures develops ground for optimism and the power to make change (Demneh & Morgan 2018, 60).

The workshop is scheduled to take about 3h, but it can be adapted and modified depending on the context and needs of the group. The workshop structure and the assignments are presented in Figure 14.
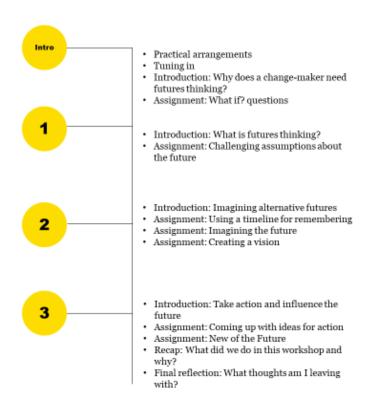
Figure 14: The Futures Frequency workshop structure.

Intro

The workshop begins by discussing the practicalities, warming-up and getting to know each other, and then making the case for futures thinking. The intro part ends with a story of the futurist and activist Elise Boulding. The story functions as an inspiration regarding abductive envisioning. Abductive visioning is an approach to thinking about the "what ifs." The group's task is to generate as many "what if" questions as possible. The idea is not to create likely scenarios but to introduce a simple way to practice futures thinking and to widen the perspective.

Part 1

The basic features of futures thinking and the futures cone by Voros (2017) are presented. There then follows an introduction to future images and how they impact our perceptions about the future. The focal point is to challenge assumptions about the future. Images of the future is applied to the group assignment in which the group listens to one audio drama piece and then challenges the assumptions the piece is based on.

Part 2

In the second part of the workshop, the participants look forward and imagine preferred futures. The second part begins with a short introduction to imagination, the key takeaway being that it is difficult to realize a future we cannot even imagine. First, the group examines a timeline and identifies issues and factors that have influenced the present. Then, they identify phenomena that will influence the future. The participants then imagine preferred futures, first individually and then by creating a shared vision in small groups. The second part of the workshop has a strong focus on discussing with others and finding a common ground. The objective is to create futures that the participants care about, as opposed to visions imposed on them.

Part 3

The final part of the workshop links future-oriented thinking with action. The aim is to recognize that influencing the future is something that happens in the present. A short introduction presents one example on how to drive change and shape the future, and then the spheres of transformation (adapted from O'Brien and Sygna 2013) are introduced. The groups ideate actions to realize their vision based on a framework adapted from the spheres of transformation. Finally, to concretize their preferred future, the groups draft headlines for the News of the Future. The workshop ends with a recap and final reflections.

Materials

Figure 15 provides an overview of the materials created for the workshop: the website, video introductions, audio drama pieces and the facilitator's handbook. The handbook can be downloaded as a PDF or ordered in print. The handbook provides practical guidance to plan and facilitate the Futures Frequency workshop, including a minute-by-minute timetable, speaking points and suggestions on how to modify and adapt the workshop. In addition, PPT slides, printable templates and a model of a Miro board for online workshops are provided.
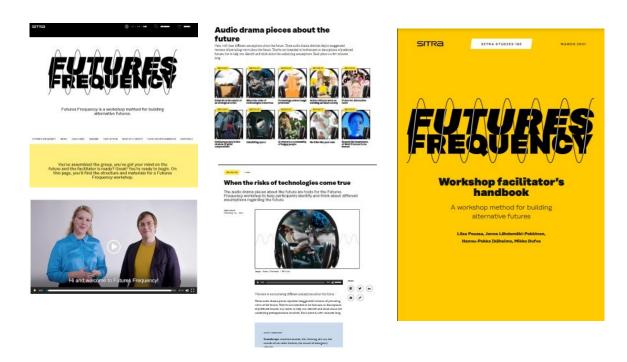
Figure 15: Features of the Futures Frequency website and the facilitator's handbook.

6   Conclusions, reflections and learnings

Conclusions

The purpose of this thesis was to find ways to encourage people to shape the future. The starting point for the development project was to design a training concept to popularize futures thinking and support people's agency toward the future. What the training concept could be was not decided or defined because forming the brief was considered part of the design process. During the process, the brief was reframed and, ultimately, this thesis explained the process of designing a workshop method called Futures Frequency. The workshop included discovering opportunities for the design by using qualitative research methods. Then, the thesis presented how the design process proceeded, adapting principles from the transformation design approach and following the double-diamond model. The methods were chosen depending on the suitability in each phase of the design process. The research questions that guided the development work are now answered.

The first research question set out to explore different approaches around futures thinking and change-making by asking, *What are the main approaches to consider when designing a training concept that combines futures thinking and change-making skills?* Transformation

was discussed because it set the scene for the development project. The point was made that there is a call to engage people as change-makers who can drive transformation, but this requires critical reflection of the assumptions and paradigms we share in the present. Unlocking imagination was raised as one potential capacity. Furthermore, change does not occur only on certain levels, but on several levels, as the spheres of transformation (O'Brien & Sygna 2013) demonstrated.

Futures thinking was introduced briefly, and the focus was on images of the future and their impact. Future images were considered an important topic since one objective of the project that the thesis is part of was to enhance hope-inducing future images in Finland. Furthermore, future images in the present impact the way we take action. Since the objective was to create a training concept to popularize futures thinking, participatory futures as a special field of methodology and approaches were explored. The literature review concluded with a conceptual framework that also answers the first research question. To involve people outside the foresight field in futuring processes and to learn about them, the methods should be accessible and engaging. The methods should encourage critical thinking, promote the idea there is no single future we are inevitably heading toward, unlock people's imagination to create alternative futures and – most important – orient the participants to take action to shape the future. The frameworks' function was to give guidance for the development of the concept by highlighting features that have been identified important when strengthening participation in futuring processes. Therefore, the framework laid the foundation to formulate the design drivers and learning objectives in the following stages of the development process but it was not used as such. In other words, the framework summarized the most important takeaways from the literature view. The most important element in the literature review was synthesizing three themes that were considered important to incorporate into the content creation of the training concept: 1) the effect of future images, 2) imaginations potential, and 3) agency to shape the future. Because these themes were very much in line with the findings gathered in the discovery phase, they were then further elaborated into learning objectives, presented in Chapter 4.2.3. and most importantly, they are also evident in the structure of the final concept.

The second research question focused on understanding the potential end-users by asking, *How do people perceive their agency toward the future, and what are the tools people with no previous foresight experience need for future-oriented thinking and societal influence?* To address this question, insights were gathered from desk research, in-depth interviews and workshops during the discovery phase of the development work. The insights were introduced thoroughly in Chapter 4. People had different perceptions about their agency toward the future, but the question was also explored from the perspective of how the current public

discussion, or zeitgeist, was, and whether it promoted people's agency to shape the future. It became evident that people long for positive future images that inspire. The opportunity to engage and act builds agency. Furthermore, tools need to be applicable and understandable but leave space for adaption.

Finally, the third research question framed the entire development task: *What kind of training concept could support popularizing futures thinking and change-making skills that will support people's sense of agency toward the future?* The question was ultimately answered with the final concept developed – the Futures Frequency workshop method presented in Chapter 5. To summarize, the concept had to be entry-level, easy to apply and suitable for different types of target groups in different contexts. These features were based on the insights gathered from the discovery phase and confirmed in the vast testing of different prototypes in the development phase. From the subject viewpoint, it was important to make futures thinking approachable and build a stronger link to action. The latter aspect was crucial since futures thinking is often considered abstract, whereas actions in the present are something concrete. By linking doing to thinking, a more proactive relation to futures could be established. Furthermore, creating visions for preferred, alternative futures was considered essential. However, it was equally important to encourage critical thinking and the skills to challenge assumptions about the future and to avoid the usage of what Sohail Inayatullah (2008) calls the "used future." Therefore, the final concept took the form of three phases: 1) Challenge assumptions about the future, 2) Imagine a preferred future, and 3) Act to shape the future.

As seen in the final concept, transformation is approached through the adapted version of the spheres of transformation (O'Brien & Sygna, 2013) and is used in the third part of the workshop as a tool to ideate actions on different levels to shape the future. The point is to demonstrate that driving change should be approached from different perspectives. However, the need for transformation to respect the planetary boundaries in the age of ecological crisis is not strongly underlined in the final concept despite being the starting point behind the Future Makers project. Not strongly underlining it was a deliberate decision because the insights from the exploratory research indicated that the concept should be applicable to different contexts and from the participants' entry-level perspective. Discussing societal transformation in the age of ecological crisis in the Futures Frequency workshop would have required much deeper analysis, framing and expertise from the facilitator. Furthermore, it was important that the facilitators and organizers of Futures Frequency workshops could decide themselves what themes or perspectives they wished to include. Therefore, guidance to include a particular theme for the Futures Frequency workshop was incorporated into the facilitator's handbook. Nevertheless, the final concept stays true to the Future Makers

project goal to engage more people in discussion about the future, to develop a more future-oriented mindset and to imagine alternative futures. The output is an example of inclusive visioning and applied futures thinking.

Reflections

The development and research process can be evaluated from various perspectives. The reliability and transferability of the results are now discussed, and some reflections on the final output are made.

Are the results of this research reliable, and could they be repeated? In some projects, evaluation is straightforward, but as Kananen (2013) points out, evaluating the credibility of qualitative research is more difficult than in quantitative research. Relying on multiple sources of information, using different methods and analyzing the gathered insights with the entire team were all decisions made to strengthen the reliability of the research and the quality of the development process. In addition, the concept was exposed to extensive testing and critiquing throughout the process, and the feedback was considered thoroughly. The question of whether the research could be repeated is more difficult. As the writer of this thesis, I have tried my best to explain the research process and methods, so the reader can have a clear understanding of the development work and that, in an ideal world, the process could be repeated. However, although the development process presented in this thesis might seem to have proceeded in clear stages, the process was very iterative, complex and the different stages overlapped. If you add the effect of the people in the team and in the collaborative activities, as well as the extraordinary context of the global pandemic, I doubt repeating the research in a different setting would produce the same outcome. Therefore, the level of repeatability is low.

The results of the research are bound to the objective of this project and, thus, affect their transferability. Since the developmental objective was to create a training concept for usage by the wider public, the solution was not curated nor customized specifically for a certain organization or people. This factor raises two perspectives; first, it could be proposed that the final output of the development process was designed to be as transferable as possible; second, the final output is caught up in the development context and naturally affects the transferability – a training concept that works in the Finnish context might not transfer directly to other contexts. Additionally, transferability could also be viewed from the methodological perspective. Applying the principles of transformation design, designing with stakeholders, vast testing and iterating are all methods that could be transferred to another setting with a similar developmental objective.

This thesis has achieved its goal, as the concept was developed and delivered. The process also provided answers to the research questions. Only one part of the second research question (*How do people perceive their agency toward the future, and what are the tools people with no previous foresight experience need for future-oriented thinking and societal influence?*) concerning the tools was difficult to answer comprehensively. In the discovery phase of the development process, the interviewees and workshop participants had relatively abstract ideas regarding what they considered useful tools.

To design something that creates change in people's thinking and action is never simple. Principles of transformation design loosely guided the development process rather than being straightforward step-by-step instructions. Throughout the process, our team sought not just to produce a solution, but also capacity and tools for people to practice futures thinking and agency to shape the future. Co-designing with the external developer team proved crucial because of the diversity of thought the multidisciplinary group provided. Furthermore, employing participatory design techniques and involving different target groups in the testing of the prototypes of the concept played a key role in delivering a final output that works.

Since the concept has been delivered, there are already some preliminary insights into its reception and usage. Futures Frequency has proved to be a promising tool for collaborative foresight efforts in various contexts and has raised a lot of interest. Between January 12th and June 30th, 2021, there has been 8700 unique downloads on the Finnish website and 2100 on the English website. The Finnish version of the facilitator's handbook has been downloaded for 2200 times and the English version 1300 times. At the time of writing this report, the method has been used, for instance, as a teaching method in university studies, as part of a strategy process of a Finnish municipality and as a training module in a course organized by an NGO. There is no exact data about the number of Futures Frequency workshops organized so far, but based on the workshops arranged by Sitra and by the attendees on the facilitator course, there have been more than 100.

The results from the feedback surveys from the participants suggest that participating in the Futures Frequency tests has impacted the participants' perceptions about the future. However, it should be emphasized that a novel method such as Futures Frequency is not intended to replace other, more data-based foresight approaches, such as scenario-generation processes. Rather, Futures Frequency is a complementary method targeted at inviting more people outside the foresight field into practicing futures thinking. I hope the method will make some of the distinct modes of thinking about futures less distant and more approachable and accessible. If the method also proves to be fun, we might be on the right track toward popularizing futures thinking.

Futures Frequency is built on the core idea that everyone can shape the future. This point raises the question of power and resources. Ignoring limitations about power would mean ignoring the different positions people have. Practicing foresight includes creating structures of participation for co-imagining (Candy 2018, 46), and the facilitator or the organizer of the Futures Frequency workshop holds the power on who may participate. Whether the ideas generated in the workshop are operationalized depends on the organizer and participant resources. Consequently, acknowledging different power structures is important.

However, the usage of methods in never a value-free practice. Methods are connected to different worldviews and cultural contexts. Futures Frequency was designed and developed in Finland; therefore, it is anchored in certain cultural norms, such as Finnish perceptions of time, or the agency that individuals are supposed to have. Although the concept was tested with three international target groups, conclusions on its usage in different cultural settings are difficult to make.

Future research

Several considerations remain for further research and the application of the concept. First, Futures Frequency's adaption and modification to fit different contexts is an ongoing experiment. What value can the method offer the public sector, business or education? How should the method be modified to be used in different settings with different audiences?

Second, Futures Frequency can be considered a method for involving people in knowledge co-creation. However, the concept contains no guidelines or processes for gathering the knowledge or the outputs created in the workshop. Therefore, how the outputs of these processes are processed and used is an important question for further elaboration.

The third theme for further research concerns the impact of the method created. Suggesting causal links between participating in a Futures Frequency workshop and change in a person's thinking about the future or their feeling of agency toward the future presents considerable methodological challenges. According to Moore and Milkoreit (2020, 8), "neither imagination nor transformation can easily be reduced to cause-effect analyses or linear assumptions." Researching how Futures Frequency might impact individual and group levels is an interesting and important endeavor.

Learnings

The development phase in March 2021 coincided with the arrival of the COVID-19 pandemic in Europe, which meant the team had to continue the development work online and all face-to-

face meetings were postponed. This change significantly impacted the development process and the final output: the final workshop method is usable and feasible both face-to-face and online. I dare to propose that without the pandemic, we would not have designed a method that functions in both ways. The positive aspect of the situation was that it brought the development further than planned. In hindsight, more face-to-face tests with the method could have been very useful and balanced the development process between testing online and live. It remains to be seen whether the method will need alterations in the future for real-life usage.

Finally, as Dubois et al. (2002, 560) wisely state, learning is the essence of all research, and this thesis has been an eye-opening and inspiring journey for me. Moments of discovery happened along the way, mostly in those moments when the process felt the most difficult. For me personally, the biggest learning has been growing comfortable with the messiness of the design process, and even embracing it.

I was lucky to be able to use our project for this thesis and to work with a team of wise thinkers and doers such as Jenna Lähdemäki-Pekkinen, Mikko Dufva and Hannu-Pekka Ikäheimo. To say Futures Frequency was a team effort risks stating the obvious, but there were many who made invaluable contributions. Seventeen members from the external developer team contributed their time, insights and advice to the project. Solita's two service designers supported and asked difficult questions. Finally, to the more than 100 people who participated in the testing workshops and guided us with their feedback and ideas, thank you to all of you!

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Figures

Tables

List of the appendices

Appendix 1: Interview field guide (in Finnish)

Tavoite

Selvittää **millaisia tarpeita** haastateltavalla ja hänen organisaatiollaan voisi olla

tulevaisuusajatteluun ja **yhteiskunnalliseen vaikuttamiseen** liittyen, ja mitä haastateltava

ajattelee tulevaisuudesta ja **suhtautuu** siihen

- Millainen koulutus palvelisi 1) ko. käyttäjää ja 2) hänen tunnistamiaan loppukäyttäjiä mahdollisimman hyvin?

Intro (5 min)
1. Esittelyt
2. Laita nauhuri päälle (kerro, että laita sen nyt päälle)

- Kerro mihin nauhoitusta käytetään: anonyymi, muistiinpanojen jälkeen poistetaan jne.
- vahvista haastattelun kesto (max. 1 h)
- kerro, keitä ollaan ja miksi tehdään haastattelut
- haastattelussa ei ole vääriä vastauksia, saatu tieto auttaa meitä työn suunnassa ja koulutuskonseptin suunnittelussa

Haluaisin jutella tänään kanssasi tulevaisuus- ja ennakointitaidoista sekä yhteiskunnallisesta vaikuttamisesta: siitä mitä itse ajattelet niistä, millaisia kokemuksia sinulla on ja millainen merkitys niillä on organisaatiossasi. Koska olemme kehittämässä koulutuskonseptia, puhumme myös hieman oppimisesta ja kouluttamisesta. Olemme kiinnostuneet nimenomaan sinun ajatuksistasi ja kokemuksistasi, oikeita tai vääriä vastauksia ei ole. Minulla on paljon kysymyksiä kysyttävänä ja tiimiämme kiinnostaa kuulla kokemuksistasi.

Haastattelemme yhteensä 8 ihmistä, jokaista noin tunnin verran.

Yleiskuva (5 min)

1. Kertoisitko hieman itsestäsi - mitä teet, mistä olet kiinnostunut jne.?

2. Entä millainen työnkuva sinulla on?
   Mitkä ovat vastuualueitasi?
   Ketkä ovat keskeisiä yhteistyökumppaneitasi?

3. Millainen organisaatio XX on?
   Mitkä ovat keskeiset tavoitteenne tällä hetkellä?
   Minkä asioiden parissa painitte organisaationa?

Tulevaisuus ja ennakointi (10 min)

4. Millaisia ajatuksia tulevaisuus sinussa herättää?

5. (Kerrotko milloin viimeksi mietit tulevaisuutta? Millainen tilanne se oli?)

6. Kuuluuko ennakointi tai tulevaisuuden työstäminen työnkuvaasi jollakin tapaa?
   a. Jos kyllä, miten?
   b. Mihin projekteihin tai kokonaisuuksiin tämä liittyy?
   c. Millaisia menetelmiä käytät?
   d. Mistä hankitte tietoa?
   e. Onko teillä yhteistyökumppaneita?

      f.   Ovatko toimintatapasi muuttuneet viime vuosien aikana?
          i.   Miten, miksi?
          ii.   Miltä xx toimintatapa tuntuu, miten se toimii jne?

      g.   Jos ennakointi ei kuulu työnkuvaasi, millaisia mielikuvia se herättää?
          i.   Kuuluuko se kenties jonkun toisen työnkuvaan organisaatiossasi?
          ii.   Entä näetkö, että ennakointitaidot voisivat hyödyttää sinua? Entä muita ihmisiä? Miten?

7. Millaisia tulevaisuuden kehityssuuntia organisaationne erityisesti tarkastelee? Tai mitkä kehityssuunnat ovat teidän kannaltanne kiinnostavia?

8. Miten näet tulevaisuuden ennakoinnin arvon työssäsi? Mitä arvoa sillä saattaisi olla sinulle, sidosryhmillenne, asiakkaillenne jne.?jne?

9. Haluaisitko oppia lisää ennakoinnista?
      a.   Mitä?
      b.   Miksi?
      c.   Miten?

Koulutuskonsepti
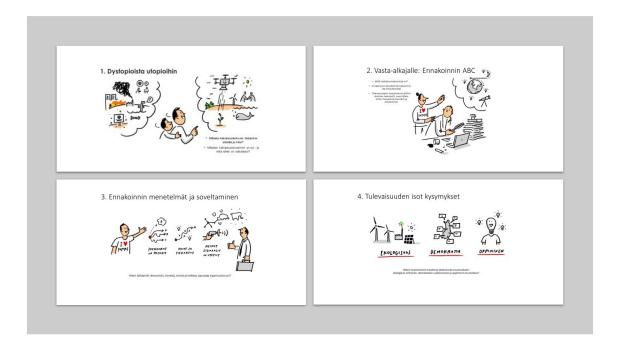
Koska olemme Sitrassa kehittämässä koulutuskonseptia, meitä kiinnostaa kuulla kokemuksiasi ja ajatuksiasi tilanteista, joissa olet kokenut oppivasi

10. Miten ylläpidät osaamisesi kehittymistä?
      a.   Mitkä ovat keskeiset kanavat, joista saat tietoa?
      b.   Mikä on ollut paras oppimiskokemuksesi viime aikoina?
      c.   Mitä väyliä pidät vanhanaikaisina tai tehottomina?

11. Kerro jostakin sellaisesta tilanteesta, jolloin koet oppineesi tai oivaltaneesi jotakin uutta?

Hypoteesien testaus: tässä on alustavia ideoita sille, mitä koulutuskonsepti voisi olla tai mitä se voisi sisältää. Jokaisessa on kuva ja hiukan tekstiä. Tutustu näihin kaikessa rauhassa. Kun olet valmis, kerro mitä ajatuksia ne herättävät.
      a.   Miten hyödyntäisit omassa roolissasi? Hyödyntäisitkö?
      b.   Kenelle tämä nimenomainen proto voisi sopia?
      c.   Mikä tässä on kiinnostavaa? Mikä ei kiinnosta?

Appendix 2: Prototype illustrations by Solita

Appendix 3: First workshop prototype structure and Power point slides

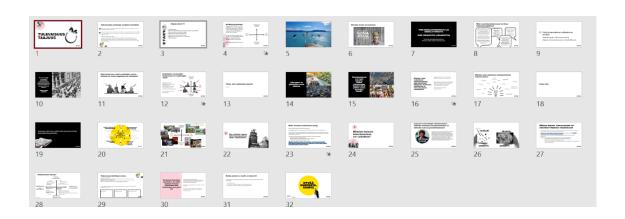| Stage in the workshop	Description	Purpose
Tuning in	Small group discussions and interviewing others about their interest in the future.	Participants get to know each other, active listening, futures theme
Storytelling	The facilitator tells a story about the first urban planning conference in New York (NY) in 1898, which was cut short because the participants could not find a solution to the horse manure problem.	The story is actually a story of not being able to see further and practice futures thinking.
Groupwork: different approaches to a current problem	The participants are assigned to come up with four different ways to take a stand as if they were in the N.Y. urban planning conference. They document the attitudes as speech bubbles.	The participants practice empathy toward the imaginary figures in the conference and try to understand how they perceived the future in their position.
Introduction to the role of future images in the context of ecological reconstruction	A 10-minute introduction to futures images, examples of different futures images are presented concerning climate change, sustainable lifestyles and the power structures in climate discourse.	The participants receive an overview of what futures images are and what their affect is in the context of ecological reconstruction.
Individual assignment: where I stand	An adaption of the so-called "Polak game" in which a matrix displays a horizontal line and a vertical line. the horizontal line states, "Things are getting better/worse", and the vertical states, "I can/cannot influence them." The participants are assigned to ponder where they would place themselves in the matrix if they think about 20 years in the future.	The participants reflect on their own perceptions about the future: their optimism vs. pessimism and their feeling of agency.
Groupwork: What affects our future images?	The participants are assigned to identify three things that affect their perceptions about the future. The findings are then discussed in small groups.	The participants discover what affects their views about the future and become aware of different future images and how they influence people in various ways. There is no single future perception.

Introduction to the role of imagination in futures thinking.	Moving from future images to imagining a preferred future.	The participants are guided toward the next assignment.
Individual assignment: preferred future	The participants are instructed to think of three concrete details that describe a preferred future.	The participants imagine a preferred future and discover what is important to them.
Group work: discussing preferred futures	The participants are assigned to share their details documented in the previous phase, discuss them and find if they had common features. Finally, everyone should decide on one detail from their list they want to work with in the next phase of the workshop.	The participants are encouraged to talk about futures they prefer which ultimately is also a discussion about values. At the end, they need to choose a point of focus for the next stage.
Individual assignment: how to shape the future	The participants are instructed to explore different means in shaping their preferred future defined in the previous stage. The facilitator provides examples for inspiration from both grassroots level societal change-making and methods of representative democracy. To facilitate the ideating of actions to take, a canvas of ready-made boxes to fill in are distributed to the participants.	The examples are there to inspire and the canvas to provide structure to the ideation of actions to take for shaping the future.
Wrap up and key takeaways	The ideas and actions generated in the previous stage are presented by all the participants. Then, the facilitator closes the workshop by asking everyone what is their key takeaway from the workshop.	Closing the workshop and reflecting on the ideas and thoughts that came up during the session.

Appendix 4: Prototype workshops facilitated by the Sitra team

Time, location, and language	Participants	Main features of the prototype	Key insights based on feedback
Test 1 / 23.4.2020, Zoom + Miro, Finnish	17 participants from the external development team	• Introduction to the zeitgeist of pessimism and retropedia • Assumptions about future discussed helped by an image of a future city • Imagining of three preferred details in the future • Ideation of three actions to shape the preferred future • Ideation of future news in 2025, 2030 and 2050.	• The introductory parts are too abstract and difficult to relate to • Only one example of a future image can be misleading • Imagining individually was both liked and disliked
Test 2 / 2.6.2020, Zoom + PPT, English	24 participants, Norwegian Refugee Council employees	• Introduction to the basics of futures thinking: futures cone and "what if?" -questions and megatrends • Assumptions about future discussed with 10 future images, megatrends used as a framework for interpretation • Imagining a preferred future based on five megatrends • Ideation of actions to shape the preferred future • Ideation of future news in 2025, 2030 and 2050. • Writing a letter to your future self	• The introduction to futures thinking and megatrends was found to be inspiring and interesting • Creating a shared vision was the most liked assignment • Writing the letter was the most disliked • The balance between individual work and group work was liked
Test 3 / 3.6.2020, Zoom + Miro, Finnish	Nine participants, Laurea Service Design & Innovation students	• Same prototype as in Test 2	• The big picture was incoherent and difficult to link the parts together • The action plan felt unattached, and the participants did not feel a sense of agency • Group discussion was inspiring • Megatrends were considered interesting but they were difficult to link them to

			concrete visions or actions in such a short time • Letter-assignment was both liked and disliked • Would need more adaption to be used in business context
Test 4 / 7.9.2020, Teams + Miro, Finnish	31 participants from Kaiku-network (representatives from public offices and the state treasury)	• Workshop divided into introduction + three parts: 1) challenge, 2) imagine, 3) act • Introduction to futures thinking with futures cone and Polak game • Megatrends left out • Individual imagination assignment framed toward year 2050 • Ideation of actions to shape the preferred future based on spheres of transformation • Ideation of future news in 2025, 2030 and 2050.	• There needs to be a clearer objective for the worskshop defined in the beginning • Choosing a shared vision was difficult, groups need more instructions for the task • Ideating actions toward a preferred future not liked, the assignment structure need further development • More time for the group works needed, especially if there are technical problems • In general, more detailed instructions for the assignments needed
Test 5 / 18.9.2020, Zoom + Miro, English	25 participants, Untitled festival attendees	• Individual imagination assignment framed toward 2050 and participants need to provide three details that form a vision • A template for the group vision to ease the assignment • Ideation for future news only in 2050 • More time for groupwork and clearer instructions	• The structure of the workshop was logical and supports the flow • Every group had enough time to finish the assignments • Participants felt inspired • The imagination part and the ending needs elaboration, a call to action missing
Test 6 / 22.9.2020, Zoom +	16 participants, students at Aalto university	• Almost same prototype as in Test 4, but a different template for individual imagination assignment.	• Overall, the structure and the assignments work well

Miro, Finnish		• Ending with a recap of the workshop and recalling the story of Elise Boulding	• Imagination part a little bit vague • More instructions and time need to be reserved to getting started with the Miro board
Test 7 / 29.9.2020, live in Oulu, Finnish	20 participants, students and personnel from Oulu University of Applied Sciences	• Same prototype as in Test 4	• The same format and structure works both online and live • Printable templates for the groupwork require minor modifications
Test 8 / 21.10.2020 + 26.10.2020, Zoom + Miro, Finnish	11 participants, Sitra employees	• The workshop was divided into two days, 1.5h on Monday and 1.5h on Friday • Introduction to futures images through an old future image from the 19th century • Challenging assumptions of the future through two audio plays instead of images • A new assignment added: the historical timeline and the trends affecting the present • Each group presents their work in the format of news	• Splitting the workshop into two days worked well. • Again, more guidance to use Miro boards • The new features, the audio plays and the timeline, received good feedback • The news format in the end felt difficult
Test 9 / 27.10.2020, Zoom + Miro, Finnish	14 participants, The Police	• Same prototype as in Test 7 but instead of audio plays, the groups challenged futures assumptions using pictures	• In addition to more guidance for the Miro board, the board itself needs to be simplified • Timeline assignment liked very much • Participants felt the workshop helped the group to get to know each other better and build trust
Test 10 / 29.10.2020, Zoom + Miro, Finnish	36 participants, Sitra Lab attendees	• The introduction to futures thinking simplified and shortened. • Template and instructions for the individual imagination assignment simplified • Ideating actions for the preferred future and the future news assignment combined to ensure there is enough time for the group work	• The size of the group was challenging. Affects the general flow, schedule, and the possibilities for discussions with the whole group • Participants felt inspired, however, building the linkage to their own projects, requires

			more elaboration: how can they use the work done in the workshop? • Creating visions in the small groups liked very much
Test 11 / 29.10.2020, Zoom + Miro, English	17 participants, Innocracy event attendees	• Due to time restraints, the act-part was omitted; otherwise, the prototype was the same as in test 9.	• Timing worked well and there was enough time for the groupwork • Participants inspired, challenging part liked very much
Test 12 / 30.11.2020 Zoom + Miro, English	12 participants, Hasan & Partners' employees	• Final version of the concept tested • PPT slides and Miro board finalized	• Overall, positive feedback • Some minor changes to the Miro board to ease documenting and collaboration simultaneously

Appendix 5: Prototype workshops to test facilitation by non-Sitra facilitators

Time, location and language	Participants	Materials for the facilitator	Key insights based on feedback
Test 1 / Aug 26th, 2020, Zoom + Jamboard & Google Docs, Finnish	Eight participants, journalists	• PPT slides • Speaking points • A rough timetable • Webropol survey	• Time for the group assignments was considered too short • The need for ecological reconstruction presented in the introduction of the workshop was criticized as too agenda-driven • Few participants felt that the workshop was useful for their work and offered new ideas for stories • Several participants thanked the facilitator for bringing the participants together; the workshop also functioned as a tool to build joint understanding and trust • Facilitator felt the ending of the workshop still needs elaboration • Facilitator called for templates that would enable the participants to visualize their work
Test 2 / Sept 22nd, 2020, Teams + Jamboard & Google Docs, Finnish	15 participants, service design students	• PPT slides • Speaking points • A rough timetable • Webropol survey	• Building the templates for the group assignments in Jamboard and Google Docs was time-consuming for the facilitator • Using Microsoft Teams and creating parallel meetings caused delays in the schedule and stress for the facilitator • Both the participants and the facilitator called for more time for the assignments • Introduction part was seen too long and monotonic • Videos were raised as one possibility to enliven the introductions
Test 3 / Sept 8th 2020, Zoom + Mural, Finnish	15 participants, representatives from different civic organizations	• PPT slides • Speaking points • A rough timetable • Webropol survey • Miro template	• More guidance for the start of the workshop needed; for example, how to instruct participants to present themselves and how to instruct the usage of the online tools • Rules for the discussion would be useful

Test 4 /Sept 29th, 2020, Zoom + Moodle Finnish	20 participants, Tampere University students	• PPT slides • Speaking points • A minute-to-minute timetable • Webropol survey • Miro template	• Vocabulary in the speaking points somewhat complicated • Preparing the workshop and going through the speaking points takes time • Both the facilitator and the participants felt the workshop was exhausting and should be simplified and shortened • Regarding the content, participants offered positive feedback
Test 5 / Oct, 20th 2020, + face-to-face, Finnish	Six participants, from different backgrounds, journalist, university teachers, entrepreneur etc.	• PPT slides • Speaking points • A minute-to-minute timetable • Printable canvases	• The workshop and the materials worked well face-to-face • Speaking points too long, bullet points would be more useful • Permission for the facilitator to modify the workshop on the go • In Part 2, it is important that the facilitator calms the situation and helps the participants concentrate as they imagine the preferred future
Test 6 / Oct 14th 2020, face-to-face, English	Nine participants, consultants	• PPT slides • Speaking points • A rough timetable • Printable canvases	• Instructions for the final assignments in the third part of the workshop were unclear and need more elaboration, participants now understood them differently compared to the initial objective • The facilitator modified the schedule on the go which worked well • Speaking notes on the PPT slides would be useful for the facilitator • Some inconsistencies with the vocabulary in the English translations

Appendix 6: Test workshop feedback survey

Futures Frequency feedback

Thank you for taking part in Futures Frequency Workshop!

The Workshop concept is still work in progress and we would be super happy if you could give us some feedback. The questionnaire is short and anonymoys so go ahead and share your thoughts!

1. How would you describe your feelings and thoughts right now, after the workshop?

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2. Was this workshop useful for you?

- Yes
- No
- I don't know

3. What parts of the workshop did you enjoy the most? You can choose 1 to 3 things.
   A. Introduction to futures thinking
   B. Megatrends
   C. Groupwork: challenging future images
   D. Individual work: thinking about preferred futures
   E. Group work: choosing a vision
   F. Group work: drafting an action plan
   G. Individual work: writing the letter

4. What parts of the workshop were least favorite to you? You can choose 1 to 3 things.

   A. Introduction to futures thinking
   B. Megatrends
   C. Groupwork: challenging future images
   D. Individual work: thinking about preferred futures
   E. Group work: choosing a vision
   F. Group work: drafting an action plan
   G. Individual work: writing the letter

5. Please explain your choices in more detail.

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6. How would you rate your experience of this workshop (from 1 being poor to 10 being excellent)

0

Poor ▢ Excellent
0   10

7. Anything you would like to add?

Thank you!