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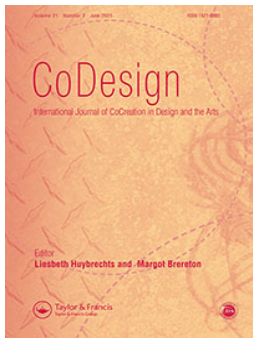
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Co-design for transitions: developing genuine participatory approaches to involving lifeworld and system participants

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ABSTRACT

Design (thinking) is increasingly considered a promising approach for addressing societal challenges. However, designing for societal transitions, such as the energy transition, requires new approaches to involve non-designers in the design process. Involving the full range of stakeholders affected by a societal transition means inviting perspectives from both the lifeworld, representing private and public spheres, and the system, representing the state and economy, which is not straightforward. The current work elaborates on genuine participation when co-designing for transitions and proposes eight co-design approaches for genuine lifeworld and system participation. These approaches were developed and tested during a six-month study on youth participation in the energy transition, using Frame Creation practices as a substructure. Building on the empirical insights, we reflect on our methodology, challenges encountered, and opportunities for further developing genuine participatory approaches to designing for societal transitions.

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Frame creation; genuine participation; lifeworld; societal challenges; system; transition design

1. Introduction

Design is increasingly considered a promising approach to addressing societal challenges and catalysing societal transitions (Bason 2010; Dorst 2015b; Irwin 2018; Manzini 2015). However, designing for complex societal systems in domains such as government policy and environmental issues strongly differs from the craftwork that initially characterised design (Norman and Stappers 2015, 84). It brings design into ‘wicked territory’ (Matthews et al. 2023, 179), where problems are ill-defined, with multiple competing definitions, requirements, and views on evaluating progress (Buchanan 1992; Coyne 2005; Rittel and Webber 1973). While contemporary design methods can generate possibilities to address wicked problems (Dorst 2015a, 26; Matthews et al. 2023, 179), implementing their outcomes often proves difficult, lengthy, and sometimes even impossible (Norman and Stappers 2015, 91). To overcome these implementation challenges, designers need to invite stakeholders into their design process, adopting a co-design approach (Dorst and Watson 2020; Irwin 2018; Matthews et al. 2023;

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Norman and Stappers 2015; Robertson and Simonsen 2013). In the next section, Participatory Design is unpacked as an approach to invite stakeholders into a co-design process.

1.1. Facilitating genuine participation of lifeworld and system

Participatory Design (PD) gives the people affected by a designed outcome a key role in the design process, improving the quality of outcome and process. In keeping with Robertson and Simonsen (2013, 2), we refer to PD as

a process of investigating, understanding, reflecting upon, establishing, developing, and supporting mutual learning between multiple participants in collective ‘reflection-in-action’. The participants typically undertake the two principal roles of users and designers where the designers strive to learn the realities of the users’ situation while the users strive to articulate their desired aims and learn appropriate technological means to obtain them.

The current work aims for *genuine participation* - a core concept in PD (Luck 2018, 5) - shifting the role of stakeholders from informants to acknowledged and legitimate participants. Robertson and Simonsen (2013, 5) nicely put forward that genuine participation requires participants to participate *as themselves*, *with themselves* and *for the task and the project*. The first refers to authenticity, meaning people are not pretending to be someone else, or hiding their actual feelings and opinions (Simonsen and Storm Jensen 2016, 46). Participating *with themselves* refers to people being present and attentive, especially to what is at stake for them and who they represent, as opposed to being absent and distracted (46). Finally, participating *for the task and project* involves a ‘shared aim and intentionality of being and participating together’ (Østergaard, Simonsen, and Karasti 2018, 41). Participants know and accept the agenda as well as goals of activities, and may contribute in different ways (Simonsen and Storm Jensen 2016, 47).

Irwin (2018) emphasises the importance of engaging all affected stakeholders when designing for wicked problems and societal transitions. Considering the wide range of people and organisations affected by such challenges, this requires a simultaneous focus on *institutioning* to work with and reshape institutions (Huybrechts, Benesch, and Geib 2017; Lodato and DiSalvo 2018) and on balancing power dynamics between (vulnerable) users and institutional stakeholders (Hodson, Svanda, and Dadashi 2023). Teli et al. (2020) offer an analytical framework unpacking institutioning into two mechanisms or concepts: (1) *co-optation*, which describes institutions acting strategically and assimilating PD processes with a potential loss of their emancipatory qualities; and (2) *intermediation*, when design researchers act strategically aiming to trigger institutional transformation. As part of an analytical framework, these concepts allow designers to orchestrate the backstage of participatory engagement and to reflectively act with a conscious intent to mitigate co-optation and strengthen intermediation.

The current work combines these three lenses to explore genuine participation of both the *lifeworld* and *systems*, which are in Habermas (1987) terminology two ways society can simultaneously be conceived of. He describes the lifeworld as the public and private spheres, both centred on communicative action: the process of reaching mutual understanding coordinated by language. Systems emerged to organise the division of labour and to accumulate knowledge and have either a steering role (decision-making) or an institutional role. For Habermas, systems act strategically

with a means-end logic, achieving a certain outcome without moral constraints and with an inherent threat to invade and take possession of the lifeworld.¹ While participants inhabit and experience both the lifeworld and systems (Feenberg 2017), they may be involved in a design process primarily for their experiences in one or the other (e.g. representing the municipal youth council vs. representing themselves as a youngster). Participating in primarily a lifeworld or system role in a design process changes their perspective, which in turn changes how they participate *as themselves, with themselves, and for the task and the project*. We refer to participants as lifeworld or system participants, depending on their primary role or perspective in the design process.

In the remainder we explore how co-design can facilitate genuine participation of lifeworld and system participants when designing in the context of societal transitions. The next section details the methodology used for developing co-design approaches for genuine participation of lifeworld and system participants while addressing societal transitions. After presenting the resulting co-design approaches, we discuss the challenges as well as opportunities for achieving genuine participation in the context of societal transitions. We conclude with our contribution and further recommendations to the contemporary participatory design debate.

2. Methodology

The study context is a half-year participatory design project on youth participation (age 14–17) in municipal policy- and decision-making for the energy transition in the Netherlands (the full case project can be found in Peet 2022). Youth participation is a policy goal for most municipalities, in which they put considerable effort; however, they are often dissatisfied with their results (Mak, Gilsing, and Wróblewska 2016, 4; Movisie 2020). Another large and strategic challenge for Dutch municipalities is the energy transition, i.e. the urgency for renewable energy sources to reduce greenhouse gas emissions (Ebskamp and Verbraak 2019, 7; RIVM n.d.). For the current study, we partnered with Citisens, an agency specialised in supporting public institutions in reaching and involving (adult) citizens in policy making. Moreover, we relate to the structured reframing approach, Frame Creation (FC), which has generally been seen as valuable in designing for wicked problems (Dorst 2015a, 26), and use it as a substructure for developing our co-design approach (Figure 1).

Stakeholder participation is, however, a key challenge within current FC practices, which has been highlighted by the reflection of Dorst and Watson on the limited long-term impact of their exemplary project at Sydney's King's Cross area (2020) as well as Van der Bijl-Brouwer's observation that the non-linear framing process requires design expertise (2019). In other words, the design process supports the power of the designer as a strong driver of the agenda by creating new frames and futures. We therefore infused FC practices with genuine participation, to deliberately shift power in the design process from the expert designer towards participants from the outset (Tomasini Giannini and Mulder 2022). The next sections detail the process of developing the overall co-design approach and setup of the co-design sessions, organised to enable genuine participation of lifeworld and system.

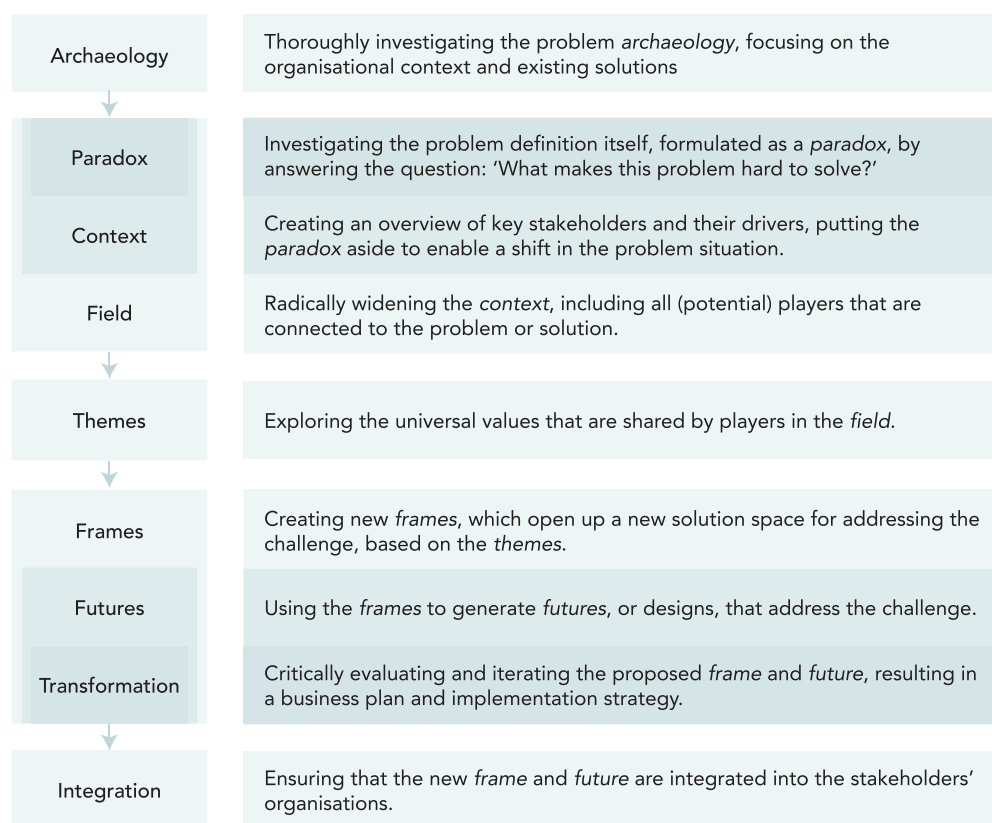


Figure 1. Overview of the nine phases of the Frame Creation process (Dorst 2015b, 74–79).

2.1. Developing the co-design approach through continuous reflection

The participatory approach gradually developed through continuous reflection throughout the design process, a key practice in PD (Blomberg and Karasti 2013; Light and Akama 2012, 69; Pihkala and Karasti 2016, 21). Firstly, reflection ensured that key lifeworld and system participants were involved multiple times, especially on topics related to their expertise or interests. For example, we involved participants with expertise on initiatives in the *field*, namely civil servants and design students working on similar topics, in the *field* phase, and involved mostly youngsters (lifeworld) in the *futures* phase for their lifeworld perspective. Furthermore, at important decision moments, such as choosing a *future* to iterate towards the final design outcome, both lifeworld and system perspectives were foregrounded. Besides balancing participation of lifeworld and system participants, attention was paid to the inclusion of marginalised perspectives such as vocational education students, who are considered the least politically active citizens (Rathenau Instituut 2023, 17).

Secondly, continuous reflection on the setup of all co-design sessions ensured that insights from previous sessions informed upcoming sessions. Interestingly, starting with an open check-in worked well with youngsters who introduced themselves with a brief one-sentence statement, however, it took too much time in the civil servants' sessions.

Another example is incorporating more awareness of the importance of participants' prior knowledge. Whereas terms such as 'municipality' or 'energy transition' may not require any explanation for system participants (civil servants, the agency), it is important to introduce and actively discuss such concepts with lifeworld participants (youngsters) to establish common ground before diving into the session.

2.2. Overview of the co-design sessions

Our approach took shape in 16 co-design sessions that facilitated genuine participation of lifeworld and system. Figure 2 shows how the 16 sessions were spread across the half-year participatory design project, detailing each session, who participated, whether it was online or offline, as well as its duration and key activities. Most sessions are categorised as either a lifeworld or system session, highlighting the primary participant perspective the session focused on. For example, session 3 with a municipal youth council was categorised as a system session as participants were involved primarily as youth councillors with expertise in the municipal system. Most sessions involved a single participant group, to allow for a deeper exploration of perspectives and experiences of a more homogeneous group of participants, in groups that already built a level of trust and cohesiveness, which is important to participant experience in PD (Segalowitz and Chamorro-Koc 2018, 11). This design decision additionally had a practical advantage: setting up a session in an existing context with an existing group (e.g. at City Hall with civil servants or at school

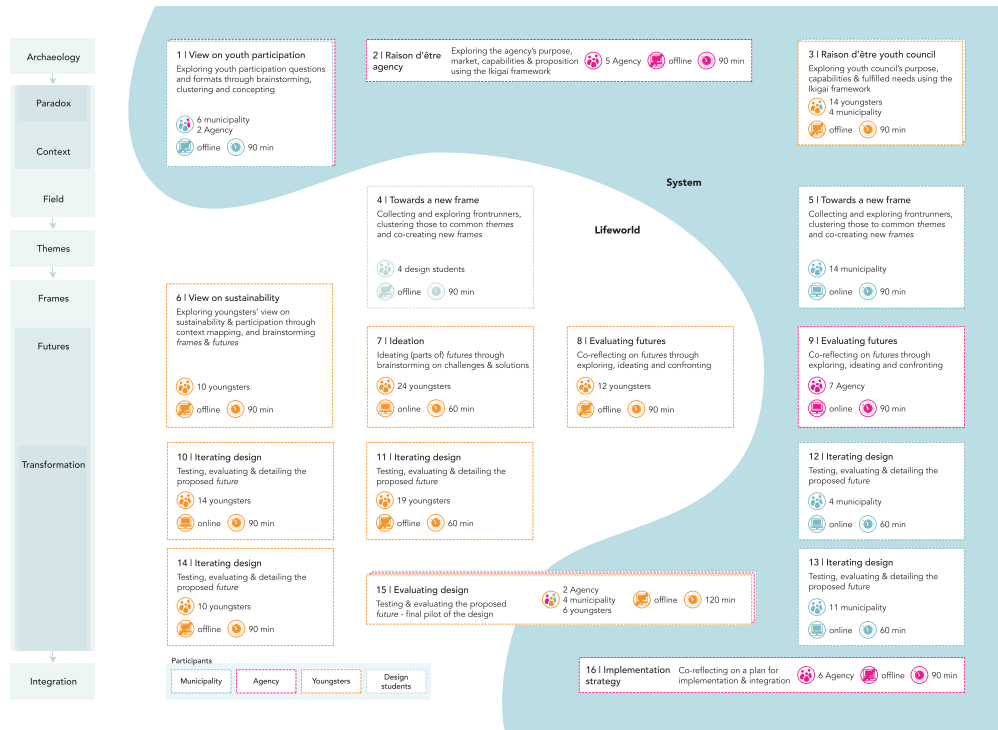


Figure 2. The 16 co-design sessions spread out across the co-design process.

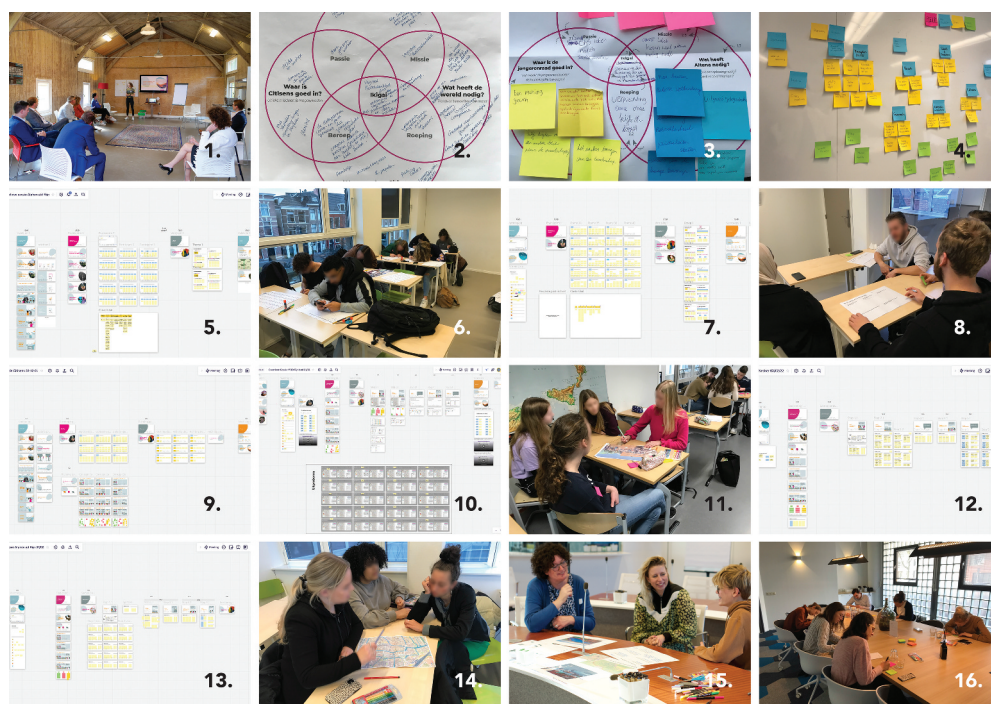


Figure 3. Impression of the 16 co-design sessions' participants and designed artifacts for co-design activities.

with youngsters) is more convenient than aligning different schedules in a new context. In session 15, the participatory approach was evaluated by bringing different stakeholder groups from the lifeworld and system together, building on insights from previous sessions to facilitate genuine participation of both lifeworld and system. Figure 3 gives an impression of each session through pictures of participants or custom-designed artefacts, such as worksheets and Miro boards, that supported co-design activities.

All sessions followed the same basic layout: an introduction, putting forward the challenge of youth participation in the energy transition, the goal of the session, the agenda, the ways of working and a short check-in (Veenhoff and Pater 2021, 105–106), a core in which the actual co-design happened, and an ending which included a short explanation about the next steps and the opportunity for participants to provide their last words of advice related to the session or project as a whole (123). The core of each session was unique, tailored to both the participant group and stage of the design process, supported by custom-designed artefacts as shown in Figure 3.

In the *archaeology*, *paradox*, and *context* phases core activities included collecting challenges related to youth participation and/or the energy transition, clustering these challenges and filling out a worksheet to articulate purpose (Ikigai, Raessi 2021, 3; Winn 2014) in groups. Besides brainstorming and clustering *futures*, the *field*, *themes*, *frames*, and *futures* phases included activities such as co-reflecting (Tomico et al. 2011, 4–5) on *futures*, and context mapping (Sanders and Stappers 2012, 72–73) youngsters' views on these challenges. Finally, in the *transformation* and *integration* phases core activities

included testing, evaluating, and detailing the proposed *future*, as well as co-reflecting (Tomico et al. 2011, 4–5) on implementation and *integration*.

Figure 3 shows the involvement of participants in each phase of the design process. In the *archaeology*, *paradox*, and *context* phases, we involved system participants in sessions 1–3 for their expertise regarding the two transitions, existing approaches and their current role. All participants involved in the *field* and *themes* phases in sessions 4 and 5 were experts with knowledge about initiatives in the *field*, namely civil servants with expertise in participation and design (graduation) students working on topics related to sustainability or participation. We considered the design students to belong to the lifeworld, being one of the few groups with knowledge about the initiatives in the *field* that do not belong to an institution. We involved participants from the lifeworld and the system in creating *frames*, taking the *themes* as a starting point. In the *futures* phase, we involved mostly youngsters, for their lifeworld perspectives and ideas, in sessions 6 and 7, as system participants (municipalities, the agency) had tried to come up with a wide range of approaches to youth participation over the past years without much success (Movisie 2020). Finally, we involved both the lifeworld (youngsters) and system (the agency) in sessions 8 and 9, respectively, to evaluate *futures* and choose a direction for the design outcome to further evolve. In *transformation*, we involved participants from both the lifeworld and the system in detailing, evaluating, and iterating the proposed *future* in sessions 10–14. In an accumulated pilot session, session 15, all key participants who were involved in the proposed *future* evaluated the design. Finally, we involved the agency's team in the *integration* phase in session 16, as embedding the new *frame*, *future*, and practices in their organisation was a key goal of this phase.

In total, 109 youngsters (high school and vocational education students), 43 participants from the municipality (such as civil servants, registrars, city councillors, and aldermen), 22 employees from the agency, and 4 design graduation students participated, resulting in a total of 178 participants (counting each time a participant participated as a separate instance).

3. Design approaches for genuine participation of lifeworld and system

Figure 4 shows the resulting eight types of genuine participatory approaches to involve lifeworld and system participants throughout a design process for transitions (A–H). These approaches are not meant to be a prescriptive design method. Rather, they can be viewed as a menu or toolbox for designers to pick and choose from to contribute to their unique design challenges and processes. In the remainder, each of these approaches is elaborated upon.

3.1. Collective purpose-finding through the *Ikigai* framework (A)

The *Ikigai* framework (based on Winn 2014) supported the participation of key system participants in the *archaeology*, *paradox*, and *context* phases. The framework provided valuable information for the design process; it helped the designer and participants to gain a deep understanding of the (role of) key participants within the organisational context of the problem. For example, in session 3 youth council participants proposed a 'push for better and more amenities and facilities for youngsters, by putting urgent

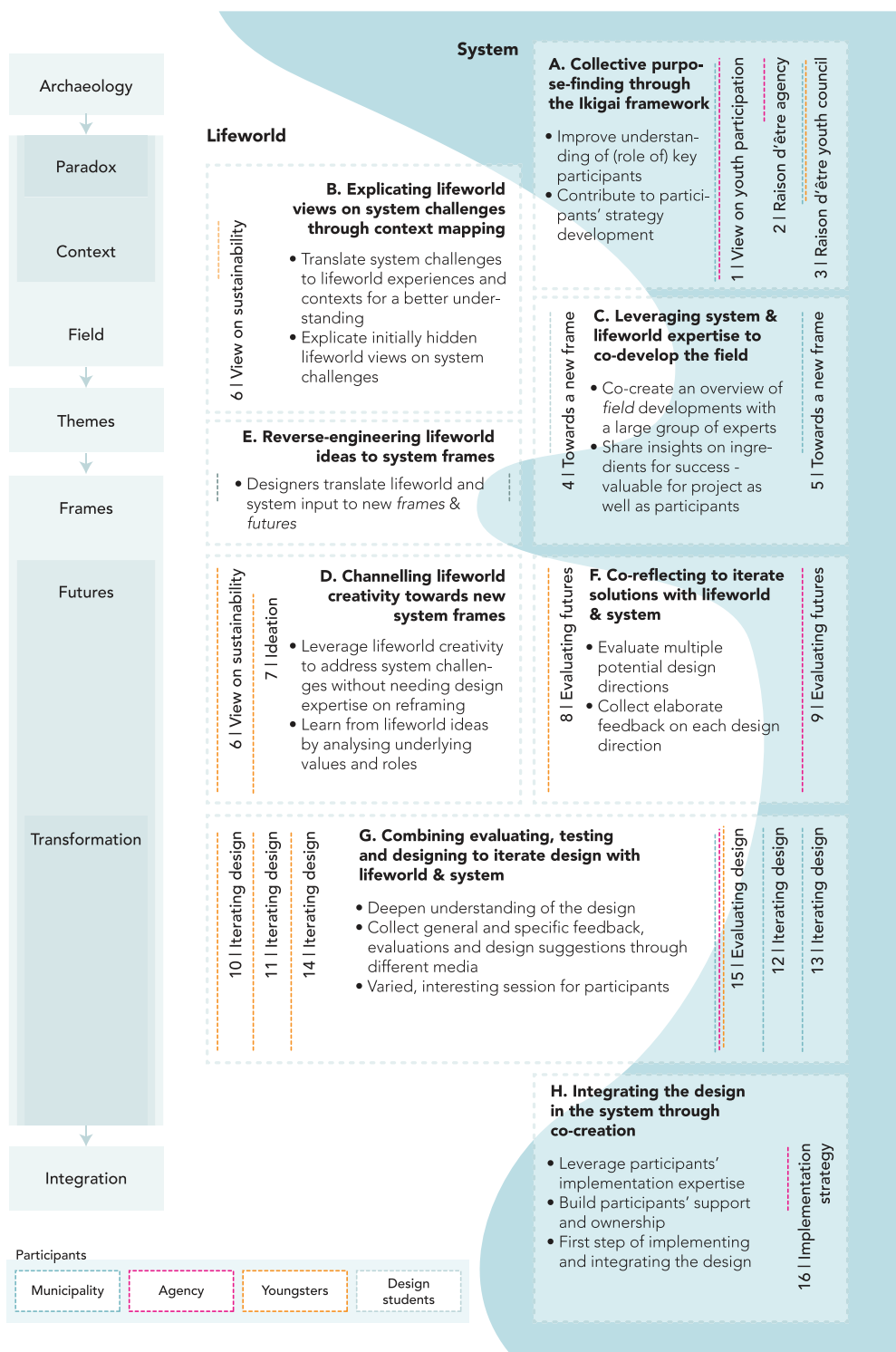


Figure 4. Overview of the eight participatory approaches (A-H), the respective sessions in which they were employed (highlighted with dotted lines and vertical text), and their contributions.

issues on the agenda, to make more young people excited about this municipality' as their *raison d'être*. The outcomes of both Ikigai co-design sessions were used as a starting point for subsequent internal strategy development by the involved organisations (outside the participatory design project). The Ikigai sessions therefore provided value both in and outside the context of the design process.

3.2. Explicating lifeworld views on system challenges through context mapping (B)

Lifeworld participants may not be experts on system-focused design challenges, such as the energy transition, which makes involving them in the *archaeology*, *paradox*, *context*, and *field* phases not straightforward. Therefore, we employed context mapping methodologies (Sanders and Stappers 2012, 14–15) to involve lifeworld participants in later stages and explicated lifeworld views by translating system-level challenges to the lifeworld participants' experiences. Specifically, context mapping activities facilitated general sustainability thinking in concrete contexts such as their family and friends, future homes without explicating the needed energy transition. These activities enabled participants to express their needs and desires for the energy transition, such as that their future house should be 'sustainable with solar panels' or have 'properly insulated walls', and municipalities with 'only electric cars' or 'fewer polluting factories'.

3.3. Leveraging system & lifeworld expertise to co-develop the field (C)

The co-design sessions with experts on youth participation and/or sustainability, either from the system (civil servants) or lifeworld (graduation students working on similar topics), proved very valuable in establishing the *field*. Besides adding interesting existing participatory initiatives to the *field*, participants could also provide insights on what made these initiatives successful and unique, which contributed to establishing the *themes*. For example, participants in session 5 came up with 25 relevant initiatives to add to the *field*, distilling insights from them such as 'experiment before making a plan' and 'youngsters can make adults enthusiastic'.

The initial plan to come up with interesting *frames* within the duration of the session was challenging for participants, even for the trained design students.

3.4. Channelling lifeworld creativity towards new systemic frames (D)

Session 7 employed a different approach to involving lifeworld participants in creating new *futures*, enabling youngsters to provide meaningful input for the *futures* phase without having to understand the concepts of *themes*, *frames*, and *futures*. First, participants brainstormed individually on what, according to them, the biggest challenge of youngsters in their municipality was. After clustering these challenges, participants voted for the ones that were most important according to them. Then they were asked to generate ideas for potential *futures*. During the session, participants generated a total of 40 challenges. Additionally, the five participant groups each exploring a challenge voted 'most important' were able to articulate how they would collect information, design

solutions, involve stakeholders, and collaborate with the municipality to address the challenge.

The *futures* created from participant challenges instead of *themes* and *frames*, did not feed directly into the *futures* phase; however, our main purpose was to find participants' preferred underlying values and roles. These underlying values, such as collaboration (with the municipality) and action (actively gathering insights and support), helped generate and strengthen the *themes*, with two of the four final *themes* being 'collaboration' and 'action'. Participants envisioned roles for themselves in the created *futures*, e.g. the youngsters are the initiators while the municipality supports them in implementation. For creating *frames* this proved to be valuable.

3.5. Reverse-engineering lifeworld ideas to system frames (E)

While iteratively creating new *frames* and *futures* requires design expertise (Van der Bijl-Brouwer 2019, 41), these iterations can be strongly informed by the *field* and *themes* created by experts from the system and lifeworld (Approach C) and the underlying values and roles of the *futures* created by the lifeworld (Approach D). For example, the *theme* 'agency' from session 4 with design students and the *theme* 'supporting youngsters' from session 5 with civil servants together led to the *theme* of 'ownership' (meaning youngsters are in charge). In regular FC practices *themes* lead to *frames* and *futures*. Our approaches demonstrate an alternative order, where the underlying roles of the *futures* created by lifeworld participants strengthened *themes* and inspired *frames*. For example, the roles youngsters envisioned for themselves were 'generate ideas', 'share plans' or 'organise something' and the municipality would 'listen', 'execute' or 'provide money' (session 7). Besides using *futures* as a source of inspiration, *frames* were created by finding the patterns of relationships or metaphors that emerge from the *themes*, and promising *frames* were applied to the problem situation to create *futures* (Dorst 2015b, 78). Especially Approaches D and E shifted the power from designers towards participants resulting in a more power-balanced participation in line with Tomasini Giannini and Mulder (2022).

3.6. Co-reflecting to iterate solutions with lifeworld & system (F)

Co-reflection supported lifeworld and system participation in evaluating potential *futures* (Tomico et al. 2011, 4–5). Our approach not only allowed for understanding which *futures* participants preferred but also provided elaborate feedback on each of the proposed *futures* as well as the argumentation behind participants' preferences. In the keep-kill-build exercise used as the final step of co-reflection (confrontation); participants in sessions 8 and 9 shared a total of 34 things to keep, 14 things to kill (remove), 35 things to build (improve) in their elaborate evaluation of 3 potential *futures*.

3.7. Combining evaluating, testing and designing to iterate solutions with lifeworld & system (G)

Both lifeworld and system participation were key for further iterating and detailing a design direction in five co-design sessions. Each of these sessions included an opportunity to provide feedback on the proposed *future* (before diving into specific aspects), tests of

specific elements of the proposed *future* that were relevant to that group of participants and an opportunity to evaluate and detail these aspects. This approach allowed participants to share feedback on the initial idea, ensured they could still reject the idea as a whole and collected more general feedback as a preparation to dive into specifics. Participation was largely appreciated: ‘My expectations were exceeded, and I hope our ideas will be implemented’ (youngster), ‘What a fun and creative session. The municipality should do this more often’ (civil servant), ‘Creative and unique’ (agency participant).

3.8. Integrating the designed solution in the system through co-design (H)

The *transformation* and *integration* phases showed that co-reflecting on a strategy for implementation and integration supported the involvement of key system participants for implementation. Specifically, it enabled the agency, in our case, to integrate the new *frame* and *future* in their organisation. Participants proposed approaches to implementation (e.g. first focusing on youth participation in the energy transition, then widening the scope to youth participation on any topic) and highlighted their own roles, activities and capabilities (e.g. ‘knowledge leader’, who ‘facilitates’ and ‘advises’, using their ‘expertise’ and ‘network’).

4. Discussion

The current work sets out to create new co-design approaches for societal transitions using FC practices as a substructure, infused with genuine participation of lifeworld and system participants. We created and tested the participatory approaches in a six-month study of youth participation in the energy transition. This section further reflects on our experiences and insights, as well as the extent of genuine participation achieved. Table 1 shows how the three ingredients of genuine participation (Simonsen and Storm Jensen 2016, 46) for both lifeworld and system participants were addressed.

4.1. Lifeworld and system participating as themselves

The first characteristic, involving participants *as themselves*, refers to authenticity: participants are not pretending to be someone else, and share their actual feelings and opinions (Simonsen and Storm Jensen 2016, 46). We addressed the former by involving lifeworld participants as experts of their own experience (Sanders and Stappers 2008, 12) as well as representatives of the lifeworld perspective. System participants were also

Table 1. Characteristics of genuine lifeworld and system participation in our approaches.

	Lifeworld	System
<i>As themselves</i>	Involve participants as experts of their own experience, and for their lifeworld perspective	Involve participants as experts of the organizational context and problem
<i>With themselves</i>	Relate activities to participants’ everyday lives	Relate activities to the organisational context, including the roles of the involved organisations
<i>For the task and project</i>	Focus on importance of participants’ perspective, opportunity to learn	Focus on relevance for participants’ own practice, share preliminary insights

involved as experts of their own experience (12), which in their case referred to expertise on the organisational context and conditions (Matthews et al. 2023, 190), as well as the problem situation. Involving participants from both lifeworld and system as experts of their own experience also included considering their prior knowledge and skills in the activities of the co-design sessions and finding a common language everyone understands (Flint and Blyth 2021, 68). For example, working with youngsters demonstrated the importance of exploring the meaning of concepts such as ‘municipality’ and ‘energy transition’ before using them further during the co-design session. We additionally learned which types of activities are easy (e.g. brainstorming, sharing experiences) or challenging (e.g. uncovering underlying themes, framing, and using metaphors and analogies) for participants to partake in.

To mitigate participants’ lack of design expertise necessary for creating *frames* (Van der Bijl-Brouwer 2019, 41) our alternative approach supported brainstorming on *futures* from participant challenges, without taking *frames* as a starting point, subsequently asking participants to detail the most promising *futures* (based on a popular vote). Coding session materials to identify underlying values and roles in the created *futures* enabled us to solidify *themes* initially derived from the *field*. This is an addition to what regular FC practices prescribe (Dorst 2015b, 77): primarily using the *field* as a source for *themes*. We found another avenue for creating *frames* by combining the roles that participants took in their *futures* with the *themes*, instead of creating *frames* rooted in *themes* solely like in regular FC practices (78). Such reversing phases goes beyond FC’s playful explorations of both *frames* and their connected *futures*. We consider this an exercise in ‘thinking backward’ in addition to what Dorst (2015b, 78) describes as a ‘thinking forward’ exercise. Our study showed that involving lifeworld participants in thinking backward led to better results than following the structured process, our modifications allowing them to participate *as themselves*. Further research is needed to demonstrate the impact of this genuine participatory approach on a larger scale.

We ensured participants shared their actual feelings and opinions, by creating a safe space through a short check-in and by establishing our ways of working, which included asking the participants to be open and honest, at the beginning of each co-design session (Sanders and Stappers 2012, 171; Veenhoff and Pater 2021, 106). Furthermore, we asked participants to respond to the design decisions that the session would build on (Veenhoff and Pater 2021, 112) and to give their last words of advice at the end of each session (Sanders and Stappers 2012, 172; Veenhoff and Pater 2021, 123). In several cases, participants used the latter as an opportunity to share or emphasise their view, e.g. ‘We shouldn’t claim youngsters for our own party. A space for play, it should be fun’ (agency participant), or ‘Don’t forget: the municipality should think a bit more about youngsters (also in the longer term)’ (youngster).

In session 15, the designed participatory process and its level of genuine participation was evaluated with all stakeholders. Lifeworld participants reported they had sufficient support to generate and share their ideas (6.8 on a scale from 1 - strongly disagree, to 7 - strongly agree), and could share their ideas in a way that was authentic (5.8/7), with quotes such as ‘Great space to think creatively’. Some participants believed the session brought lifeworld and system participants closer together: ‘Good to let youngsters fantasise and start a conversation. It creates energy and support for both parties’ (city councillor) and ‘I think you designed a fantastic process, and it is amazing to see how it brings youngsters and the municipality together’ (agency participant). This data shows

that both lifeworld and system participants were able to participate *as themselves*, while fostering mutual understanding.

4.2. Lifeworld and system participating with themselves

The second characteristic, to involve lifeworld and system participants *with themselves*, refers to relating to their own contexts, respectively their everyday lives and organisational roles. Generally, we ensured participants were attentive and present, especially to what was at stake for them or who they represented (Simonsen and Storm Jensen 2016, 46) by making the co-design sessions as interactive as possible, in most cases minimising the time we talked and maximising the time they could actively participate. Furthermore, in each session, we alternated between participants working in groups, individually or having plenary discussions (Veenhoff and Pater 2021, 99). Finally, every single participant had the opportunity to actively participate, both through good moderation (Sanders and Stappers 2012, 171) and the layout of the sessions. The session layout always included a check-in and last words of advice, in which participants had the opportunity to share their final ideas, reflections or thoughts. In addition, after each brainstorm, participants were asked to briefly present their favourite ideas (Veenhoff and Pater 2021, 105–123). Participants' last words of advice often reflected that the sessions were fun to participate in, creative, interactive and quick, e.g. 'Very creative ideas! And great that this session flew by again, nice variety' (agency participant) and 'Fun way of working, nice that it wasn't just listening' (youngster). Ehn (1993, 74) states that most users find design work boring, making 'fun' a key condition for making design 'meaningful and full of involved action', very much in line with the concept of attentively participating *with themselves*.

Besides being attentive and present in general, we aimed to ensure that the sessions were not too theoretical or abstract (Østergaard, Simonsen, and Karasti 2018, 41) and that participants could easily relate the content of the sessions to their own lives and experiences (Sanders and Stappers 2012, 55–56) to ensure they could be attentive to what was at stake for them specifically. For lifeworld participants, this entailed relating the session's content to their everyday experiences and how youth participation and the energy transition (could) impact and fit into their lives. For example, in session 7, participants were asked to think about the biggest challenge youngsters face in their municipality and come up with potential solutions that detail the role of the municipality. Their solutions showed they understood the role the municipality could play in addressing the challenges they were experiencing, as described in section 3.4. For system participants, we did this by relating the session content to the organisational context and the role of their organisation in it. Additionally, each session had custom-designed artefacts, such as (digital) worksheets and mockups, to support participants' thinking about current experiences and envisioning different *futures* (Ehn 1993).

The system point of view is central in the first three phases of FC. Here, the goal is to get to know the (organisational) context, the problem, existing solutions, and key stakeholders (Dorst 2015b, 74–76). As we could not assume lifeworld participants would have in-depth knowledge of the energy transition or youth participation, we decided to use context mapping (Sanders and Stappers 2012, 72–73). This co-design method enabled us to collect high-level insights on how participants viewed sustainability (as opposed to the energy transition), both now and in the future, as well as *A day in the*

life to learn how participation could fit into their lives (approach B). These additional context mapping activities provided us with a more balanced picture of the problem situation and enabled us to empathise with not only the system, but also the lifeworld point of view. Further investigating how context mapping contributes to genuine participation of lifeworld participants *as themselves* in analysing transitions is welcome.

In session 15, participant evaluations from both lifeworld and system participants suggested they were able to participate *with themselves*. Youngsters reported that the topics were important to them (6.2 on a scale from 1 - strongly disagree, to 7 - strongly agree) and that it was fun to participate (6.2/7), with quotes such as ‘I really enjoyed participating in the session’. Municipality participants gained a better understanding of what youngsters want and care about (5.3/7), a key goal for their participation, and enjoyed participating: ‘Compliments to [researcher]! What a fun and creative session’ (civil servant).

4.3. Lifeworld and system participating for the task and project

The third characteristic to support genuine participation is to involve participants *for the task and project*, meaning they know, share and agree on the goals of the task and project (Simonsen and Storm Jensen 2016, 47). Although involving participants *as themselves* and *with themselves* was largely similar for lifeworld and system participants, participation *for the task and project* was much easier to achieve for system participants. For most system participants youth participation and/or the energy transition were part of their daily job, making sharing preliminary insights on youth participation in the energy transition highly relevant to their practice. In several cases, the insights or ways of working from the co-design session were even implemented straight away by involved participants (e.g. the Ikigai sessions as described in section 3.1). Finally, all invited system participants could decide themselves whether they wanted to be involved, probably strongly influenced by whether they shared the goals of the co-design session as well as the entire project. Notably, several participants decided to participate in multiple sessions.

For lifeworld participants, involving them *for the task and project* was more challenging. While we were transparent about our goals, clearly stating them at the start of each session (Sanders and Stappers 2012, 169), most co-design sessions were conducted within formal education replacing regular classes, meaning participants did not explicitly choose to participate in the session. Participants could, however, choose whether they participated actively or not. As participatory self-efficacy is key for initiating and persisting in participatory activities (Segalowitz and Chamorro-Koc 2018, 10–11) we tried to get participants on board by emphasising the importance of their perspective and ideas for the outcome of the project. Participants’ last words of advice conveyed they felt listened to, felt appreciated, and enjoyed new, designerly ways of working as well as learning more about topics discussed (e.g. energy transition, municipality, youth participation), highlighting the mutual learning which differentiates PD from other design methods (Bratteteig et al. 2013). Interestingly, participants overwhelmingly expressed a preference for engaging within a school setting when exploring new approaches to youth participation in the energy transition. Although replacing a regular class within

a school context hindered participants from individually deciding whether they wanted to participate, it seemed to be a preferred and enjoyable way to get involved.

Participant evaluations in session 15, in which the designed participatory process was evaluated, also suggest participants from both lifeworld and system participated *for the task and project*. Youngsters reported they would like to participate again (6.5 on a scale from 1 - strongly disagree, to 7 - strongly agree), and they hoped they contributed to their municipality through their participation: 'I would like to see the hopeful words from the municipality come true' and 'My expectations were exceeded and I hope our ideas will be implemented'. Municipality participants thought this approach enabled youngsters to share meaningful input for policy making (5.5/7), and wanted to keep the conversation going: 'The municipality should do this more often. Can we hire you?' (civil servant) and 'It would be nice to have more time to talk to the youngsters about what they want' (civil servant).

5. Conclusions

While design thinking approaches such as Frame Creation are increasingly used in the context of societal challenges, they are insufficient to address these challenges due to the missing participatory ethos (Dorst and Watson 2020, 1973; Matthews et al. 2023, 189). Using Habermas' (1987) notions of the two ways society can simultaneously be conceived of, participants may be involved primarily for their lifeworld or system perspectives and experiences. The current work proposed genuine participatory design approaches for transitions, using a structured approach to reframing (Dorst 2015b, 73–74), as a substructure. Differently put, we infused Frame Creation with *genuine participation* of lifeworld and system participants, supporting them to participate *as themselves, with themselves, and for the task and project* (Simonsen and Storm Jensen 2016, 47). The participatory approaches were developed, tested and iterated in a six-month study of youth participation in the energy transition to foster the ongoing debate on the emerging role of design approaches for societal transitions, in four ways.

First, centring the lifeworld perspectives of youngsters on the energy transition through a co-design approach demonstrates how to meaningfully involve an often overlooked and vulnerable group that has limited political and financial power (Jagielska 2025). Distinctively, 46 of 109 participating youngsters were students in vocational education programmes, who are considered some of the least politically active citizens due to their low voting and political participation rates (Rathenau Instituut 2023, 17). Our adjusted Frame Creation practices have the potential to move beyond involving a diversity of lifeworld and system participants to centre marginalised perspectives throughout and at important moments in the design process (Hodson, Svanda, and Dadashi 2023)

Secondly, our approaches can bridge the gap between participant groups, fostering equal collaboration despite differences in age, experience, knowledge, and power. Our pilot session (#15) brought a variety of lifeworld and system participants together, after initially involving participant groups in separate sessions. After this experience, both youngsters and municipality participants agreed they would want to keep actively collaborating in the proposed format to shape the energy transition in their municipality. Centring genuine participation of all stakeholder groups supported

a reframing of their collaboration, redistributing power towards a more equal partnership.

Thirdly, our approaches provide an avenue to effectively incorporate system participants, working with institutional constraints and supporting institutioning of new frames and ways of working. The Ikigai sessions provided a starting point for further internal reflection on the *raison d'être* of both the youth council and agency outside of the PD process. Moreover, the agency incorporated participatory ways of working learned in the PD sessions in their daily practice. Our participatory approaches supported institutioning, or reflection on system frames and practices, enabling new, more participatory frames to take root (Huybrechts, Benesch, and Geib 2017; Lodato and DiSalvo 2018) and creating long-term impact beyond the duration of the participatory project (Smith and Iversen 2018).

Finally, our approaches are helpful to further understand infrastructuring practices. The characteristics of genuine lifeworld and system participation support designers in not only backstage orchestration of participatory engagement, but foregrounding it, making it part of reflective encounters between designers and institutions, enabling them to move away from co-optation towards intermediation adding courses of action to the analytical framework of Teli et al. (2020).

Although both the design outcome as well as the approaches themselves were positively received by system and lifeworld participants, insights from our single study may not be generalisable. Future research could not only build on our ideas regarding genuine participation in FC, but also further explore the challenges of genuine participation of key (lifeworld and system) participants throughout a design process, for example, the required design expertise for creating new *frames*. If design methodology aims to fulfil its promise as a tool for addressing societal challenges, new, genuine participatory ways of working need to be incorporated into the designer's toolset.

Note

1. Habermas uses plural (systems) and not single (system). For readability reasons, we refer to 'the world of systems' with 'the system' or 'system' or 'system participants' from hereon.

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