Systems-Oriented Design as a Democratic Process Design Technique

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Abstract

This paper introduces a discussion about Systems-Oriented Design (SOD) as a democratic design technique. Hence, we have sought how to design processes that enable democratic design processes and possibly design for democracy. We have analysed student praxis and project turn-ins produced at a SOD course Design for Democracy at the Oslo School of Architecture and Design (AHO) 2016 – 2018. This analysis led to the description of several techniques as dimensions to understand and facilitate processes for - and to design for democracy. These are field- and desktop research, Rich design space, leverage point analysis, ZIP analysis, systemic evaluation, user journey, understanding relationships, GIGA mapping, digital platforms, SOD as sharing, participatory design, co-creation, discussion tool, stakeholder mapping / expert networks, prompting tools, and strategy or synergy map. These techniques are then discussed against theory on democracy to study their effect in relation to SOD as praxis and SOD as a developing process of strategic services for democracy.

1 Introduction

This paper introduces a discussion about Systems-Oriented Design (SOD) as a democratic design technique. The context for the study is a student course in design education with an emphasis on SOD. We have explored the student praxes and projects to identify and describe democratic design processes and strategic planning. Our main interest has been the democratic design praxis. SOD involves the inclusion of systems theory as the basis for design and has provided perspectives and techniques that students can utilize to understand and handle data, structures, systems, relationships, dynamics, complexity, and holistic perspectives as design dimensions. To synthesize, analyse, and design based on these dimensions, the students used the visualization technique of GIGA mapping, which also involves various praxes of involvement, cooperation for data gathering, analysing, and designing. It is the students' praxes of designing with GIGA mapping and the subsequent results that the praxes produced that are discussed as democratic design techniques. The SOD course, Design for Democracy, which has facilitated the work behind the empirical data, as well as this study, originates within an understanding of the society and environment as exceedingly complex and, in extension, unpredictable. This research, however, is developed with the intention for designers to perform in exceedingly complex contexts and thus be able to design for more predictable situations. The SOD courses build on systems theory and the design praxis is therefore oriented about change on different levels of society and environment. Hence, when designing processes, products, and services for change, the philosophy of the course is as follows.

> *We are not helpless and there is nothing wrong with us except the strange belief that we are helpless and there's something wrong with us. All we need to do, for the bear [sustainable development] and ourselves, is to stop letting that belief paralyze our minds, hearts, and souls* (Meadows, 2001).

The belief that we are not helpless and that designers actually can have influence on a systemic level has not emerged out of general positivism; rather it is the coupling with systems theory and design, and the processes and results that emerge from this coupling that illustrate the potential to design for exceedingly complex situations and to change issues that exist within these. However, SOD is a young field of expertise; we therefore need to develop theory and subsequent new techniques that can enable students and designers to perform in these situations. That is, design education can benefit from functions, such as flexibility and self-organization, which can facilitate for the students to practice non-linear and unpredictable realities that describe their future work contexts. The handling of uncertainties in complex contexts thus perhaps demands tools that are less specific and can support students to acquire knowledge and skills to identify and work for change on a systemic level, not an object level. That is,

> *design is primarily a thought process and communication process, transferring ideas into action by communication. It is a natural function, expressed in the many activities we engage in. For the teleologist, design means the conscious attempt to create a better world. For the anti-teleologist design is the conscious part of action (Churchman, 1971).*

The above cannot be achieved simply by telling students to be creative and think outside the box and beyond paradigms; instead, they need techniques to do so. For this study we have looked into how various SOD and GIGA mapping techniques have influenced students' actions (Churchman, 1971), praxes (Bateson, 2000/1972), and designs when working with changes in democratic functions on different levels in the course Design for Democracy through the research question of how to create democratic design processes. Our intention with this exploration was to identify techniques that students used that in different ways facilitate democratic processes. By categorizing these techniques within a matrix with praxes describing various dimensions and types of democracy, we could also identify areas that the techniques used did not cover. Thus, areas have been identified that by description may serve as potential new techniques.

The SOD course Design for Democracy is founded on SOD; it serves to introduce techniques that designers can use to change society on a systemic level, as Meadows calls for (1999). Democracies are large, complex systems functioning and malfunctioning in an unpredictable world. Problem areas overlap and involve politics, short- and long-term horizons, people, and society. Hence, we deal with a lot of known and unknown trends and situations, and they are all interconnected. The course introduces democracy as an organism undergoing constant change, and the students will learn how democracy works as a system with all its dependencies and how design can contribute to maintain and further develop our democracies and is modelled after an initiative of Victor Margolin and Enzio Manzini, who described in a Call for Action in 2017 a need to study what democracy design could be in the future by research by design (Manzini & Margolin, 2017). They suggested, demonstrated, and envisioned new ways forward and new possible forms of democracy since as they stated:

> *We are in difficult and dangerous times. For many years, we lived in a world that, despite its problems, was nevertheless committed to principles of democracy in which human rights, fundamental freedoms, and opportunities for personal development, were increasing. Today, this picture has changed profoundly. There are attacks on democracy in several countries – including those where democracy had seemed to be unshakable (Margolin & Manzini, 2017).*

The SOD courses we have arranged with the theme Design for Democracy at AHO have been oriented about the above-mentioned need and looks at democracy from a systemic design

perspective (Jones, 2014). In our work with the development of the course Design for Democracy, we asked ourselves: what is design in relation to democracy? Up to now, design research has developed various methods that can be considered democratic in that they build on participatory, cooperative, and inclusive processes. However, these methods do not see the society and environment as exceedingly complex (Ashby in Pickering, 2010); therefore, they lack the techniques that enable students to work within such complexity. Issues of democracy are typically described as wicked problems (Rittel & Webber, 1973) and are often approached with the above-mentioned methods. When working with democracy and thus wicked problems from a SOD perspective, we need to go beyond the orientation of people. Hence, SOD seeks to exceed the complexity of wicked problems (Teixeira, 2019). When the students work with such an exceeded complexity, they produce and visualize an abundant amount of information0 which may enable a rich platform for learning possibilities in complexity, systems literacy, and possibly the emergence of areas that designers can work towards changing.

1.2 Course Description

The main theme for all three courses was Design for Democracy, with three subcategories: 1. participative democracy in urban planning with a municipality in Norway; 2. workplace democracy with UDI – the Norwegian Directorate of Immigration and Gjensidige, Norway's biggest insurance company; and 3. representative democracy and how to engage young people to vote in collaboration with Norway's business newspaper, Dagens Næringsliv. The course had a duration of an almost full semester, 24 ETCS, and is at the master's level.
The students were given an open brief, a main theme, and a direction. From this starting situation, they had to navigate through the complexity of the issue and arrive at innovations and interventions to improve and redesign democratic processes. The students studied theories on democracy by choosing literature from different sources and particularly from a compilation of literature, The Democracy Files, collected by Nelson and Sevaldson (Nelson & Sevaldson, 2017). The students conducted additional steps in the SOD methodology, such as ZIP analyses and the creation of Rich Design Spaces, to understand the complexity of the developed problematiques (Sevaldson, 2008). The projects included very rapid learning processes (Sevaldson, 2013) to assess the high-complexity tasks involved through a full SOD process that includes the design and co-design of numerous GIGA-maps guiding knowledge acquisition and desk research, fieldwork, mapping dialogues together with experts, and the involvement of users eliciting experiences from stakeholders. The students were challenged by us, the teachers and researchers, to design for democracy as a design topic and hence as a situation designer´s can handle on the basis of superficial scientific knowledge. The students who chose the course out of interest were naturally aware of the recent decrease in the cultural conception of democracy and in the measured reality of democracy (Margolin, 2012). We discussed the recent fast development of IT, big data, and the exceeding amount of information channels, targeted information filtering, and the current trend towards more authoritarian leadership in numerous countries. Design for Democracy has a history reaching back to the 1970s, as stated by Victor Margolin in his lecture (Margolin, 2012).
The course is meant for the students to discuss their projects in light of theory on democracy and thus be more aware of what democracy is and how it can play a role in a design project and subsequently influence users of designed services. The students were introduced to Systems-Oriented Design and complexity, many perhaps for the first time.

2 Method

The empirical data consists of student praxes conducted while working with the Design for Democracy course and a subsequent portfolio of 19 projects. The portfolios make up the empirical

data for this research. To perform the analysis, we developed a matrix with two axes, where one axis consists of key terms from Manzini and Margolin's research on design for, of, as, and in democracy (Manzini & Margolin, 2017) and the other represented the different kinds of democracies: representative, direct, deliberate, and liquid democracy. To analyse the projects, we positioned the projects within the framework of the matrix and thereby categorized the projects in relation to these dimensions of democracy. To learn more about the role of the SOD process as a democratic process itself in this context, we sought the techniques that the students described that they used. These techniques demonstrate what we understand as design praxis (Bateson, 2000/1972), that is, specific actions, circuits, and interaction of circuits that the students took in the inclusion of others in the process in any way. By including the dimension of democratic design praxis in our study, we seek to describe the possible systemic influence the student praxis has on the process of involving and including others. That is, we consider democratic dimensions of the process itself.

3. Systems-Oriented Design

Designers need methods to handle complexity. SOD and GIGA mapping is a tool for handling complexity and achieving a holistic picture of a problem or situation. SOD is a fundamental dimension to service design. Service design has the *user journey* as its main tool, while SOD has GIGA mapping as its main tool. However, services and products do not exist without systems and systems dynamics. As Donella Meadows puts it, systems can be seen as the "relationship between structure and behaviour" (Meadows, 2001, p. 1). SOD thus involves not only the mapping and understanding of vast numbers of entities isolated but also the study of the qualities of the relations between them (Ackhoff).

GIGA mapping is a very extensive mapping and visualization method that crosses perceived boundaries and scales. The intention is manifold, but we can mention the following: to build a deep understanding of the systems at hand and their environments and wider landscapes; to initiate a very rapid learning process; to disclose "unknown unknowns''; to serve as a dialogic tool across silos and disciplines; to engage stakeholders and non-stakeholders; to cater to sustainability, life cycles, and circular economy issues; to serve deep creative processes; and to memorize large amounts of information and insights. GIGA mapping is an effective tool for visualizing design research, reactions, and design iterations, as well as for inquiry in a professional context. Typically, a GIGA map consists of a rich visualization of the various existing systems, a construct of a designed system, the interaction among existing systems and the new systems, and structures (things, institutions, and rules) that the systems rely on. That is, design skills and SOD tools build on the designer's ability to visualize problem areas and may potentially include more people to communicate about the content directly in a GIGA map. Design skills and SOD tools also facilitated conversations where new understanding and ideas can be created together. Visualization may thus function as a major contribution to the understanding of systems as well as systems understanding. Visualizations make grounds for all stakeholders to see, follow, discuss, contribute, and influence the project together. That is, the information is created together simultaneously in a continuous manner by the group (Gulden, 2018; Luhmann, 2012). Hence, the shared work produces much more information in comparison with various people reading reports alone before a meeting. Systems-Oriented Design is thus interdisciplinary (Bertalanffy, 2015/1967).

4 Democracy Typologies

This chapter introduces the theory used to develop a matrix to analyze the student work and work process. To perform this analysis, we developed a matrix with two axes based on theory on democracy. The first (x) axis represents the different modes of democracy design as suggested by

Margolin and Manzini (2017) and consists of the dimensions; designing *for, of, by, as, in* democracy. The second (y) axis is based on four types of democracy: *representative, direct, deliberative, and liquid democracy.* The activity of developing the matrix and the subsequent analysis served as an enabler for us to describe what design for democracy is, namely through describing the disclosed techniques that elicit democratic thinking, dialogue, and planning as design mechanisms (see fig. 1).

4.1. Typologies of Democracy

Margolin (2012) recognizes the convergence between democracy and design in four respects: design *of* democracy which is about improving democratic processes and the institutions on which democracy is built. It addresses the structural elements that function as frames and regulators of human action in a democratic system. It focuses on institutions, such as branches of government, agencies, bureaus, courts, and offices, and procedures, such as laws, regulations, rules and protocols. Design *for* democracy enables more people to participate in the democratic process, especially through the use of technology. It increases the opportunities for citizens to participate in deliberate processes. It focuses on transparency (which enables citizens to be aware of on-going processes of governance) and deliberative methods, which can be understood as the opportunity to be involved in decision-making processes. Design *in* democracy builds access, openness, and transparency into institutions in ways that assure equality and justice. It refers to all design initiatives that are particularly responsive to the goals of democracy. It may deal with the provision of human rights and fundamental freedoms (such as access to food, shelter, healthcare, and education) and, more in general, with the transition towards a more resilient, fair, and sustainable society. Design *as* democracy (added by Manzini) is the practice of participatory design, which constitutes the possibility for diverse actors to shape our present and future worlds in fair and inclusive ways. It sets a stage on which diverse actors can come together and democratically collaborate in shaping their present and future worlds. It engages diverse people and publics in co-designing and co-producing processes concerning different aspects of their everyday life.
The second axis represents a synthesis of different types of democracy. Most people think of democracy as consisting entirely of the voting process in a representative democracy. But there are other forms of democracy. The different forms of democracy can roughly be sorted into four main groups: representative, direct, deliberate (participation and dialogue), liquid (a combination of direct and representative democracy). *Representative democracy* is what we normally think of as democracy, voting for representatives to represent us in a dialogue that goes on in a parliament or something similar on levels spanning from municipalities and regions to nations and federations like the European Union. Representative democracy is a form of indirect democracy. *Direct democracy* describes a system where *i*ssues are voted on directly. *Deliberative democracy,* also called dialogic democracy, describes participatory processes in society, spanning from hearings to involving all parts of the (organized) civic society. *Liquid democracy* describes the role of digital media, big data, and how networks allow new forms of democracy to emerge. It combines direct influence with representation (Nelson & Sevaldson, 2017).

5 Discussion: The Democracy Design Compass as an Analytical Tool of the Student Projects

We categorized all projects within the below matrix, whose axes are explained in a chapter on democracy. The categorization shows that most of the projects are positioned within the area of deliberate democracy. The finding is interesting and perhaps expected, as it shows that design students who use user-oriented design methods and facilitate participation processes create design projects within the domain of deliberate democracy.

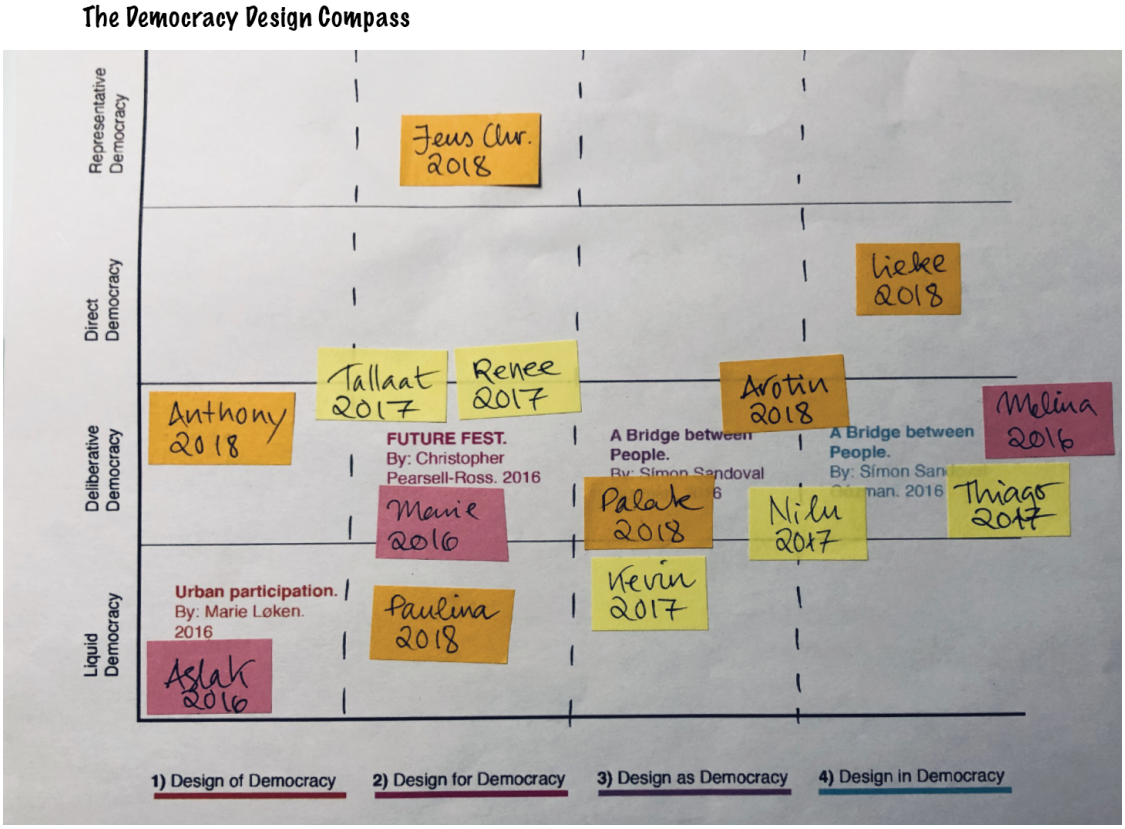

Figure 1. The Democracy Design Compass shows the student projects positioned in the theoretical matrix of the democracy landscape

That is also coloured by the fact that participatory design and co-design are central methods in contemporary design discourse. These approaches demonstrate the democratic nature of modern design methodologies and hence partly imply a design *as* democratic. However, this was not necessarily stated very clearly in the projects.

The orientation on direct and deliberate democracy may also illustrate a lack of systemic thinking in that considering systems theory supposedly would lead to considering information and communication as having an integral function in society, such as within the understanding of liquid democracy. While analysing the students' projects within the matrix, a question emerged. What can designers contribute that the science of political science cannot when taking care of, maintaining, developing, and designing democratic processes? Designers are proficient facilitators of co-design processes and are experienced in bringing people together to grasp their different perspectives, combined with a designer's skills for visualization in, for example, GIGA mapping. That led us to categorize student praxes within different types of democracy and look for patterns in their use of methods and techniques.

The above matrix (fig. 1) provided fruitful information about student focus. However, our main emphasis is to explore the work praxis itself in light of democratic functioning to identify new techniques for democratic design praxis. A further look at the students' praxis revealed the following list of research and design methods that they made use of while working with Design for Democracy. The list is roughly categorized into 19 categories of techniques, embracing sub-categories gathered from the student reports that documented their processes and praxes. This analysis led to the description of several techniques as dimensions to understand and facilitate processes for and to design democracy. These are field- and desktop research, Rich Design Space,

leverage point analysis, ZIP analysis, systemic evaluation, user journey, understanding relationships, GIGA mapping, digital platforms, SOD as sharing, participatory design, co-creation, discussion tool, stakeholder mapping / expert networks, prompting tools, strategy or synergy map (see fig. 2). These techniques are then discussed against theories on democracy to study their effect in relation to SOD as a praxis and SOD as a developing process of strategic services, processes, and structures for democracy.

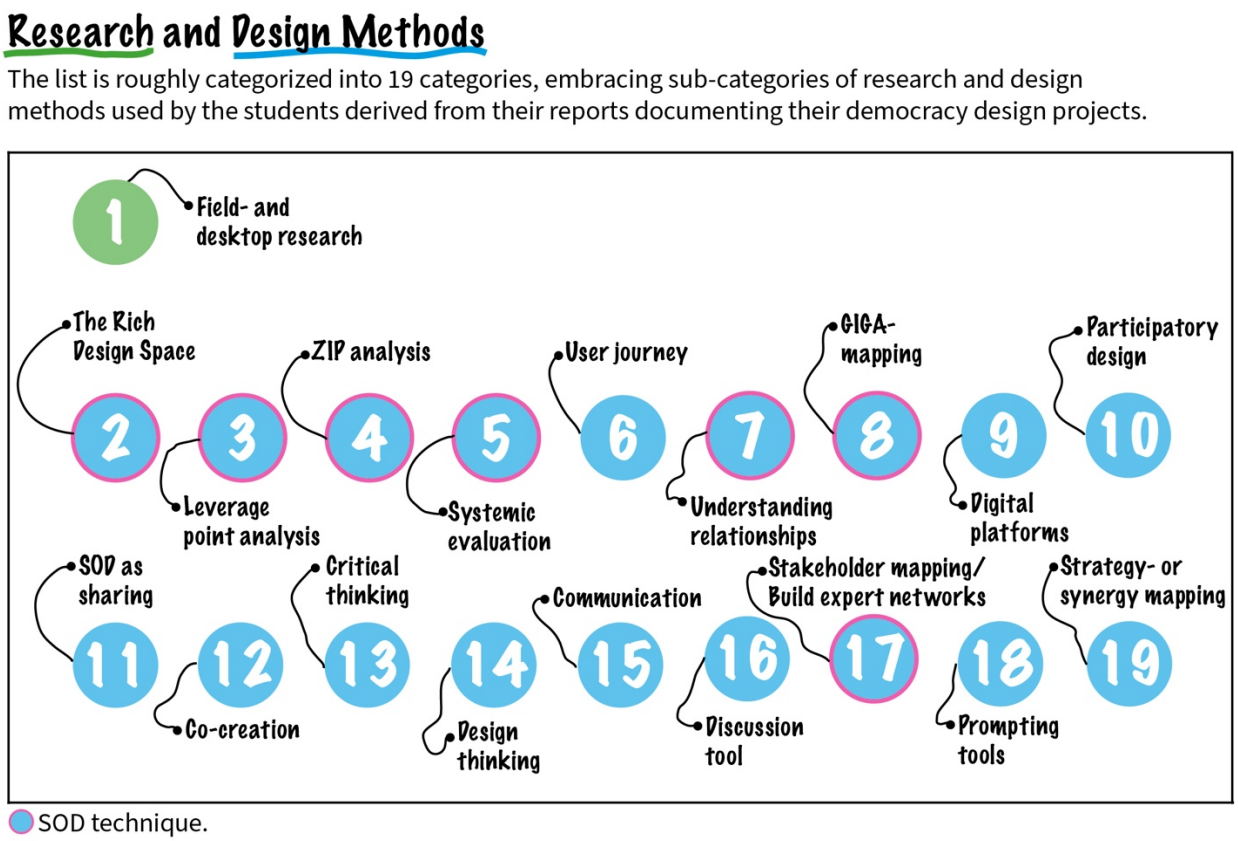

Figure 2. 19 categories of research and design methods used by the students working with their democracy design projects

5.2 Systems-Oriented Design as a Democratic Design Technique

In the below figure (fig. 3), we showed seven of the 19 research and design methods that the students reported that they made use of during their semester while studying design for democracy. From the list of nineteen research and design methods, we extracted the following seven methods that lie specifically within the SOD landscape: 2) the Rich Design Space, 3) leverage point analysis, 4) ZIP analysis, 5) systemic evaluation, 7) understanding relationships, 8) GIGA mapping, and 17) stakeholder mapping/ building expert networks.

We discussed these SOD techniques in light of the four different kinds of democracy:

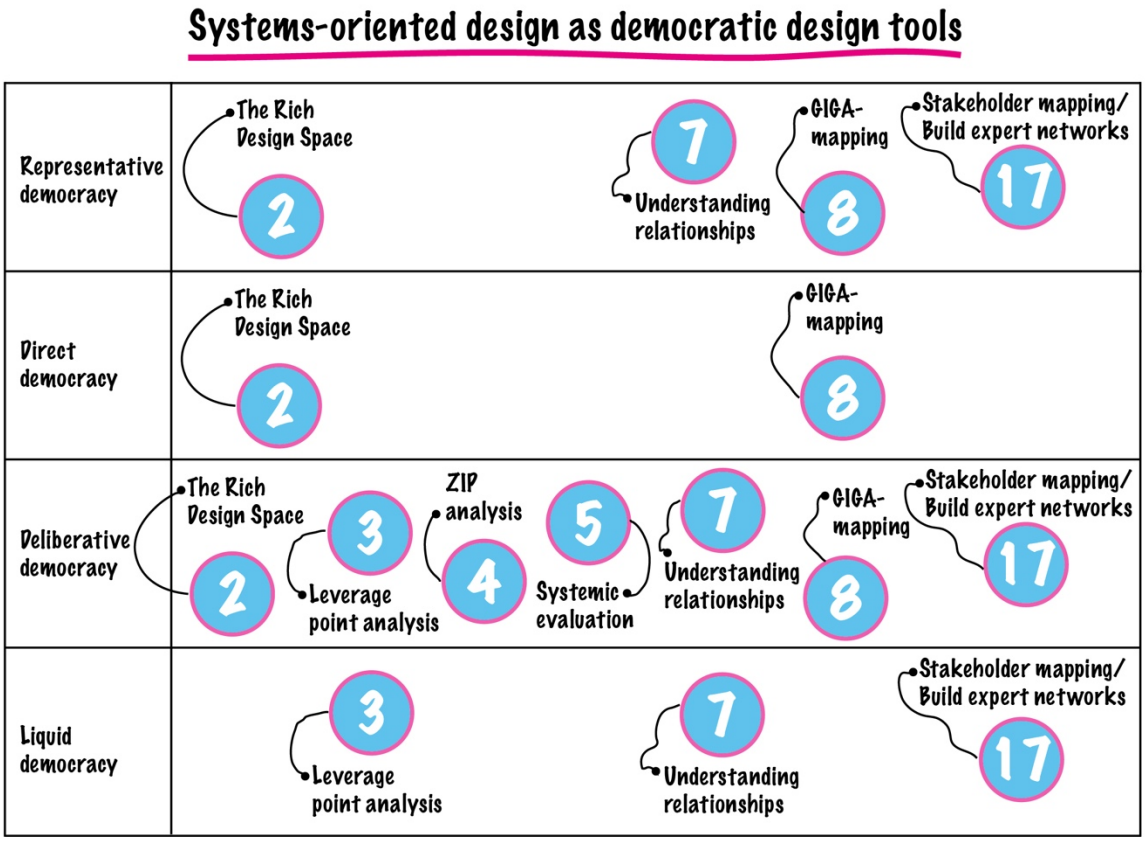

Figure 3. SOD techniques proposed as democratic design process tools

5.2.1. Representative Democracy

The figure shows that we have placed the following SOD techniques within the landscape of representative democracy: 2) the Rich Design Space, 7) understanding relationships, 8) GIGA mapping, and 17) stakeholder mapping/ building expert networks.
2) The Rich Design Space represents all your data, research, and insight and can include the perspectives of others that are present in this space while the person does not have to be. The Rich Design Space also holds space for the three next techniques included in this type of representative democracy: 7) understanding relationships, 8) GIGA mapping, and 17) stakeholder mapping to build an expert network. A way to start using these four techniques combined could be to start with stakeholder mapping to build an expert network for the project and to invite those experts in to have a common GIGA mapping session. Further, the group could build on the initial GIGA map and try to identify relationships in it, and in the next step, which is to search for new understandings of those relationships. This process will usually lead to several maps. All those maps belong in the Rich Design Space and will represent the current state of knowledge within the group investigating a problem. A well-curated Rich Design Space could express and communicate the current state of knowledge on its own. However, they rarely do, and one of the experts within the group would have to be present, and present and represent the project content to an outsider.

5.2.2 Direct Democracy

The figure shows that we have placed the following SOD techniques within the landscape of direct democracy: 2) the Rich Design Space, and 8) GIGA mapping.
The techniques of both the Rich Design Space and GIGA mapping include the perspectives of a variety of actors in this visual space, and their voices are present in the GIGA map as well as in the Rich Design Space. As a facilitator of a democratic design process, one can invite people in to have a direct influence on the mapping process and the creation of knowledge and to make sure their voices are recognized to have an impact on different issues described in a GIGA map and Rich Design Space. The visual representation in the GIGA map and the Rich Design Space provides immediate communication about the different issues at hand, and the observer has the opportunity to have direct influence and give feedback to the information at hand.

5.2.3 Deliberate (Participation and Dialogue) Democracy

The figure shows that we have placed the following SOD techniques within the landscape of deliberative democracy, 2) the Rich Design Space, 3) leverage point analysis, 4) ZIP analysis, 5) systemic evaluation, 7) understanding relationships, 8) GIGA mapping, and 17) stakeholder mapping / building expert networks.
Deliberative democracy, also called dialogic democracy, describes participatory processes in society, spanning from hearings to all parts of (organized) civic society. In light of deliberative democracy, the students made use of all the SOD approaches, 2), 3), 4), 5), 7), 8), and 17). Just to mention some interesting techniques that the students came up with, a hugging festival, designing for conversations between youth and elderly, creating a Rich Design Space at the collaborating partner's office, a Future Fest: where architects, and urban planners are invited to have public debates and conversations during a festival week.

5.2.4. Liquid (a Combination of Direct and Representative) Democracy

The figure shows that we have placed the following SOD techniques within the landscape of liquid democracy, 3) leverage point analysis, 7) understanding relationships, and 17) stakeholder mapping/building expert networks.
To design for liquid democracy, 7) understanding relationships and actors and 17) stakeholder mapping / building expert networks are relevant, as networks allow new forms of democracy to emerge and further self-organize. When performing a 3) leverage point analysis in light of liquid democracy, one can acquire a holistic overview of the dynamics of the system at hand, and when intervening the effects will change whole systems.
An interesting example of a student technique was the use of open source: how citizens can add and edit the information into the objects and spaces to redefine the meaning of their own space and combine direct influence with representation. Hence, it served as collective decision-making.

6 Conclusion and Further Research

This research has disclosed and described Systems-Oriented Design as a democratic design technique, which in turn inspired us to consider democratic design praxis as equally important to the design projects or that an emphasis on democratic design praxis may lead to projects that function in accordance with the democratic goals for the project. This analysis led to the description of several techniques as dimensions to understand and facilitate processes for and to design democracy. These are field and desktop research, Rich Design Space, leverage point analysis, ZIP analysis, systemic evaluation, user journey, understanding relationships, GIGA mapping, digital platforms, SOD as sharing, participatory design, co-creation, discussion tool, stakeholder mapping /

expert networks, prompting tools, and strategy or synergy map. These techniques are further discussed against theories on democracy to study their effect in relation to SOD as praxis and SOD as a developing process or strategic tool for democratic service design. We find these groups that are in detail described in the appendix to be of particular interest for the planning of design projects for democracy and further research. In this instance, we would like to focus on the democratic praxes of GIGA mapping when it comes to the planning of education and design projects as well as future research. These praxes are *collaborative GIGA mapping, observing rich data in GIGA maps individually and collectively*, *system-oriented design as a technique for managing complexity.* Others are *sharing by GIGA mapping, GIGA mapping as a tool for discussion and generating consensus, collective sense-making, conversation overview*, *information access*, *constant / immediate feedback, scenario thinking,* and *collection of research, systems, and information.*

The matrix developed in this research may serve as a strategic compass as well as a pedagogical approach and a design tool. The research so far shows the functioning of the matrix in analyzing student projects and their positioning within different types of democracy landscapes, and which mode of design for democracy to activate. The matrix may help to reveal which stakeholders to activate, which networks to work with, what mechanisms of democracy to emphasize, and according to Meadows' 12 leverage points, places to intervene in a system (2009). The intervention may represent change of governance on several levels within democracy, whether it is activating individuals to take a stand, bringing about structural changes within the government, or changing existing paradigms. The design for democracy matrix or compass demands a thorough thinking process to position a project in the democracy landscape described by the two axes. The compass may also stimulate more reading and facilitate reflective discussions that lead to strategic planning. For future research on SOD for democracy, we suggest including feministic design approaches (see, for example (Place, 2019), which involve the study of the suppressed as stakeholders. This may serve as an important factor for democratic design methods. The fields where the students made use of or created a few techniques for the designing of democracy, such as the categories of direct and liquid democracy, may point at a need for the development of new techniques. We suggest these as fields for further research.

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Appendix

Experts from the students reports on what methods and techniques they have used, categorized:

1) **Field and desktop research:**
- On-site visits
- Literature reviews
- Interviews
- Semi-structured interviews
- Meetings
- Mapping: mapping out facts, entities, and relations
- Observation (people and environment + mapping various aspects of the city)

2) **Rich design space**
3) **Leverage point analysis**
   - Feedback analysis
4) **ZIP analysis**
5) **Systemic evaluation**
6) **User journey**

7) **Understanding relationships:**
   - SOD, a systematic scope of the organization and the general landscape of the situation, is explored. Understanding the vision, mission, and efforts of DN for the future and mapping them in a systematic diagram helps their connection and contribution to democracy become more apparent.
   - The GIGA mapping process and the relationships between actors in the system are the critical points for interventions.
   - Facilitating a workshop with employees from different departments.
   - Explorative approach to design news relations.
   - Collaborative session mapped out the different types of relations that could be worked on in news articles to later on prioritize which one was most relevant.
   - Influence of the politics.
   - The project explores how by making new connections between different groups of people we can enhance awareness and empathy with each other, and by this, give a small step towards the shaping of a more democratic culture.

8) **GIGA mapping:**
   - *Collaborative GIGA mapping*. The whole course shared research on mapping both tasks and insights, which involved mapping with someone: partners, users, etc.
   - *Observing rich data in GIGA maps individually and collectively*. By simply observing the environment, it is obvious more and more people are being segmented. Opinions and points of view are becoming clouded by biased news stories and clever wordings. This observation drove the project into the concept of giving naturally opposed sides a glimpse into the other's world. By doing this, the hope is that the clouded nature surrounding divisive topics will become clearer.
   - *System-Oriented Design, a toolkit for managing complexity.*
   - Mapping out facts, entities and relations.

- *Sharing by GIGA mapping* was also used for sharing information between stakeholders.
- *GIGA mapping is a tool for discussion and generating consensus*, often inviting the interviewee to look and contribute to the map right after their interview.
- *Collective sense-making* of the complexity helped us become effective learners and be better prepared.
- *Conversation overview*, after an interview, everyone would come together and get an overview of the conversation, along with questions and planning for the next interviews.
- *Information access*, all of the interview maps were mounted in a common space that all of the students could access, which allows us to share our knowledge easily. That is what in SOD is better known as sense-sharing (Sevaldson, 2015).
- GIGA maps as a tool for conversation.
- *Constant / immediate feedback.* Interviews were mapped. Live mapping. Quick overview.
- *Scenario thinking,* mapping techniques to better understand different scenarios.
- *Collection of research, systems, information.* "To better understand the system that we were designing for, all the information gathered through the interviews and meetings plus desktop research and literature review on news media habits was used to develop a first version of a GIGA map."

9) Digital platforms:

- I have therefore focused on reaching them through a digital platform that is easy to use.
- Sms/app to gather insight into the inhabitants' perspectives.
- Open source: how citizens can add and edit the information into the objects and spaces to redefine the meaning of their own space.
- The participatory platform would require facilitators to popularize the bim and make their communication transparent for the citizens.

10) SOD as sharing:

- The student got an office at UDI, the collaborating partner. She created a Rich Design Space there and invited everyone in to comment, talk, share, visualise, participate and contribute.

11) Participatory design

- A collaborative, open-platform festival bringing together members of the public with cultural, institutional and municipal partners to reconceptualise the culture of participation around the built environment and municipal planning process.
- A process of 3 workshops to facilitate the emergence of new connections between different groups.

12) Co-creation:

- Workshop: "How can we enhance the exchange of experiences between us? What instances can we have to learn from each other?"

13) Critical thinking:

- Critique has led to Gjensidige Exchange.
- Questioning established dysfunctional practices.
- SOD requires a lot of brain work and isolation in periods.

14) Design thinking:

- Design of a toolkit to help gather insights and analysis to use local experiences to make knowledge-based decisions.
- The process of ideation.
- Iteration.
- Descriptive thinking.
- Generative thinking draws from a designer´s way of dealing with super-complexity derived from design practices.
- Storyboards.
- Empathy: This process aims to make them aware of each other to finally create and envision together how they could be more connected in the future in order to contribute with each other.

15) Communication:

- A discussion challenges.
- Inviting friends and neighbours to discuss.
- Discussing with fellow students.
- Sharing information.
- Creating conditions for debate and discussions among citizens.
- Stimulating conversations about sustainability and the future of the planet to strengthen democracy and on the long run contribute to the change of mindset.
- Allowing people to start talking about these stories with understanding from multiple sides.
- Holding hugging festivals.
- Creating designs for meetings between people. Participation.
- Gathering people in a square and collecting their perspectives.
- Inviting architects and urban planners to have public debates and conversations.
- A process to facilitate conversations between elderlies living at Træleborg Senior Center & youth studying at Færder skole. Afterwards, this process was designed and shaped as a program.

16) Discussion tool:

- Using GIGA maps as a tool for conversation.
- Creating a process to facilitate conversations.
- A service design concept is proposed as a method to discuss public management and political influence on public services.

17) Stakeholder mapping / expert networks:

- Creating a successful network structure.
- Building an expert network for the project.
- Interviewing experts and stakeholders.
- Mapping stakeholders.

18) Prompting tools:

- Making podcasts.
- Making videos.
- Building an installation that displays ideas breaking the silos.

19) A strategy or synergy map is one of the major outcomes of this project.

- This strategy map is a visual roadmap to a wide network of opportunities for combining projects and efforts to discover innovations in the engagement of the readers of DN, prospective subscribers, and the general public. Several new concepts for reader engagement projects and digital products are also proposed.
- Imagine desirable scenarios.