

Embedded actors in design objects: reflexivity in design for social innovation

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Designers play a crucial role in shaping complex social-technical systems; however, most of the time they overlook the necessity of being embedded within the social structure they aim to transform. Recently, there has been growing attention to the concept of “reflexivity” in design, but little exploration of designers’ long-term engagement within the design object, especially in community-based social innovation. In this study, we adopted the constructivist grounded theory approach to analyze the reflexive discourse of three practitioners, investigating their understanding of the social structure, their own identities, and the impact of reflexivity on their subsequent design actions. This research represents a preliminary inquiry of how practitioners sustain reflexive thinking throughout the process of “embedded practice” in different communities as they reflect on their identities and achievements, and take action in subsequent stages of the design process. The findings reveal that reflexivity can emerge from conflictual interactions, leading to a reconfiguration of perspectives and practices. This, in turn, enables practitioners to critically engage with their social realities and drive transformation. Through dialogue with others, practitioners gain a deeper understanding of their collaborators and their roles within the system, fostering a more authentic sense of empathy. Furthermore, reflexivity empowers practitioners to redefine their “relational position”, granting them higher levels of agency and permission. However, it also has the potential to inhibit agency, as it may create a sense of contingent action within one’s habitus or lead to frustration with the inability to effect change.

Keywords: *reflexivity; social innovation; active design; community-based*

1 Introduction

Designers lead practices to focus on complex social-technical systems (Buchanan, 2019; D. A. Norman & Stappers, 2015), many design methods dealing with complex systems still emphasize the technical performance that supports these systems, and ignore their cognitive aspects in the social dimension (usually more difficult to be graphically represented). This perspective of “standing outside the system” can lead designers to overlook the importance of being embedded in the very social structure they seek to change. When designers become embedded in the communities, they acquire multiple



identities and will gain “reflexive thinking” about “for whom, by whom, and under what conditions knowledge is produced”(Stuedahl et al., 2010).

Some design researchers have shown increased attention to reflexivity and are exploring how service design methods can be used to cultivate reflexivity (Vink & Koskela-Huotari, 2022). However, there is a limited exploration of designers’ long-term embedded practices in the design object (Ji et al., 2022). Short-term interventions and facilitation approaches have yet to fully address the processes of reconstructing systems advocated by “active design” (Lou, 2015, 2018), including how to truly intervene in social change using a constructivist approach and how to disseminate this knowledge more broadly. This inquiry pertains to the unique nature of the designerly approach to action within the context of social innovation. This distinctiveness is what prevents the perspective of subject-object separation from impeding designers from acting as catalysts for driving social change (Vink, Wetter-Edman, et al., 2021). The question arises: why designers need to embed in the community for social innovation?

The first reason is related to the extension of the “fuzzy front end” in participatory design (Sanders & Stappers, 2008). The goal of front-end exploration is to determine what to design, after that comes the traditional design process, which includes specific prototypes and further product development and testing. However, as designers deal with increasingly complex problems (D. A. Norman & Stappers, 2015), and face more open social issues in the dialectical phase, accurately determining our design goals in terms of concepts, materials, and forms of output becomes difficult. Therefore, new participatory design practices are emerging, which precede the prototyping stage and involve the implementation of “practice” and “implementation” (Manzini, 2014), continually reflecting and adjusting design actions to achieve gradual change (D. A. Norman & Stappers, 2015). Some participatory design practitioners are turning to “design for social innovation (Manzini, 2015).”

Secondly, in the context of social innovation, the responsibility of sustainability for social-technical system transformation has given designers a new role. Geels (2002) constructed a Multi-Level Perspective (MLP) to describe the process of technological transformation, including niche innovation, socio-technical regime, and socio-technical landscapes. MLP theory believes that technological niches have the characteristics of “bottom-up,” “unstable, inefficient yet innovative” (Geels & Schot, 2007). Designers have the ability to integrate, influence, shape, and reconstruct design niches and their systems. In other words, designers play a role in making niches grow, and niches are a potential source of social innovation (Genus & Coles, 2008). The role of the designer has shifted towards designing platforms that facilitate the formation of project teams or virtual organizations (Murray et al., 2010), which are all collectively referred to as infrastructure (Bannon & Ehn, 2013; Brown & Wyatt, 2010; Hillgren et al., 2011). Additionally, another group of researchers recognizes the importance of interpersonal relationships in social innovation(Petrella et al., 2020). This acknowledges the designer’s involvement in the social aspect of innovation (Teli et al., 2022; Vink, Wetter-Edman, et al., 2021).

Especially in community-based social innovation (Lou & Ma, 2018), designers are not directors outside of the “niche actor network”; rather, they are active “nodes” within this network. As a result, trust and other structural social factors not only serve as a gateway for designers to enter the community (Harrington et al., 2019), but also become the key and challenge to be integrated into the ongoing co-creation process (Kapuire et al., 2015). Most current research relies heavily on reflexive practices

generated through the use of methodological tools in workshop environments, which essentially constitutes a simulated reflexivity.

In this study, we analyze how practitioners engaged in reflexivity in real-world “embedded practice”. Specifically, we examine how they reflect on their identities and achievements and take action in subsequent stages of the design process. This study adopts the constructivist grounded theory to analyze the reflexive discourse of three practitioners, exploring their understanding of the social structure, their own identities, and the impact of reflexivity on their subsequent design actions.

2 New paradigm of design subject and design object

In the realm of knowledge production, design stands apart from descriptive and explanatory approaches as it seeks to “construct society” through meaning-making, proactive and intervention (Lou, 2015). To achieve social innovation, designers do not simply rely on anthropological or sociological methods to understand users and then implement design strategies (or toolkits) to facilitate action. Rather, the epistemological framework of design cannot remain “value-neutral” echoing research claims in “knowledge sociology” and “social constructivism” (Berger & Luckmann, 1967). To provide a foundation for studying the experience of designing complex socio-technical systems as objects of design, we conducted a literature review of the theoretical landscape pertaining to the fundamental nature of design and the objects that are subject to its manipulation.

2.1 Designers designing design objects

Design researcher used to describe design as “designers approach problems” from a subject-object separation perspective, invoking their own cognitive and combinatory understanding of the entities involved. Design aim to systematically handle complex and non-deterministic problems by reorganizing elements into a coherent whole (Alexander, 1964). Design can be viewed as meaning-making (Krippendorff, 2005), human-centered design (HCD) is based on personal and cultural meanings, rather than the physical attributes of objects. This perspective uses semantics to understand design, with the designer’s experience materializing as symbolic products that engage users in dialogue. The designer’s judgment remains crucial in both processes, but limitations in understanding others’ experiences (D. Norman, 2013) have prompted designers to consider whether user experiences can directly affect design objects. As we mentioned above, PD (Sanders & Stappers, 2008) emphasizes direct user participation in the design process, facilitating mutual learning and understanding between designers and users.

However, as the number of users involved in the design process increases, we propose the emergence of a new dimension in the relationship between the design subject, the design object, and the user. Specifically, the design subject is actively integrating itself into the design object, sharing experiences with users, organizations, networks, or communities, and promoting change through niche innovation actions. However, there has been limited attention given to this type of design, where the design subject can actively enter and generate agency, in current design theory and practice.

2.2 Designers act inside design objects

Karen Barad’s concept of “intra-action,” which refers to the inseparability of the design object and observational agency (Barad, 2007), reflects this perspective shift. Kimbell’s proposal of “design as practice” and “practice in design” based on practical theory also draws on discussions in anthropology

and sociology to highlight the theory of practice, which emphasizes people's actions in interacting with others and things (Kimbell & Street, 2009).

Reflexivity in design practice has also become an important consideration, including alternative perspectives, agency, and knowledge production. Designers need to position their identities and be aware of the invisible work that constitutes the socio-technical system. The multi-reflexive perspective of "designer-researcher" in participatory design proposed by Pihkala and Karasti (2016) enables the design subject to be embedded in the multiplicity of participation in a generative way. They discovered three processes of reflexivity intervention based on subtle interactions, including "negotiation of the design subject's participation, blurring of the central design subject when the participant challenges the designer-researcher's framing of the issue, and the "we" perspective allowing all participants to share common experiences. Additionally, placing the design context in everyday life scenarios and forming participant networks through continuous mundane interactions can also be helpful (Pihkala & Karasti, 2016).

Our preliminary research (Ji et al., 2022) has found that when designers are embedded in their design objects, their design practices and outcomes can be transformed. However, this kind of "embedded designer" approach has not received sufficient attention in the field of design.

Our hypothesis suggests that design practices are evolving into a new dimension that pertains to the relationship between the designer, the design object, and the user. Design research is transitioning from merely studying the design activities of the designer to designing "on the design object" to actively exploring how they interact "in the design object" within various social structures such as communities or organizations. This shift in perspective presents both challenges and opportunities for designers, particularly in the context of transition design. The concept of "intra-action" (Barad, 2007), which highlights the inseparability and co-experience of the designer and design object, captures this perspective shift well. Drawing on the "practices theory" (Kimbell, 2013) and anthropology, design researchers are increasingly engaging in reflexive discussions of the role of the designer and their impact on design outcomes. In this regard, the concept of an "embedded designer" serves as one promising approach to further explore these complex issues.

3 Reflexivity in community-based social innovation

3.1 Perceiving reflexivity in design practices

Researchers discussed the importance of reflexivity in various design practices. Seravalli et al. (2022) highlights how design as problem framing can facilitate collaborative reflexivity in the Swedish public organization. However, the authors argue that reflexivity should not be limited to mere learning and reframing of problems, but also be applied to further action. Schiffer (2020) emphasizes the significance of reflexivity and positionality in community-based design, particularly in building trust, navigating power dynamics, and challenging design interventions. Mierlo et al. (2010) presents the use of reflexive process monitoring in sustainable development networks in the Dutch agricultural sector. Caetano (2019) explores reflexivity's role in guiding practices, causing disorientation, and producing a social change in various contexts. Vink and Koskela-Huotari (2022) identified and delineated six modes of reflexivity: temporal, material, corporeal, relational, cultural, and cognitive. They revealed a broad range of enablers, that service design practitioners can leverage to support

transformative change. Bast et al. (2021) initiates research on how service design entails enactments of different modes of reflexivity suggested by Archer (2007), including communicative, autonomous, meta and fractured reflexivity. By exploring the impact of cognitive, social, and representational factors on the design process, they offer a special approach to include vulnerable users with cognitive impairments and provide tools and ways of thinking for service designers to achieve sustainable development goals.

This study aims to explore how reflexive design practices can go beyond mere “learning” and “problem reframing.” Although reflexivity may start as a learning process, it is crucial to reflect on how it can drive design interventions, how reflexivity can improve the design process and outcomes, and the imperative to consider it as an essential aspect of design practice.

3.2 Cultivating reflexivity for design practices

Vink (2022) suggests that designers can prompt “aesthetic disruption” as a design practice to spark reflexivity at the micro-level. This approach involves intentionally introducing elements into a design that challenge established norms or assumptions to encourage reflection and critical thinking among users. Vink and Koskela-Huotari (2022) also outlines three processes facilitated by the use of service design methods through which people build reflexivity: revealing hidden structures, noticing structural conflict, and appreciating structural malleability. These core processes make it possible for people to work with institutionalized social structures as service design materials and intentionally shape them over time (Vink & Koskela-Huotari, 2022).

However, the reflexivity that arises from design tools and methods often occurs in a simulated scenario, rather than through actual encounters with conflicts and dialogues. Convincing actors in the network to genuinely engage and take action is harder than using aesthetic disruption to reflect. What is the purpose of reflexivity if the use of design methods is to enhance it? How does enhanced reflexivity affect subsequent actions? Avle and Lindtner (2016) argue for the continuous expansion of the body of critical and reflexive work that asks both researchers and designers to reflect on their values of design in the world. Vink (2022) argues that by developing an awareness of the multiplicity of social structures internalized by oneself and others, designers can create more inclusive and responsive designs that better reflect the needs and perspectives of all members of society.

Vink et al. (2021) mention further study should focus on supporting embedded actors to work more intentionally with institutional arrangements, acknowledge related design and non-design processes, and build collective alignment around their desired value cocreation forms. Caetano (2019) also highlighted the mediation role of reflexivity in the relationship between structure and agency.

Therefore, we conducted further exploration to understand how practitioners continue to reflect on their identities and achievements through reflexive thinking during the process of embedded practice in different communities and take action in the next stage.

4 Methods

We used the constructivist grounded theory (Charmaz, 2006, 2017) to analyze the reflexive discourse of three practitioners with design education backgrounds, including the author, in the process of “embedded acting”. The data were explored using online messaging tools, field notes, reflection notes, and structured interviews on reflexive experiences. The selection of cases mainly involved

practitioners who used the narrative “we” when referring to the community in their daily observations, which often indicated a recognition of themselves as “having entered the community”. The practitioners’ understanding of their own responsibility and their “indispensable” position within the community as core-contributors, such as “I can’t just leave,” “I’m conflicted and feel that I shouldn’t divert too much attention away, it would be unfair to the community,” and “in the end, only a few of us truly understood what we wanted to achieve, it seemed like others had lost sight of our vision.”

By analyzing the discourse in the cases from daily practices, we can more authentically reflect the naturally occurring reflexivity, rather than a perception that might be guided by specific questions. In this preliminary study, we hope to inductively identify this phenomenon and potential explanatory patterns without preconceived notions, and gain initial insights to prepare for a larger sample study in the future.

4.1 Sampling

The present study aims to classify different scenarios in which individual cases engage in community-design practices. These scenarios are categorized based on the duration of community maintenance, the time of intervention, the status of the practitioner upon entering, and the status of the practitioner after the intervention. The community maintenance duration is classified as “long-term” or “short-term,” depending on whether the community’s vision and prototype have been negotiated and agreed upon over time, or if it is a temporary community formed for a specific event. The time of intervention is divided into “initial intervention” or “midway intervention.” The status of the practitioner upon entering is classified as “high initial authority” or “low initial authority.” The status of the practitioner after the intervention is divided into “high post-intervention authority” or “low post-intervention authority.”

The study analyzes the reflexive contexts that occur in the experiences of three practitioners and their impact on their understanding of the social structure, self-awareness, and design action. The practitioners in this study have at least one long-term involvement in community-based design practices (Table 1).

Table 1. Specific practice contexts of three practitioners

Case	A1	A2	A3
practice context	Chinese mainland	Chinese mainland	Chinese mainland
Education	Doctoral candidate in Design	Master’s graduate in Design	Master’s student in Design
Experience in Community	About 8 Years	More than 10 years	Less than 2 years
Type of Engagement	Long-term initial intervention; Short-term midway intervention	Long-term midway intervention; Long-term initial intervention	Long-term midway intervention; Short-term initial intervention
Community Types and Roles of the Practitioners	Campus Garden, Co-founder Creating an urban gardening space in the campus where students can practice Living lab,	Multidiscipline learning community, Operation Creating change in the world of learning and research through passion-	Rural-urban interaction organization, Co-founder Focusing on rural-urban interaction in China, aiming to bridge the gap between communities and farmland

	Action-researcher Making communities the forefront of innovation and unleash social innovation potential within	based culture and effective problem-solving	
	Distributed youth community network, Collaborator Gathering young people physically and spiritually, enabling them to know, change, and improve themselves	Design-driven rural-urban interaction project, Practitioner & Researcher Exploring the potential of rural traditional production and lifestyle through design thinking, promoting rural- urban exchanges, and sustainable development	
	Web3 product and community, Operation Empowering community development and providing community technology infrastructure	Living Lab, Operation Making communities the forefront of innovation and unleashing social innovation potential within	
Main Target Groups of the Community	Composed of more young people concerned with public issues, community hosts	University teachers and students, business and institutional leaders	University teachers and students, small farmers, market organizers
Approaches to Engaging with the Community	Online collaboration, offline co-living, collaborative experiments, building technology infrastructure for community	Workshops and co-creation activities in collaboration with neighboring colleges or other organizations	Discovering stories through dialogue, documenting ethnography, artistic social experiments
Moments of Reflexivity	Engaging in new communities and collaborating across organizations and communities	Gathering feedback from community residents and engaging in exchanges with other organizations	Engaging in dialogue and conducting interviews with different groups

The first practitioner (A1) has had multiple experiences of “long-term initial intervention.” Currently, they are conducting research and practice in a community with 129 co-builders and around 700 participants, using action research methods for long-term initial intervention. A1 has also engaged in “short-term midway intervention” in several communities, with over 20 communities or organizations and 120 contributors (including 30 core contributors) involved. A1 has also had experiences of “midway long-term intervention” in large-scale distributed communities with around 500 co-authors and 2000 participants, and various types of “short-term initial intervention” practices (initiating cross-community collaborative events with 19 co-initiators, supporting communities and media with 52 members, and having nine core contributors).

The second practitioner (A2) has had two experiences of “long-term midway intervention” and some “short-term initial intervention.” A2 are currently a core practitioner engaged in long-term initial intervention for the daily maintenance and development of a medium-scale community (the community in which the A1 conducts action research).

The third practitioner (A3) has had experience with “long-term initial intervention” and is currently participating in a small team’s practice (with three core members and ten community members) embedded in the community with A1 and A2 through “long-term initial intervention” to construct the community at its early stage.

4.2 Analysis

During the open coding process, the authors maintained a receptive stance, allowing the data to guide their analysis. They closely examined the material line by line. For example, the authors applied this line-by-line coding approach to a particular passage, revealing that practitioners experience a process of reidentification with their own identities within the community, often triggered by specific events. This observation guided the authors to focus on the characteristics of these “special events” during the focused coding stage. See Table 2.

Table 2. Example of open coding¹

Example Quotation	Open Coding
<p>“(After he expressed his dissatisfaction), I had a conversation with him...I believe that a possible factor behind his dissatisfaction is that I had not clearly defined my role and my responsibilities as a team leader. When the other person in charge could not deliver the design on time, I believed that I should step in promptly. This was what caused his unhappiness. He believed that I should not have interfered in his responsibilities. My intervention meant he was no longer in charge of the matter and was simply a subordinate being told what to do... (A1)”</p>	<p>Attempted to resolve conflict through communication self-identity perception</p> <p>Realized that the community has not been explicitly informed of their role and responsibilities</p> <p>Different understanding of the role’s scope of responsibilities</p> <p>Believed that their authority was being challenged</p> <p>Different understanding of “person in charge” and “scope of responsibilities”</p>

In the focused coding stage, our objective is to pinpoint which codes from the open coding phase can offer a more sensitive and comprehensive analysis of the data. These two processes are not linear, as the codes that emerge during the focused coding stage can also lead researchers to new understandings of the text and supplement details that were overlooked during the open coding stage. See Table 3.

¹Note: During the reflection on the reasons for the conflict, practitioners identified previously undisclosed and unagreed-upon “boundary of responsibility” and “identity positioning” issues. These issues arose from differences in the two individuals’ estimations of time progress and their judgments regarding each other’s trustworthiness (with one party believing the person in charge should be unconditionally trusted, while the other lacked the basis for such trust).

Table 3. Example of focused coding²

Example Quotation	Open Coding	Focus Coding
<p>“(After he expressed his dissatisfaction), I had a conversation with him...I believe that a possible factor behind his dissatisfaction is that I had not clearly defined my role and my responsibilities as a team leader. When the other person in charge could not deliver the design on time, I believed that I should step in promptly. This was what caused his unhappiness. He believed that I should not have interfered in his responsibilities. My intervention meant he was no longer in charge of the matter and was simply a subordinate being told what to do... (A1)”</p>	<p>Attempted to resolve conflict through communication self-identity perception</p>	
	<p>Self-reflection</p>	
	<p>Realized that the community has not been explicitly informed of their role and responsibilities (Is the subject active or passive?)</p>	<p>The other party’s explicit expression of their unhappiness led to the subject’s reflection on their perception of their role</p>
	<p>Different understanding of the role’s scope of responsibilities</p>	
	<p>Believed that their authority was being challenged</p>	<p>Different members in the community have a different understanding of the same role and its responsibilities (as well as its implied scope of authority)</p>
	<p>(How did they reach that sudden realization that there were different understanding of “person in charge” and “scope of responsibilities”</p>	
		<p>Reflexive interpretation</p>

During open coding, the authors explored reflexive issues that surfaced during the process of the subject’s practice without making any associated theoretical preconceptions. In analyzing the text and in their line of inquiry, they played the role of a neutral third party, delving into the details of the data presented and asking questions such as “Why did the subject approach him for a conversation?”. In their coding, they noted that the subject “[a]ttempted to resolve conflict through communication.” How did the subject feel after the other party expressed their dissatisfaction? What actions did these emotions drive the subject to take?”, and that the subject “[r]ealized...”. Their inquiry focused on the subject’s interpretation of their actions and the actions of other parties. They also explained why the subject could understand where the other party was coming from and the subject’s attempt at resolving the conflict. Details pertaining to conflict that appeared in the coding are “Different understanding of the role’s scope of responsibilities” and “Believed that their authority was being challenged”.

More targeted, selective, and abstract coding was found during focus coding, which dealt with “identity”, “limits of one’s authority”, and “misunderstanding and conflict”. This discovery further verified that such coding can explain the reason why conflicts occur between the subject and the other

²Note: Why did the subject believe that they had to “step in”? How did the subject’s past experiences with former persons in charge come about? Is it possible that members of the subject’s former communities shared the consensus that the responsibilities of a person in charge included intervention? Is that the reason why the subject did not encounter any conflicts previously?

party and how the subject goes about resolving the conflict. During focus coding, authors also filled in details that were overlooked during open coding, such as by redefining what the subject “[r]ealized” as a form of “[r]eflexive interpretation”. When questioned about why the subject did not realize that a common consensus on “identity” and the “limits of one’s authority” was necessary in their previous practices, the authors encoded that as a form of “[r]eflexive interpretation” to explain why the subject’s role was ambiguous—the subject had not defined the scope of their role and their co-practitioners did not have a shared consensus about the role and its responsibilities.

The abstract, encoded “[r]eflexive interpretation” thus gradually evolved to become a code for “reflexivity in conflict”. Specific examples of such coding can be found in the table below as theory coding. See Table 4.

Table 4. An Example of coding

Example Quotation	Open Coding	Focused Coding	Theory Coding
“(they refused us) ...it gives us the feeling of jumping out (of our original designer identity) ...(A3)”	Challenging one’s identity as a designer	Understanding oneself from refusal	Reflexivity from Conflictual Interaction
“(I feel I can’t get enough information if I am a newbie) ...I had no idea that I actually had a high level of permission in the previous community...Actually, I couldn’t understand why other co-collaborators felt they couldn’t participate in our community before...(A1)”	Realization of one’s own position and power in a community	Understanding oneself from the hardship encountered in other community	Reflexivity from Conflictual Interaction
“...There was no real consensus at the beginning, and we thought we were still a non-profit organization providing convenience services to the community...(A2)”	Recognition of the misunderstanding in the goals of collaboration	Understanding others’ views of us through dialogue	Reflexivity from Conflictual Interaction
“...The other member of the collaborating community refused to communicate with me and expressed strong negative emotions, rejecting my proposal for resolution analysis and compensation...(A1)”	Acknowledgment of the role of emotions and trust	Understanding others’ views of us through listening	Reflexivity from Conflictual Interaction

5 Results

5.1 Reflexivity from conflictual interactions

In social innovation, the gap between design objectives and reality, as well as conflicts during interactions with others, often represent the moments in which practitioners genuinely experience reflexivity.

Designers often approach a project with confidence in their ability to apply a systemic approach to problem-solving and may overlook the importance of truly understanding the context and perspective of the community they are designing for. In the interview, the designer describes their initial confidence that their proposed design strategy would be successful in empowering the target

audience, only to be met with unexpected resistance from the community. This emphasizes the need for designers to engage in a reflexive and critical examination of their assumptions, biases, and privilege, as well as to actively seek out and listen to the voices and perspectives of those impacted by their design decisions.

5.1.1 Understanding oneself from conflict

Reflexive moments involving conflicts with other individuals enabled practitioners to understand their position in society or community, realizing that they did not enter the field as a “vacuum”. Underlying social structures such as entrenched rules, norms, roles, and beliefs deeply influence others’ perceptions of them, their expression of concepts, and the design actions they can take.

Design actors emphasized the importance of acknowledging one’s privilege and permission in a community. As A1 mention:

“Before this conflict, I had no idea that I actually held a position of high authority in my previous community... (A1)”

By acknowledging their emotions and trustfulness in a conflict and stepping outside their “design roles”, practitioners can better understand themselves and their position as “normal” members of the community. A2 said:

“I realized that if I didn't have decision-making power in the community, I would also feel passive and confused by many tasks and information that were not synced... (A2).”

It also reveals that practitioners’ understanding their position in a certain community, and the impact of this position resulted in their understanding of the design object (actor-network or community) they take action in, and the impact on their understanding of other collaborators in this design object.

5.1.2 Understanding others through dialogue

The understanding of others in this context refers to the practitioner’s understanding of how others identify their position in society and the community, how they understand the practitioner’s position, and how such identification facilitates or hinders collaboration. As A2 mentioned:

“We found that residents always understand what we do as ‘for me as a resident’ rather than ‘doing it together with me as a resident like them,’ so they are resistant to our actions.”

When practitioners seek to reduce the impact of conflicts through action, they choose to engage in dialogue or listen to the emotional expressions of the other party, thereby creating the possibility of further understanding and proposing new feasible collaboration proposals.

5.1.3 The “genuine empathy”

The designerly approach to social innovation does not merely aim to educate individuals with design backgrounds to understand “users” and take action, Instead, it places emphasis on “negotiating new roles and ways of collaboration” to foster the acceptance of novel perspectives within a broader range of meaning spaces. In design thinking, empathy is often perceived as an “egoless” state, involving a “value-neutral” analysis and description of the research object. However, expecting design researchers to generate empathy for another individual becomes unrealistic due to the inherent value involvement in design research. Practitioners stress the importance of comprehensively understanding oneself and others to achieve true empathy, especially within collaborative networks

where individuals are restricted by different positions within the community, influenced by permissions and reputation. Gaining genuine empathy requires profound reflection on one's "social-self" and "community-self," or adopting a similar position within another community. As A1 pointed out:

"We are in the center of the community and our perspective is global. We cannot understand what it's like to join from a one-sided perspective before you actually become a newbie in a new community."

5.2 Reframing the Relation through Reflexivity

Practitioners re-examined their relationship with the community members and identify the power dynamics. Practitioners leverage this reflexivity to redefine their relationships with other actors in the design and practice networks, which leads to the development of new forms of social interactions. Actively participating in this process allowed practitioners to establish trust with community members, thereby enhancing their capacity to gain higher levels of permission and agency within the community. Ultimately, this bolstered the agency of design actors within community-based design practices.

5.2.1 Redefining the relational position

The practitioners highlight the crucial role of how their identity is perceived by others in motivating collaboration and driving action. To achieve this, practitioners found it necessary to redefine their positions within the collaborative network in a manner that was acknowledged by others. A3 suggested:

"...because he still thinks you are a student...so I said it in a way that he could understand best."

Employing reflexivity became a valuable tool to achieve this objective. This significant outcome of employing reflexivity in collaborative networks lays the foundation for further practice and engagement within the community. A1 admitted that:

"designers are ordinary people who need to integrate into the community..."

This entailed moving away from the conventional view of themselves as experts and embracing a more open and humble approach that is prioritizing a learning mindset when engaging with the community.

5.2.2 Attaining higher permission and agency

It can be seen that when practitioners use reflexivity to continually redefine their relationships with others, they can often achieve higher levels of permission and agency within their social or community context. By redefining their position within the community in a way that is recognized by others, practitioners can gain access to higher levels of information, as well as the "freedom" to interact with other members of the community and having access to proposals, voting, or decision-making process. A1 took a long time to be treated as a member of the new community:

"...A community finally opened up important permissions for me to better understand it... I have naturally been perceived as a member and have participated in the core-collaborator group ..."

Through employing reflexivity, the practitioners were able to restructure their relationship with community members and establish an equitable footing. They acknowledged the importance of earning the trust of the community members and made deliberate efforts to achieve this, such as

contributing to the community and forging personal relationships. These initiatives facilitated the development of mutual respect and understanding, which proved vital to the success of collaborative endeavors.

5.3 The Inhibition of agency by reflexivity

While reflexivity is a critical aspect of agency, excessive self-reflection can hinder practitioners' ability to take action. When practitioners become too reliant on pre-existing community rules and structures, they may feel confined and unable to assert their influence within these established constraints.

5.3.1 Contingent action in “habitus”

In this process, we need to take contingent actions, which means that we may forget the original purpose of our actions in order to “survive” in this community. Moreover, this survival-oriented way of acting easily causes designers who are deeply involved to return to a non-active design state, become a “secondary party”, and provide different types of solutions instead of actively making decisions and constructing. This phenomenon aligns with the statements made by practitioners in this study:

“They will provide decision-makers (subconsciously perceived as service recipients) with many options to ensure that things can move forward, but they do not dare to make decisions. (A3)”

However, to establish a new “meaning space” within the existing “meaning space”, designers need to balance the need for “survival” and the original purpose of their actions and strive to actively participate in the decision-making process and construct the rules and institutions that support their collaboration.

5.3.2 Frustrated with the inability to change

Practitioners may find themselves frustrated by their apparent inability to effect significant changes when they become entrenched in a reactive mode. It’s important to recognize that change is often a complex and challenging process that requires a deliberate effort to step outside of established roles and habitual patterns of interaction with others. Individuals with strong reflexivity may also find themselves unable to act because of an excessive understanding of their own situation. Practitioners mentioned that:

“(After understanding the deep-rooted beliefs of other collaborators in the social network) ...I understand, but I don't think I can do it...(A2)”

If practitioners rely too heavily on the existing rules and structures of the community, they may feel restricted by these rules and structures, and thus unable to exert their power within them.

6 Conclusion and further discussions

6.1 Concluding remarks

The analysis of the experiences of three practitioners was conducted to examine how reflexivity arises in the context of social innovation and the specific impacts it has on active design (especially community-based) practices. The study revealed that reflexivity can emerge from conflictual interactions, as practitioners confront contradictions and assumptions, prompting them to re-examine their actions and positions. This process can lead to a reconfiguration of understandings and practices,

enabling practitioners to critically engage with their social realities and transform them. Through dialogue with others, practitioners gain a deeper understanding of collaborators around them and their “position” in the system, leading to a more authentic sense of empathy.

Furthermore, reflexivity enables practitioners to redefine their “relational-position”, granting them higher levels of permission and agency. However, reflexivity can also inhibit agency by creating a sense of contingent action within one’s habitus or frustration with one’s inability to effect change. In the context of design for social innovation, practitioners can benefit from developing a reflexive stance towards their actions, allowing them to address the complex social dynamics that arise in the “niche” actor-network.

The results of this study demonstrate the significance of reflexivity in the field of social innovation, providing insights into how practitioners actively engage with design objects (community, organization, or emerging “social structure”) and translate these engagements into practical action.

6.2 Insights

In addition, this study selected three cases with different practical environments and main stakeholders, and they also have diverse visions for community development. Through these cases, some insights were gained, and the moments of reflexivity in the three cases all occurred when they stepped out of their comfort zones. For A1, as a core contributor, engaging in community practices is a familiar position. Their reflexivity manifested in understanding individuals outside their decision-making circle. For A2, design is their familiar professional field, and their reflexivity showed in understanding non-design professionals’ perceptions of the design industry. As for A3, their reflexivity expressed a comprehension of the social-self relationship, emphasizing the connection between their student identity and other social identities, as well as how others perceive their social identity.

A1’s long-term involvement through entrepreneurship often led to reflexivity emerging from conflicts among team members and encountering different community traits as a researcher. Dealing with the diverse abilities and working styles of team members required A1 to detach themselves from tasks. A1’s action research perspective allowed them to analyze conflicts positively, viewing all parties as observation samples and generating possibilities for further actions, summarizing long-term patterns suitable for team development.

A2’s reflexivity arose from their long-term experience in “institutionalized” organizations and engaging in niche innovations. They could better understand the significant obstacles faced in community project implementation. A2’s initial drive did not stem from their passion for community development but rather from their assigned responsibilities as a leader. When facing conflicts, A2 tended to respond more negatively, making intuitive “contingent” decisions.

A3’s reflexivity mainly came from their experience as a student-led autonomous organization’s co-founder in encountering the new concept of “community.” The focus was on their identity in social. The vast difference between traditional design education and real-world scenarios sparked A3’s designer-like fantasies. However, conflicts in the dialogue process forced A3 to reconsider their relationship with the subjects and society.

6.3 Rethinking “empathy”

Reflexivity is a relational way of thinking, while empathy emphasizes taking the perspective of the other. In previous design practices, empathy was emphasized, with practitioners striving to maintain an “egoless” state in their sensing and research, approaching the process from a birds-eye view without personal bias.

In contrast, reflexivity emphasizes more on the “relational understanding”, acknowledging the differences between designers and the other, recognizing one’s own limitations, and one’s own influence on the other. In simple terms, empathy is an object-oriented way of thinking that regards oneself as an absolutely rational existence, while reflexivity emphasizes relational thinking, recognizing the connections between oneself and others.

Design practitioners, especially in the context of community-based social innovation, need to reconsider that empathy should be grounded in a comprehensive understanding of others and oneself, particularly when dealing with diverse positions and perspectives within a collaborative network. Genuine empathy requires a full reflection on the social-self and community-self. Hence, the concept of reflexivity can further enhance our understanding of this mode of action.

6.4 Limitations

Due to the limited awareness and public expression of practitioners’ reflexive experiences, as well as their concerns about the existence of stakeholder relationships and power, and in the limited research period, there were not enough practitioners who could be analyzed as cases. We hope to further communicate with more practitioners in further research and understand their design actions through collaboration.

Additionally, this exploration of reflexivity is not yet complete, especially in terms of concepts that have been deeply analyzed in the fields of social sciences and philosophy. Scholars such as Archer, Bourdieu, Latour and more have already engaged in a lot of reflection on this issue. This study also lacks in-depth analysis of different types of reflexivity, and the discourse analysis of practitioners is still in a preliminary stage.

6.5 Further studies

Further research aims to find a design method that can help design practitioners to shift perspectives, stimulate their reflexivity and enable them to “unpack some of the underlying social structures at play within their habitualized actions, including entrenched rules, norms, roles, and beliefs” (Vink, 2022). This method should also help practitioners who are constrained by “structural problems” to generate community-building solutions that align with designerly ways of thinking.

Reflexive approaches cover a broad range of methodological engagement, and the concept of “reflexive design” has emerged as a powerful tool for developing, articulating, and communicating design knowledge. It functions as a unifying and structuring force that generates new ideas and research directions for design-oriented research and research-oriented design. The knowledge generated through reflexive design has the potential to be integrated back into the realities it describes, providing insights into designerly ways of knowing and acting, as well as the formation and configuration of artifacts and concepts.

Future research should focus on describing in detailed relations, including the details of any “associations” (Latour, 2005), understanding the specific roles, relationships, environments, and capabilities of nodes in actor networks, and understanding the specific processes by which actors create new entities, learning to relate to worlds composed by things and forces far more heterogeneous (Jensen, 2019). Through the lens of actor-network theory, future research should emphasize “following the actors themselves” and “general symmetry” rather than attributing any unexplainable dimensions to “social context” or “contextualization.”(Mattozzi, 2019)

With the emergence of new types of organizations/communities (which are difficult to classify as new types of social structures) that combine new technologies-like DAO (Decentralized Autonomous Organization in Blockchain-based system), design practice needs to understand the increasingly diverse possibilities of the “social context.” Is it enough for us to reflect on the current cultural/institutional context? Attempts by designers to engage with complex socio-technical systems should also adopt more agile methods. Reflexivity can provide a new perspective on practice and epistemology, enabling us to face increasingly uncertain and rapidly changing social realities.

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