Universal Design as Co-Creation: Experiences and Visions from Urban Development Projects in Sweden

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Abstract. In Swedish policy, Universal design (UD) is implemented as a guiding principle. This paper explores the conditions for co-creation when authorities and civil society collaborate. The empirical basis comes from qualitative analysis of interviews, go-alongs, group discussions, and change-oriented workshops in three urban development projects concerning the re-design of public spaces and buildings in three Swedish cities. Collaboration between municipalities and local disability organisations was formal and established but different expectations of organisations' capacity and opportunities for influence, caused misunderstandings and mistrust. Interpretation of personal disability experience entailed ambiguity concerning roles and legitimacy. Hence, this paper considers UD a collaborative process, operating beyond regulatory compliance, transcending conventional categorisations, and inspiring and fostering commitment of a diverse population. It concludes that disability experience should be integrated into design processes in an intersectional way, as one of many experiences. That is in line with the CRPD, regarding persons with disabilities as equals and as contributors to cohesion and community building. Such a process requires co-creation where equals contribute to the common process but also reflection on the goals of community participation, and recognizing the needs of personal support and interaction. Since co-creation is a multifaceted, sometimes confusing, and idealistic concept, this paper suggests clarity, distinguished roles, and training of visualization abilities. Constraints of organisational asymmetry and challenges of engaging participants must be considered for developing a realistic view of co-creation. However, openness for learning between and beyond specific projects may develop equitable collaboration. For mutual and sustainable learning, the future usage phase must inform the design process. This positions UD in relation to co-creation as both a space of design possibilities and a human rights concept for an ethically reflected practice.

Keywords. Universal Design, Accessibility, Urban development, Participation, Co-creation

1. Introduction

Urban design reflects societal inequality and injustice, determining opportunities and identities on individual and social levels. Design that suits only some people simplifies and promotes their lives while others feel uncomfortable and excluded, avoiding these places. Besides emotional exclusion, there is physical exclusion, such as offering only stairs for movement.

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Universal Design (UD) originated in the 1980s when disability activists and architects in the USA launched a value-based design for all people and situations. They reacted against an accessibility discourse focused on regulations and group separation [1]. UD is also traced to the normalization movement in the Nordic countries [2]. With the adoption and definition of UD in the UN Convention on the Rights of Persons with Disabilities (CRPD) the concept has evolved into policy. Article 4 of the CRPD encourages ratifying states to apply UD in research and development. According to Article 9, standards and guidelines shall be developed for access to public environments, e.g. buildings, roads, transportation, information, facilities, services, and workplaces [3].

Article 19 of the CRPD claims the right to be independent and included in the community, i.e. participation without isolation or segregation. Services and facilities for the general population shall be available to persons with disabilities equally. Authorities (like municipalities) shall according to Article 4:3 of the CRPD involve persons with disabilities, through their representative organisations, in decisions concerning issues related to their lives. The General comment about Active involvement describes a "universal design process" regarding accessibility requirements and planning [4], indicating a collaborative process of co-creation.

The implementation of the CRPD in Sweden has made UD a guiding principle for societal development. According to decisions from the Swedish Parliament and Government, UD shall be applied as a guiding principle for the disability policy. UD is also found in policies for standardisation, procurement, and designed living environments [5]. However, despite decades of discussion in design and architecture, UD remains to be fully implemented in urban development. According to the Swedish Institute for Human Rights, UD is a key principle but "not used by actors at the heart of the implementation of disability policy" [6].

1.1. Co-creation as one aspect of Universal Design

UD has been coupled with the participation of people with disabilities in design processes [7]. The concepts of Participatory design and co-creation are akin. Here, participation and collaboration are considered neutral while co-creation denotes collaboration with certain qualities. According to Zamenopoulos and Alexiou, co-creation originally represented a loose kind of customer participation for framing and testing ideas and prototypes while they regard co-design as a closer way of collaborating with known persons [8]. Lindberg and Nahnfeldt regard co-creation as collaboration with shared and open processes based on common exploration of problems and solutions [9]. Sanders and Stappers see co-creation as participatory design related to co-design which is collective creativity for identifying, planning, and realising change [10]. They see the need to bridge gaps between professionals and stakeholders in the fuzzy front end of processes.

At the policy-level, UD is mentioned in the global development goals of Agenda 2030. People need "universal access" to green areas and public places according to goal 11:7, and "nobody shall be left behind" [11]. Co-creation is developed further in the European Commission's New European Bauhaus programme, where complex problems are addressed through co-creation and participation at all levels, ensuring accessibility and affordability. The future environment shall be beautiful for "eyes, minds, and souls" – "a quality of experience and style beyond functionality" [12].

This paper aims to explore and elaborate on one aspect of UD dealt with in my dissertation [13]: co-creation. Besides exploring how UD is understood, especially in relation to accessibility, and how urban development, guided by UD, is implemented, the

conditions for co-creation in the collaboration between municipalities and local disability organisations were investigated. Co-creation is used to analyse one type of collaboration and how it can be developed.

2. Method

Given the need for research about the local practice of UD, qualitative research methods were employed to explore user-oriented everyday perspectives on the realisation of UD in Swedish urban development. Eight persons who were professionally engaged with UD were interviewed for an hour in 2019. 14 participants from UD projects about education, working life, and housing were gathered for two digital group sessions of two hours in 2020. Three urban development projects in three municipalities were studied from 2021 to 2022. The cities were mid-sized in the Swedish context. The projects concerned the re-design of a square, a street, and a new library adjacent to a suburban square under re-design. The policy goal of all projects was urban revitalization. They were guided by UD through procurement requirements, a collaboration between a municipality and the university, or committed officials advocating UD.

Go-along and sitting interviews in city centres involved eight persons with different social backgrounds and approaches to UD. Participant observation was made at regular meetings of municipal disability councils, and internal municipal meetings regarding procurement requirements, purchasing, and planning. Two arranged workshops designed together with co-authors, officials, and local disability organisations in 2022, involved 22 municipal officials, members and employees at disability organisations, and some entrepreneurs. In one city two change-oriented workshops were organised by the municipality and the university in collaboration. The researcher had the role of lecturer, workshop leader, and counsellor.

To confirm and discuss some upcoming interpretations, three Member check interviews were conducted during the analysis phase in 2023. Besides 55 participants in qualitative interviews and group conversations or workshops, approximately 100 additional people were affected by participant observation and change-oriented workshops. Transcribed recordings of conversations and field notes from observations were analysed with qualitative content analysis [14], yielding themes that provide an overall picture of how UD is talked about, perceived and realised.

3. Result

The participants' understanding of UD was multifaceted, expanding the Swedish official line of a guiding principle. UD was an enriching but unclear concept, described as 1) a guiding ethical principle that provides direction, challenge, inspiration, and provocation in design processes, 2) a future-oriented vision and pursuit of an inclusive society for all beyond special solutions and target group thinking, and 3) a unifying of policy perspectives, an alternative to fragmentation and "silos" of separated administrations [5].

In the group sessions, the participants emphasized flexibility, predictability, and personalized support. Their experiences and ideals of UD covered adapting environments and services flexibly to individual needs and rejecting solutions based on categorisations of impairments. They used UD tactically as one of several, partly interchangeable, terms for the inclusion of human diversity. Influencing and initiating

critical discussions were more important than battles about words [15]. This means not getting stuck in fixed definitions but letting everyone present their understanding.

UD inspired new methods but faced resistance entrenched within municipal planning practices and bureaucratic inertia. Changing municipal practice and dislodging routines of rational negotiation between interests by means of a design concept with aspects of inspiration and provocation takes time and effort. The dominant focus on regulatory details was far from the overarching vision of UD. Simultaneously, UD was coupled with accessibility as a separate and target group-oriented interest among other negotiable interests. Accessibility focused on regulatory compliance of measurable rules for certain physical objects that affect limited groups, conveying risks of neglecting needs outside this frame. This association of UD with accessibility risks dragging UD into a rationalistic and merely result-oriented planning model.

The participants recognized the need for clear and sometimes measurable accessibility rules. UD was only connected to disability despite intersectional ambitions in municipal policies. Thus, a conceptualization of accessibility and UD as complementary was developed. In this model, accessibility is place-bound and rule-oriented, indicating planning and control of compliance for existing places in the present. To not lose sight of innovative creativity, UD stands for a future-oriented, and visionary space of opportunities for change. Accessibility compliance is not the goal but the baseline. UD goes beyond rules, denoting a higher ambition and inspiring innovations.

3.1. Collaborative tension and conditions for co-creation

The word co-creation (*samskapande*) was not used spontaneously. Participant observation and workshops revealed that consultation (*samråd*) and dialogue (*dialog*) were more common. Two of the three municipalities collaborated with umbrellas of local disability organisations. All had municipal disability councils which are municipally controlled advisory boards stemming from a democracy reform in the 1970s. The collaboration regarding urban development was formal and established. Collaboration with disability organisations occurred separately from dialogues e.g. with the elderly or youth. Groups were involved as different target groups in separate tracks. A municipal workshop with disability organisations treated edge heights and tactile lines, not how to create conditions for social inclusion and relevant activities. It was an issue not getting stuck with the white cane in restaurant furniture but not how to meet people to dine with.

Two ways of collaboration – or participation styles – were discerned and developed from the rungs Consultation and Partnership at Arnstein's ladder of participation [16]. The municipal officials were demanded to quickly move forward and wanted ready-made proposals confirmed. In the midst of experiencing junctions of policies and problems of handling them at the local level, e.g. in procurement processes, they consulted personal narratives. Disability experience informed their decision-making and clarified the reasons for accessibility rules. Though these stories offered information that facilitates processes, the officials experienced ambiguity toward personal stories due to issues with interpretations of the user perspectives and the legitimacy and representativity of participants. The same reservation was expressed by the employees at disability organisations who collaborated with officials as partners in the administration of and recruitment for workshops. As partners, they wanted feedback and opportunities to negotiate tangible outcomes but doubted the conditions for influencing the process.

Different expectations on organisations' capacity, and opportunities for influence, conveyed disappointment, resignation, and mistrust. Participants with impairments and

their allies were recognized as experts – an ideal of Partnership – but when asked about the exact height of curbs they referred to what they felt was good and to overarching principles, like the importance of complying with the CRPD. The ambition of a creative process of collaboration between equals was hindered by tensions due to misunderstanding. The disability organisations were used to an oppositional role, employed in e.g. monitoring the CRPD. No community of practice in Lave and Wenger's sense was found [17]. Rather than sharing engagement and learning together, information and opinions were shared, resembling communities of interest. However, based on trust gained from earlier collaboration, conditions for co-creation existed.

4. Discussion

In the practice of UD, one finds a diversity of interpretations and expressions with adaption to current resources and conditions. Knowledge as locally developed and situated – as Pragmatism portrays it – elicits a continuous, flexible, and iterative contextualization of UD based on local needs and circumstances. Along the way, possibilities of improvement that are anchored in local contexts will be discovered. This may develop and enrich the relevance of UD as a concept for integrating diverse user experiences, beyond minimum compliance with accessibility rules.

Moreover, UD challenges conventional intersectionality – where categories are crossed but still retained – with a unifying aspect. However, disability remained a driving force and testing tool for design in the studied cases. Disability experience was valuable knowledge but categorising humans into target groups conveyed limiting consequences. Thus, restricting accessibility to an interest for just people with impairments risks omitting invisible needs outside these categories and restricts the room for manoeuvre. Involving a target group like the current residents, might confirm and solidify exclusion.

Co-creation is understood in various ways. In Hong Kong, co-creation is regarded as a knowledge exchange between organisations and professions [18]. That reveals a group-oriented idea far from Swedish assessment of individual opinions as more genuine than those of organisational representatives [19]. According to Voorberg, Bekkers, and Tummers, co-creation is mostly used about processes [20]. Hence, it has a symbolic function as a value in itself, without certainty whether citizens' needs are met. However, self-esteem and empowerment may be sufficient outcomes. Sandin argues for knowledge about other actors as a valuable outcome of participatory processes [21].

While civil society often criticises and opposes authorities in policy processes, design processes aim to accessible and usable urban spaces, using co-creation. The studied processes had familiarity with citizen dialogues, ideally an arena for exchange and discussion but in reality, troublesome and conflictive [22]. That is far from the ideal of dialogues as open for continuous revision, through contributions based on other participants' contributions. According to Bohm, dialogues do not encompass persuasion or the giving and taking of negotiations. Some needs and rights are not negotiable [23].

Co-creation occurs in processes that are constrained by a lack of time, commitment, and resources. In Barcelona, researchers, a transportation operator, and disability advocacy associations used co-creation to ensure safe journeys during COVID-19, a circumstance entailing quick response, e.g. by means of digital occupancy information. Since this was visual it was not accessible for those who may need it most. Despite improvements, the transportation services "are far from universal" [24].

Chiscano and Darcy found that digital services should be complemented with trained staff since real-time assistance makes people feel safer – even during a pandemic. That resembles my participants' stress on personal support. Also Bigby found that not everyone likes or is able to perform activities on their own. Certainly, persons with intellectual disability may need backstage support in planning, engagement monitoring, or supported decision-making and frontstage support during activities [25].

Article 19 in the CRPD, is often overlooked in creating accessible environments. It couples with UD by aiming to create communities where persons with disabilities are recognized as regular members or participants of the neighbourhood, or community of interest. Bigby mentions art, yoga, walking, swimming, gardening or cooking as activities all can perform together [25]. Yet, it is not just about adapting mainstream activities, but also to open activities originally designed for disabled people to others. That creates belonging and opportunities for social interactions across social categorisations and along similar interests.

Both articles 9 and 19 of the CRPD mention social interaction [3]. Egard [26] notes that the CRPD depicts accessibility as actor-oriented with requirements of guides, readers and interpreters. Support comes, according to Bigby, from paid staff, volunteers, peers, friends, or strangers. Her concept "community participation" [25] elicits the official goal of the studied processes: social participation in urban life. However, despite the participants' hesitancy to visit public places – thus risking social exclusion – their experiences were reduced to one-dimensional explanations based on impairment.

Generalizations based on impairments ignore intersectional aspects as well as vital differences and needs. When Chiscano and Darcy conclude that separated seats "proved to be positive for all PwD" [24], they overlook how all of us sometimes use prams or bicycles or want to mingle with friends. However, Bigby considers the idea of "firm relationships with people without disabilities and using mainstream or non-segregated places that were open to everyone" as part of the normalization ideology of the 70s [25]. Such "dogmatic certainty" is contradicted by experiences of unwelcoming places – and people. She mentions poor design of digital devices as a reason why people with intellectual disabilities prefer familiarity before mainstream.

Moreover, it is unrealistic to view, like Chiscano and Darcy do, accessibility as ensured by merely including and listening to persons with disabilities in all stages of the planning process [24]. Such ambitions were in the Swedish cases hindered by the asymmetry between the municipal organisation and small associations. When one studied municipality offered the disability organisations to assist all building inspections these must decline due to lack of time and resources. Asymmetry does, however, not explain everything. The disability organisations had an advantage of being well-established with members with long-life experience and knowledge about municipal processes. The municipal organisations suffered from reorganisations and rapid change of staff. The disability organisations noted that such conditions caused a lack of long-term learning. Projects were treated as linear and separated, inhibiting development of knowledge and promoting UD ambitions just in singular symbolic places, like squares.

Conclusion

Though UD is understood in various ways, its conceptual core centres on radical inclusion for all people and situations. This paper has approached UD as a collaborative process and promoter of creative processes and an inspiration for innovation that goes

beyond group interests and regulatory compliance. It has related UD to co-creation as a vision of equal, creative, and innovative collaboration.

Since UD transcends conventional categorisations, the dialogue with and among users should involve a diverse participation. Promoting social cohesion and community participation involves citizens with disabilities in their surrounding urban environment not just for being present in public places or going there e.g. with a paid companion. More than visitors in the urban space they should be regarded as citizens, users of the city, or members of an urban community with desires to engage in activities and social interactions. This means that the experiences of disabled people should not be regarded as bound to specific impairments. Their user stories should not be categorised according to impairments. Disability experiences should be seen as experiences of use, context, and everyday life – recognised as a resource and knowledge among other experiences in urban development.

Such intersectional collaboration involves different groups and perspectives in cross-boundary processes, not in separate tracks. It benefits from different roles, desires, and ways of experiencing and handling the environment. In these processes, everyone contributes equally with suggestions. Contrary to negotiation, co-creation necessitates equal participation and responsibilities, not oppositional commenting on ready-made proposals or delivering experiences as information. Long-term and sustainable knowledge development includes integrating disability experiences into knowledge production of current and future processes. This kind of collaboration requires a common knowledge core without dissolving roles of leader, user, etc., in order to not lose essential specialist knowledge.

Responsibility for mutual learning and benefits must lie with both authorities, and civil society. Officials have a formal responsibility to plan according to measurable rules but also to interpret laws in relation to local circumstances. Their moral responsibility encompasses situational judgment concerning visions for opportunities and images of future places coordinated and mediated with users' experiences. Interpretations and practice of rules must be anchored and applied in local contexts and situations, otherwise the next step will not be taken. According to this view, each process should involve more people and situations than the former, expanding the realm of participation. These co-creative processes require clarity regarding roles, conditions, purposes, resources, and expected roles. Instructions should not be too detailed and goals tentative, so emerging interests can reveal new possibilities.

Disability organisations may promote social innovation by offering invaluable experiences. However, a future challenge is the recruitment of users from diminishing civil society organisations. Further, user participants must be prepared and develop basic knowledge and ability to envision future places, and skills in interpreting images and models. Creative design processes require the training of imagination, visualization, and communicating images and visions. Workshops may use surprise, disruptiveness, and provocation to promote a break from ingrained patterns. Reflection on personal support and interaction is needed, letting the usage inform the creation phase.

This paper encourages urban designers, planners, architects, civil society activists, and ordinary users, to re-imagine human rights at the local level, linking them to sustainable urban development and promotion of equality. As an ethical principle and vision, UD is an inspiring ideal and challenge, never reached or completely fulfilled, but nevertheless encompassing a forward-looking space of possibilities.

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