Practical wisdom for accessible cities
Creative tensions in Universal Design processes for Swedish urban development

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Abstract: This paper explores knowledge creation in Universal Design (UD) processes that aim to make cities accessible to all. It contributes insights into the practice of urban development in Sweden which, in accordance with the UN Convention on the Rights of Persons with Disabilities, shall utilize UD. Workshops and qualitative interviews were conducted in three mid-sized cities re-designing a city square, a street and the building of a new library. Drawing on Aristotle's typology of knowledge, the analysis shows that different kinds of knowledge were in play in local collaboration. UD was akin to phronesis, i.e. practical wisdom. A number of factors contributed to tensions: organizational asymmetries, divisions between professional and experiential expertise, the perception that accessibility is a limited interest for a specific target group, as well as uncertainties about user legitimacy. To overcome these tensions, the article proposes that disability organizations should be seen as contributors rather than commentators.

1. Introduction

By implementing the UN Convention on the Rights of Persons with Disabilities (CRPD) (UN, 2006), Universal Design (UD) has in recent years been introduced in Swedish policies on disability, design and architecture, public procurement, and standardization (Erdtman, Rassmus-Gröhn, & Hedvall, 2021). Design of 'programmes and services' has in UN (2006) been added to the original definition of UD, which included the 'design of products and environments to be usable by all people, to the greatest extent possible' (Story, Mueller, & Mace, 1998). Hedvall, Ståhl, & Iwarsson (2022) bring together the concepts of *accessibility* as measurable and based on standards, *usability* as purposefulness, efficiency and satisfaction, and *UD* as equality, non-stigmatization and intersectionality. Accessibility draws boundaries between different groups while UD is inclusive. Steinfeld and Maisel (2012, s. xi) define UD as 'a process that enables and empowers a diverse population'. From the start, UD pedagogy has included consultation with users to integrate the disability experience in design (Welch, 1995).

In the Nordic countries, UD and accessibility are used differently (Tunström, M., & Löfving, L., 2020). In Norway, UD was enshrined in legislation even before the CRPD was adopted. From Norway, Lid (2013) views UD as a strategy for societal recognition of human diversity, implying knowledge development based on disability experiences. In Sweden, UD was perceived as little

known and controversial in 2016, while accessibility was the 'key parameter' (Andersson, 2016, s. 26). According to the Swedish Planning and Building Act, it is in the public interest to promote environments that are accessible, usable and good for all people (Anderssson, 2022). However, laws and agreements are no guarantee for compliance. Egard et al. (2022) noted an ongoing resistance toward 'accessibility' measures. Individual experiences of 'promises' of policies like the CRPD collide with the reality of everyday life, leading in turn to frustration and disillusionment. Spatial exclusion, described by Kitchin (1998), generates fear, anger, stress, and anxiety (Bonehill, von Benzon, & Shaw, 2020). Accordingly, shared spaces without kerbs increase the danger for some groups, according to Lawson, Eskytė, Orchard, Houtzager, and Vos (2022). Koch (2022) found in one Swedish city, differences in the experiences of shopping malls. They were related to the impairments but also to feelings of freedom or confinement. This aptly illustrates the difference between impairments as bodily conditions and disability as a social experience of exclusion, articulated as the 'social model of disability' (Bruce, 2014).

National UD policies are followed by municipal ones, e.g., in local manuals for urban design. This paper connects such policy ideals with the everyday practice of UD. Exploring the collaboration between municipal administrations and disability federations contributes to knowledge about citizen participation and the contextualization of UD. By analysing workshops about UD in Swedish cities, this paper aims to bring new insights into how knowledge is created in urban development processes and thereby contribute to the improvement of UD practice.

Research questions:

1. What kinds of knowledge can be distinguished in the practice of UD in urban development and how do they relate to each other?
2. In terms of knowledge creation, what tensions can be identified in the collaboration process between municipalities and local disability organizations?

1.1. Municipal responsibilities and participation in urban development

In Sweden, the legal responsibility for land-use planning and urban development lies at the municipal level (Larsson, 2010). Municipalities shall control compliance with accessibility regulations, and at times hire certified accessibility experts for inspection. According to Müller, Ericsson, and Hedvall (2022), UD is sometimes mentioned in comprehensive plans as an overarching ambition, but is not seen as a practical tool in planning and construction. They argue for clear public procurement requirements for guaranteeing basic accessibility. Stakeholders and citizens must be consulted on larger building projects (Larsson, 2010). Besides this compulsory participation process, the Swedish Association of Local Authorities and Regions (2023) urges municipalities to arrange informal dialogues with its citizens. Hellquist and Westin (2019) found that rather than mobilizing or strengthening specific groups or equalizing power, consensus was the goal of these dialogues. As Sandin (2022) notes, dialogues are generally initiated, controlled, and supervised by municipalities, though done in reality through hired design companies.

Since the 1970s, municipalities have advisory disability councils with political leadership. Additionally, civil society associations of and for persons with specific impairments, their families and/or allies have local organisations at regional and municipal levels in federations (Hugemark & Roman, 2007), referred to in this paper as local disability federations (LDFs). According to UN (2018), authorities must actively involve advocacy organizations of disabled people in issues concerning them. Besides strictly legal reasons for involving disabled people in urban design, there are also quality-related reasons. Heylighen and Herssens (2014) found for example, that blind people notice variables that visually biased design professionals miss. Speaking from the

discipline of product design, Westerlund (2009, p. 11) found that participants with bodies outside the norm contributed 'crucial experience that we designers lacked'. In such design processes, disabled participants contribute with personal experience and do not speak for, or on behalf of an organization or group. However, such participation is often seen as 'an afterthought rather than as an integral element' in urban design and building processes (Imrie & Hall, 2001, p. 345).

1.2. Knowledge creation in endeavours for UD

According to one of the early pragmatists, Dewey (1997), knowledge is created in activities through experience, that is the result of adaptation to the environment. When habits are broken by problem-solving, re-orientation is necessary. Design scholars like Sanders & Stappers (2008, p. 6) talk about co-creation as acts of 'collective creativity', and define co-design as collective creativity in design processes, including 'people not trained in design'. More common than collaboration – and more so co-creation – is the model of negotiation. Campbell (2013) describes societal conflicts surrounding resources, property, and development in terms of interests between economy, environment, equity, and justice. For Larsson (2010), actors with different objectives play the game of negotiation with officials as mediators. However, the interests of the actors are not fixed but instead interwoven and evoked by changes in the process, like when construction is obvious and tangible.

Based on a relational understanding of planning, De Blust, Van den Broeck, Devos, & Moulaert (2022) analysed planning studios where teachers, students and stakeholders develop a culture of discussion, negotiation and reflection, thus co-constructing a dynamic process of collective critical inquiry. In this paper, collaborative knowledge creation will be examined through a contemporary reading of Aristotle. Bornemark (2017) characterizes Aristotle's three kinds of knowledge as: *episteme*: theoretical, rational, facts, measurable and secure descriptions, *techne:* productive know-how, embodied, professional, creative, goal-oriented, and *phronesis:* practical, political-ethical wisdom, sound judgements related to action(praxis) in local situations. Flyvbjerg (2004) includes power in his concept of phronesis. It balances analytical episteme and the instrumental rationality of techne with a reflexive discussion and practice of virtuous social and political judgement concerning consequences for different groups. According to Briassoulis (2023), phronesis is relational and situational, dealing with the 'particulars of a case'.

2. Method

To explore different kinds of knowledge, collaboration and tensions in the local practice of UD in Sweden, two workshops were arranged, one for two hours and one for approximately ten hours. Three, 45-minute member-check interviews were conducted during the analysis phase. All sessions were recorded and transcribed verbatim by the first author.

2.1. Workshops in three municipalities

Workshops were held from March to September 2022 in cities, designated mun.X, mun.Y, and mun.Z. The workshops dealt with roles, interests, policy and innovation. They were led by the authors but designed in collaboration with staff at LDFs and municipalities. The overarching goals were mutual learning and the exchange of experiences for the purpose of furthering a change towards UD-oriented urban development. The workshops in mun.X (held in a municipal conference room) and mun.Y (held in an open conference area at the LDFs' office) took two hours and focused on the collaboration between municipalities and LDFs. The two-day workshop in

mun.Z (in conference centres accessed by the municipality) was part of a collaborative project between the municipality and academia concerning equality related to UD.

All workshops started with presentations of ongoing projects by officials, subcontractors, and LDFs. The first author led the following discussion, ensuring that prepared questions about practice and dilemmas of UD, collaboration, and knowledge creation between municipalities and civil society were covered. By using the word 'workshop', an openness was indicated concerning what the participants wanted to discuss. In mun.X and mun.Y, the second author facilitated by catalysing, enabling and motivating (Storvang, Clarke, & Mortensen, 2014). The combined half-day and a full day workshop in mun.Z, and the non-existence of a municipal LDF there, made the focus more general. At the half-day meeting, the researchers introduced UD and six groups were formed to discuss internally and with a researcher, how ongoing urban design processes concerning schools, parks, sports arenas, etc. contribute to equality. At the full day meeting, the groups presented their results followed by questions, reflections, and advice for future projects.

2.2. The studied municipalities and projects

The approximate numbers of inhabitants, not including surrounding areas, are 200.000 for mun.X, 100.000 for mun.Y and 50.000 for mun.Z. All three cities had medieval origins and all were the administrative centres for their respective regions. The term 'municipality' refers to the local level of public administration in Sweden. Private companies hired after public procurement to carry out municipal assignments are also referred to as the municipality, e.g., in mun.X the people users met were from the architectural company hired to design a city square. In mun.X and mun.Y, there were active LDFs on both the municipal and regional levels. The three municipalities all had disability councils that mainly dealt with overarching questions and invited local officials to speak about ongoing projects. Studied projects:

- Mun.X: Redesign of a central square to make it safer and socially vibrant. According to the public procurement requirements, persons with impairments – referred to as accessibility experts – should contribute with ideas through workshops at the site of the square.

- Mun.Y: Building of new library at a suburban square under redesign. The library is located in a multi-functional building. Initially, politicians proposed no library in this suburb. The workshop presentation focused on procurement requirements for the library furniture.

- Mun.Z: Redesign of a central street aiming to vibrant city life and commerce in the historic city centre which must compete with new suburban malls. This street was one of six ongoing processes discussed at the full day workshop. This group's meetings were documented.

2.3. Selection of workshop participants

The selection of participants for mun.X and mun.Y was strategic, meaning invitations were discussed with the co-organizers to cover a diversity of professions and organizations. Officials and LDFs used their networks to send open or personal invitations, thus selecting those who would be interested by the invitation. All who showed interest were welcomed: eight persons in mun.X and 14 in mun.Y. Out of a total of 22 people, eight came from LDFs, four members and four employees. Two of the employees reported impairments, two did not. Most of the participants in mun.Z were municipal employees. The municipality selected 50 for the half-day meeting and 53 for the full day meeting. For all the workshops, the participating employees came from various units in the municipality. They were strategists, architects, librarians, etc. Table 1

depicts the knowledge areas according to Carayannis & Campbell's (2009) Quadruple Helix division of GOV (authorities), CIV (civil society), IND (business, i.e., architects) and UNI (academia).

Table 1. Participants according to municipality, their knowledge area and sex

W.shops	Time	CIV	GOV	IND	UNI	Total F + M
Mun.X	2 h	3	2	1	2	8 (5 +3)
Mun.Y	2 h	5	7	2	-	14 (10 + 4)
Mun.Z	≈ 10 h	1	≈ 40	≈ 10	6	≈ 60
M.check	45 min	2	1	-	-	3 (1 + 2)
Total	≈ 15 h	11 (≈ 10%)	≈ 60 (≈ 60%)	≈ 15 (≈ 20%)	8 (≈ 10%)	≈ 85

Abbreviations: W.shops=workshops, mun.X, Y and Z=municipalities, M.check=member check, F=female, M=male, h=hour, min=minutes. Some numbers are approximate, signed with an ≈.

2.4. Analysis and member check

The entire material was analysed using qualitative content analysis (Graneheim & Lundman, 2004). Coding, categorization, and conceptualizing were done in the analysis program NVivo, resulting in a division of categories under types of knowledge and structural, categorical, and interpretational tensions. All citations were transcribed from Swedish to English by the first author. In order not to reveal the identity of the participating municipalities, the analysed public procurements documents and workshop report are not referred to explicitly. During the analysis phase, one person in each municipality was interviewed for 45 minutes in public buildings and in a private residence. This 'member check' aimed to follow up preliminary results and strengthen validity. To achive this, respondents were selected among those who had been involved in the processes but had not had a leading role. One was a municipal employee, one a member of a disability council and one a user participant from the city square process. The term 'member checking' stems from Lincoln and Guba, describing a feedback tool for confirming or dismissing interpretations of data (Motulsky, 2021). The method guarantees that validity is adequate and trustworthy. It improves the shared understanding among researchers and participants, and 'diminish[es] epistemic injustice' (Caretta & Pérez, 2019, s. 370) – a term for excluding knowledge from certain groups from the collective epistemic resources (Scully, 2018).

2.5. Note on workshop style

For Hanington and Martin (2019), design workshops aim at ideation and understanding other people's worlds by using personas, scenarios, or objects. However, no participants brought objects or made other kinds of presentations than PowerPoint talks, despite such initiatives being encouraged. Though being mostly verbal sessions, the workshops resembled design ethnography, where the researcher acts as a 'change agent' (Hanington & Martin, 2019). Gunn, Otto, and Smith (2013) argue that researchers should take an active role as contributors to the empowerment of marginalized groups, supporting their dreams and aspirations but also contributing to local change processes. The workshops in mun.X and mun.Y methodologically resemble focus groups, particularly through the second author's assisting role.

3. Results

Based on reflective workshops and official documents, this chapter presents identified kinds of knowledge, following Aristotle's divisions. Tensions of a structural, categorical, and interpretational nature were identified concerning knowledge creation in the collaboration between municipalities and disability organizations.

3.1. Types of knowledge in UD practice

Three kinds of knowledge – episteme, techne and phronesis – were identified, although not clearly distinguishable. Fact-based knowledge about the content in laws and local manuals resembles *episteme*. It was used as corrections regarding measurable rules for contrasting colours, heights, and widths of kerbs. Officials referred to the law as their overarching framework and a guiding force amid disparate directives, helping them to solve conflicts and ensure suitable performance. Rules – here an overarching term for regulations and requirements – were expected to clarify that which was discretional. One official, working with art, wanted accessibility guidelines 'so that the art will not be … wrong somewhere'. When a librarian mentioned using colours for distinguishing different parts of the library, others asked for such guidelines.

Internalizing guidelines in professional routines for planning and performance, resembles *techne*. LDFs and some officials regarded accessibility as an overarching label for their work, internalizing, defending, and monitoring this interest. Further, officials described their job as interpreting political decisions and balancing interests. They judged formal and informal, existing and assumed future rules in local situations related to imagined future places. This ethical endeavour resembles *phronesis*. Part of this was making exceptions and adaptations – e.g. steps on inclines, compensated with handrails and contrasts as far as possible. Deviances from rules were documented for the purpose of being able to respond to potential critique. Related to phronesis was personal knowledge such as disability experience, embodied by encountering exclusion and hindrances but also deviating positively from the societal norm. These experiences yielded valuable knowledge for understanding others and understanding the reasons for existing rules.

3.2. Collaboration and knowledge creation

The studied processes all aimed at urban revitalization. They were described as pilot projects for testing new work methods to learn from for future projects. Municipalities and local disability organizations collaborated in public procurement requirements and project planning, thus developing personal contacts. Municipalities consulted disability organizations who answered questions and reacted to municipal proposals. Both sought to facilitate compliance with rules. Officials and LDF employees organized activities like outdoor workshops with persons with impairments, in order to collect and integrate disability experience in development processes. Officials viewed personal narratives about disability as the source of valuable knowledge, helping them understand the reasons behind accessibility requirements– 'understand in practice', as one official said. She recommended this for practitioners as a way to avoid building errors. The subcontractor in mun.X voices a similar opinion when referring to the city square workshop:

> 'We thought it was very good that you get understanding, because you have
> different perspectives, and sometimes they are at odds with each other. …
> It's great to meet and we learned a lot in the project group. We can't have
> that detailed knowledge. We relate a lot to legal requirements and technical
> manuals, but you get another understanding when you hear someone talk.'

The contradicting perspectives that are mentioned by officials were between participants with visual and mobility related disabilities – a dispute denied as a misunderstanding by the LDFs. Another disagreement was about movable furniture at the square. The LDFs argued that the official goals of vibrant city life (expressed in policy texts) made the environment unpredictable for, e.g., persons with autism or visual impairments, for whom a crowded square might induce anxiety rather than safety. Accessibility as a clear interest did – for some – guarantee that the needs of persons with impairments were taken into consideration. An architect in mun.Y argued for highlighting accessibility through certain features as a way for a neglected group to claim space. For her, a tactile line surrounded by lighting art was an example:

> *'I thought it was nice that it lights up this tactile line – that it actually lights up this accessibility path and that it takes up space in the room. I thought that was a good thing. Otherwise, it's something that you might think should be shovelled away or something, that it shouldn't be so visible, but that it is allowed to stand out I thought was nice.'*

Some participants with impairments argued against visible features since they often signalled subsequent add-ons or highlighted that it was done for a specific group. They preferred integrated and thus unnoticeable and invisible design as a natural part of the place.

The general mood of collaborations was cordial. One of the accessibility experts in mun.X felt 'surprisingly involved' compared to earlier processes. The municipality had listened to their desire for fixed activity areas. The project leader agreed they had changed the original plan after hearing the accessibility experts talking about furniture, sound milieu and water in the square. In mun.Y, the president of the municipal LDF praised the municipality for listening to their organization and in most cases doing as the LDF suggested. Many of the officials were familiar with the LDFs' office where the workshop was held. The LDF gave courses for municipal units and architectural companies about building regulations. The library staff lobbied for UD as a procurement requirement and then collaborated with the LDF in educating the winning design company. They proudly told how they succeeded in getting a better ramp, underground heating, entrance lighting and mirrors lower than the procured standard. However, they had entered process at a late stage and the library had to pay for these changes to the original plans. Mun.Z had no LDF, but a politician argued before the officials to involve the local disability associations (without an umbrella organization) since 'they are the ones with the knowledge and competence'.

3.3. Tensions in the knowledge creation

Three types of tensions were identified: structural, categorical, and interpretational.

3.3.1. Structural tensions

a) Organizational asymmetry: Resources and professional skills differed between the municipal authority and the non-profit associations in the LDFs. There were mundane hurdles such as meeting hours. Daytime meetings suit professionals but excludes most citizens with jobs. Officials saw involving citizens as an appealing idea, yet an overwhelming task. Receiving many proposals was confusing. Further, citizen participation was only realistic in a few cases. The officials sometimes had an unrealistic image of the capacity of the LDFs. In mun.Z the disability council was invited to present ideas about the street but then were only able to present them late in the process. Five student projects about this project were not integrated into the process in the way the disability council had assumed.

b) Consultation: Despite attempts at renewal – calling participants experts in mun.X, etc. – the municipalities invited the LDFs to answer questions and react to municipal proposals. The officials primarily wanted these supported and confirmed. These roles of consulter and consulted were not communicated to the LDFs and caused mistrust since the LDFs wanted to be involved earlier in the process and negotiate results by convincing or making officials work for their interests. They took an oppositional role and talked tactically about using their given time effectively and checking that their opinions were logged. However, the LDFs accepted being consulted in order to ensure a basic level of accessibility. Referring to the official goals of the project, one user expert commented that without being able to access the square, you cannot talk about feeling safe at a vibrant meeting point.

c) Professional/user divide: The professionals' rational planning perspective of complying with rules and measurable features, interplayed with the everyday experience of users. For instance, Mun.X wanted confirmation about the heights of kerbs in centimetres, while user experts felt that their feelings of safety at the square were related to how much bus drivers paid attention to pedestrians. Another user said that he feels what is a good kerb with his white cane but leaves the question of centimetres to the professionals. He criticized architects for propagating tactile lines without good function with current cane techniques. He follows facades or kerbs and stated that his ability to follow tactile lines depends on the situation and context – e.g., they are difficult to use if you are in a hurry, or if there is paving stone around, and impossible to use if there is snow or gravel. Such experiences were sometimes diminished, neglected, overlooked or dismissed as anecdotal, irrelevant, or 'details'.

d) Public procurement rules: Officials felt hogtied by procurement rules, hindering them from getting and requiring what they want. The library in mun.Y could not get local materials and had a hard time influencing procurement requirements to get the furniture they wanted. Finally, they educated the winning design company which made the choice. The collaboration resulted in an innovative lighting system for the shelves, but the librarian says this effort is only worth it if the knowledge is used elsewhere. Public procurement seemed to hinder knowledge from being shared freely and limited the process to existing products. 'You can think freely but if there are no products in the market, you can't create what you thought', added an official in mun.Y.

e) Resistance to rules: Some officials joined the LDFs in describing themselves as bothersome and nagging in the struggle against resistance to accessibility rules. Together, they made fun of the ignorance about regulations and some companies' lack of imagination, e.g., only communicating with pavement signs. However, when officials during the workshop in mun.Y mentioned an ongoing revision of a local prohibition on pavement signs, the LDFs were taken by surprise. Mun.Z had made similar attempts but according to one official, flowerpots and signs were back in the street the day after the police had removed them. They had dialogues for years but 'some are very stubborn'. If rules are not complied with, they are suspended.

f) Lacking learning structures: Learning within the municipality was hindered by frequent circulation of staff and reorganizations. Members of LDFs and councils were more permanent. They lacked a municipal structure for lodging and developing the knowledge between projects. They repeated the same standpoints about hearing loops, car parks, and kerbs in every project. With bitter pride, they told how they argued for a higher fence in a conference centre in mun.X, but that this was installed only after an accident. On an individual level, one could see one's proposals correctly documented but then overlooked.

3.3.2. Categorical tensions

Accessibility was an overarching label for the square workshop and the task of the experts in mun.X. Accessibility was understood as being limited to features for solving the needs of persons with impairments, e.g., even surfaces or tactile and visible paving, height and width of kerbs, car parks, and large toilets. There was a bias towards pedestrians, including wheelchair users. Outside this topic, comments were ignored. Proposals about roads, public art or air quality did not belong to accessibility. Proposals about furniture and sound milieu were in a grey zone.

How accessibility was interpreted in mun.X was indicated by the division of the municipal report from the square workshop, with subtitles like kerbs or tactile lines. When the project leader recalls the workshop at the square, she summarizes the themes as 'details'. When orientation was discussed, it was about finding one's way through the square, avoiding obstacles like outdoor seating furniture or flowerpots – described as 'delimitations' or 'equipment and objects on the square' in the municipal report. Categorizing accessibility as a minority interest made it a soft issue. An official in mun.Z compared accessibility with emergency vehicles:

> *'The emergency services are within the hard box that is easier to tick off, as one has always done, perhaps historically because that has to be solved, as it always has been. But now you have to work more, with accessibility for the mobility and visually impaired.'*

Despite originating in the 1960s, accessibility legislation was seen as weak compared to interests like safety, art and cultural heritage. However, interests were unclear and intersected. The combined tactile-line and artwork was – with laughter – called both art and an 'accessibility thing', as in the quotation above. Another artwork consisting of a metal trim on a building floor was not intended as orientation help, but was understood as accessibility. In a street in mun.Z, different design intentions contradicted each other. Different paving was meant to mark cultural heritage but gave the impression of separated traffic, in conflict with the design goal of pedestrian streets.

3.3.3. Interpretational tensions

Beyond positive attitudes to collaborating to gather disability experience, there were uncertainties about how to judge personal narratives in relation to rules and future places. Officials felt disturbed by remarks on non-compliance with rules. They wanted to listen to disability experiences to gain understanding but were concerned about the composition of users and their representativity. In mun.Z, where there was no LDF, miscommunication was even more notable. By calling participants 'experts', mun.X wanted to widen the disability scope and focus on personal experience rather than organizational standpoints. In the municipal report, experts were identified as 'representatives' for their impairments. For example, blind and vision-impaired people were treated in separate chapters despite belonging to the same association. However, in the end, all experts were presidents of local associations.

Officials were uncertain about interpreting stories about personal experience. They wondered about the general relevance and applicability of the process. The subcontractor in mun.X explains:

> *'What we can perhaps see as the disadvantage of this way of working: being on site with a somewhat small group – is that it depends a lot on the people involved. After all, it is your personal opinion that you are expressing. And it can then vary, we think, from project to project depending on who is involved ... There is still a risk that we interpret something wrong ... You don't know if it's personal opinions ... It's hard to know whose voice you're hearing.'*

LDF employees without impairment did not count as experts and were first not invited to the square workshop. In the reflective workshop, they joined the municipal officials in doubting legitimacy. As recruiters, they were concerned with selecting and balancing a broad diversity. They knew the difficulties of convincing people and the risk of involving the same ones as usual. Then they might become 'torn apart' and 'bitter'. They were also concerned about their legitimacy within their associations – 'what role they have in their association'. However, they saw their task as mediators, conveying and interpreting stories, ensuring that no group dominated and that representatives followed the line of the LDFs, and didn't act as representatives only for themselves. They offered to judge what were personal anecdotes, small talk, or experiences of general relevance.

4. Discussion

Even if UD encompasses more than disability, it is still closely associated with it. UD was only utilised in collaboration with disability organizations in relation to 'accessibility'. The use of UD was always related to measurable facts and rational planning. Accessibility came in at the end of the process and dealt with particular features. As just one interest among other interests, accessibility became 'soft' in comparison to, for instance, security or access for emergency traffic. The fact that UD in practice seldom reaches farther than disability is confirmed by, e.g., Lid (2012), who found that only disability organizations were invited to a UD project for urban development in Oslo. The project claimed that 'UD is good for everyone' but the concern in practice was how to prioritize between different groups (Lid, 2012, s. 199).

4.1. Connected rules in reflecting judgements

The workshops revealed collaboration between municipalities and LDFs as a friendly tug-of-war with a mix of seriousness, humour and familiarity. This may be due to the size of towns. There was no citizen control in Arnstein's (1969) sense of the term, or communities of practice as described by Lave and Wenger (1991), but rather, what they call communities of interest – with an exchange of information, questions, and opinions. Officials felt quite sure in their professional role of balancing interests and applying rules situationally. However, they expressed uncertainty regarding the legitimacy of stakeholders as representatives, experts, or individuals, in this case judging the relevance of disability experience in relation to rules and proposals of future design. Hence, personal experiences were reduced to 'details'.

Aristotle's phronesis as judgement is valid here. Inference of facts shall, according to Dewey (1997), lead to ethical judgements prior to decisions being made. Bornemark (2017) depicts how theoretical knowledge about laws and regulations must be connected to reflecting judgements, made in complex and uncertain situations. Since phronesis is situational and context-bound, it cannot be transferred through texts and manuals. Learning how to apply rules and how to treat people in certain situations is achieved through participation. According to Bornemark (2017), city planning is dominated by episteme and technical expertise. Phronesis is the least-used type of knowledge. What cannot be measured rationally or evaluated quantitatively is seen as 'soft'. Phronesis is, according to Bornemark (2017), a reflection of presence and listening. This is a perspective that may help assess the legitimacy of participants' contributions. UD is according to Welch (1995), a pedagogical endeavour for explaining the reasons behind accessibility requirements and why minimum compliance is not sufficient.

4.2. Different kinds of expertise

Referring to user participants as 'experts' in mun.X challenged the power balance but did not change established routines of formal accessibility work. Ostroff (1997) opts for 'user/expert' for people with 'natural experience in dealing with the challenges of our built environment', having 'developed strategies for coping with the barriers and hazards they encounter every day'. Direct interaction with potential users during the design process is a natural resource that gives designers 'expanded insights' and helps them to frame design problems in new ways. However, planning is regarded as objective–neutral, technical–rational and impersonal–numerical. The 'scientization of society' connects expertise to a closed and self-reliant professionalization (Yanow, 2009). Such an 'expertocracy' denies the agency of others. However, genuine science is based on doubt rather than certainty and conviction. Yanow proposes cultivating a passionate humility that values different ways of thinking, being open to alternatives and seeing when one's own expertise is limited or inapplicable.

Bertolini, Laws, & Higgins (2010) affirm the relevance of Schön's 'reflection-in-action'. Schön's idea about engaging in conversation with the situations, is still valid. Processes have become even more complex, uncertain and unstable. However, there are tensions between open, continuous inquiry and routines and institutions demanding products that are accepted by stakeholders. To develop professional practice, Bornemark (2016) urges officials to not see themselves as representatives for the municipality but as thinking, feeling, and reflective citizens who, together with others, have different opinions but common concerns. Dialogues based on phronesis are creative arenas for exploring and developing goals and values. Bornemark refers to Davidoff (1965) who in the 1960s urged planners to implement 'plural planning', not regarding themselves as value-neutral technicians, but affirming values and engaging in political processes as advocates for minorities. Competition and debate among proposals would improve quality. Davidoff wanted architects to work for civil society organizations to match the municipal offices. However, still today, the dominant model is one governmental plan and one proposal that planners advocate and stakeholders reject or approve.

4.3. Different roles in collaboration

For De Blust, Van den Broeck, Devos, & Moulaert (2022) planning is a socio-pedagogical project and collaboration reinforces and mobilises vulnerable and marginalised groups in new roles. Their 'socio-environmental justice' is not based on representation, meeting needs or universal principles but rather on situated moral inquiries. Collective interaction between practitioners' experiences stimulated a learning environment with flexible and critical responses in specific moments and places with changing conditions. However, the studied cases indicate that bringing personal stories of exclusion and oppression into the public realm requires training. Further, focus on disability experience instead of organizational standpoints risks generalizing needs and activities that are associated with certain specific impairments. Using accessibility as a minority interest for guaranteeing usability and for highlighting signs for claiming space, may backfire. If accessibility is limited to particular features related to persons with impairments, this 'interest' risks down-prioritization.

Limiting the application of UD to specific groups and interests may hamper the intersection of discrimination perspectives and innovation for comprehensive human diversity. Instead of seeing particular features as minority problems, Boys (2014) recommends general discussion about how, for instance, the use of contrast and handrails serve all and why, for example, stairs are used as 'visual contemplation' (p. 179). Furthermore, impairment-bound design excludes the needs of

other groups or persons outside or between the examined categories. Regarding users simply as orientation objects obscures their user needs for, e.g., social life. Not focusing on impairment may give a better picture of what it is like to spend time in the city, getting there and back and combining different activities, regardless of impairment. Sometimes users' personalities, wishes, and desires might be better served by decisions other than those concerning more tactile lines or other features. Feeling welcomed, comfortable and being a part of the community with others, relaxing and meeting people as you want, is not connected to one's impairment.

5. Conclusions

This paper has revealed different kinds of knowledge practiced in urban development collaboration. Impersonal measurements and rational professional knowledge about accessibility as rational, resemble episteme and techne. Phronesis is akin to UD, which brings understanding and direction to accessibility requirements and potential design. However, in actual practice, UD was associated with a narrow understanding of accessibility as features for a minority, conveying a limited scope of manoeuvring. Such an interest became weak in the negotiation process and risked losing priority or being added late in the process. Enforcement is not a priority for soft interests. Hence, interests higher up the hierarchy, such as security or sustainability, could be tried, i.e., for even surfaces, contrasts, or tactile orientation.

Disability experience was the driver of knowledge and the matter of collaboration. However, much can be done to highlight the innovative strategies developed by disabled people and to connect disability experience to other experiences. Intersectional collaborations between the different legal grounds for discrimination, rather than collaborations with separate target groups, may better reflect users' experiences. Here, techne and phronesis may help interpret and assess disability experiences in relation to rules and the design of future places.

Since regulation and standards do not explain exactly how to deal with complex and unpredictable situations, design decisions should be done with phronesis, i.e., context-sensitive and ethically wise judgements based on empathy and flexibility. Applied phronesis means balancing professional and experiential expertise as well as engaging in reflection with mutual respect. That can include collaboration on local guidelines and interpretation and integration of requirements in processes that are seen as a common endeavour. This does not mean dissolving the user role but rather regarding people experiencing disability as contributors to design processes. While consultation that implies expected responses to municipal proposals, can result in a sense of feeling ignored, a co-creative collaboration can give members of disability organizations (many of them with valuable life experience) a crucial role in the design process. Participants should not merely be seen as subordinate contributors, reacting to municipal proposals with approvals or rejections, but rather as legitimate contributors to a common foundation of knowledge for the creative process.

Although they entered dialogues with different knowledge perspectives, parties strived to understand and learn from each other, thus shaping conditions for local knowledge based on trust. There were ambitions to integrate disability experience in the processes but uncertainty about how to do it. Beyond jovial descriptions of collaboration, tensions existed regarding organizational asymmetry, consultation, the professional/user divide, procurement rules, resistance, inadequate learning structures, accessibility as a minority interest of particular features and legitimacy. Co-creation remained a discussed ideal. Structural tensions like organizational asymmetry yield risks of 'effective' but symbolic participation processes, or processes that are only employed in prestigious cases, like centrally located sites.

Participants' motivation for shared and used knowledge, implies a need for a long-term user perspective with 'solutions' and projects in a weave of multiple processes. In such contextualised and situated learning processes, parties contribute to the co-creation of knowledge. Here, tensions offer a base for an epistemological strategy for collaboration concerning situated and practically wise judgments. However, the roles and opportunities to influence must be discussed and clarified in every project. Reflection is needed on 1) expectations and characteristics of roles, 2) selection and interpretation of user experiences, 3) communicative skills and internal tensions of the disability organizations, and 4) the beneficial potential of ambiguities and tensions. Further research may clarify how to diminish the risk that procurement rules restrain the creative process by only promoting existing solutions.

6. Ethical declaration

According to formal advice from the Swedish Ethical Review Authority, ethical approval was not required for this study. The authors declare no conflict of interest.

7. Bibliography

Andersson, J. E. (2016). Improved Swedish accessibility hindered by a housing imbroglio. Nordic Journal of Architectural Research, 28(2), 9-32. https://arkitekturforskning.net/na/article/download/841/784.

Anderssson, J. E. (2022). Using building requirements as a means to create inclusion: Accessibility and usability at a crossroads. In H. Egard, K. Hansson, & D. Wästerfors, Accessibility Denied: Understanding Inaccessibility and Everyday Resistance to Inclusion for Persons with Disabilities (pp. 186-209). Taylor & Francis. https://www.taylorfrancis.com/chapters/oa-edit/10.4324/9781003120452-12/using-building-requirements-means-create-inclusion-jonas-andersson.

Arnstein, S. R. (1969). A Ladder Of Citizen Participation. Journal of the American Institute of Planners, 35(4), 216–224. https://doi.org/10.1080/01944366908977225.

Bertolini, L., Laws, D., & Higgins, M. (2010). Reflection-in-action, still engaging the professional? Planning Theory & Practice, 11(4), 597–619. https://doi.org/10.1080/14649357.2010.525370.

Bonehill, J., von Benzon, N., & Shaw, J. (2020). 'The shops were only made for people who could walk': Impairment, barriers and autonomy in the mobility of adults with Cerebral Palsy in urban England. Mobilities, 15(3), 341–361. https://doi.org/10.1080/17450101.2020.1746057.

Bornemark, J. (. (2016). Medborgardialog – om det svåra i att mötas: Praktikers reflektioner om ett av demokratins viktigaste verktyg. Arkus. https://urn.kb.se/resolve?urn=urn%3Anbn%3Ase%3Ash%3Adiva-31287.

Bornemark, J. (2017). Neutrality or phronetic skills: A paradox in the praxis of citizen dialogues organized by municipal administration. Pedagogika Spoleczna, 3(65), 51–66. https://pedagogikaspoleczna.com/wp-content/uploads/2018/01/SP3201751-66A.pdf.

Boys, J. (2014). Doing disability differently: An alternative handbook on architecture, dis/ability and designing for everyday life. London: Routledge. https://doi.org/10.4324/9781315777559.

Briassoulis, H. (2023). The making of good public plans Phronesis, Phronetic Planning Research and Assemblage Thinking. Planning Theory, 22(1). https://doi.org/10.1177/14730952221102533.

Bruce, A. (2014). Which Entitlements and for Whom? The Convention on the Rights of Persons with Disabilities and its Ideological Antecedents. Lund: Department of Law, Lund University. https://lucris.lub.lu.se/ws/portalfiles/portal/11124019/Anna_Bruce.pdf.

Campbell, E G; Carayannis, D F;. (2009). 'Mode 3' and 'Quadruple Helix': Toward a 21st century fractal innovation ecosystem. International Journal of Technology Management, 46(3/4), 201., 201-234. https://doi.org/10.1504/IJTM.2009.023374.

Campbell, S. D. (2013). Sustainable Development and Social Justice: Conflicting Urgencies and the Search for Common Ground in Urban and Regional Planning. Michigan Journal of Sustainability. http://dx.doi.org/10.3998/mjs.12333712.0001.007.

Caretta, M., & Pérez, M. (2019). When Participants Do Not Agree: Member Checking and Challenges to Epistemic Authority in Participatory Research. Field Methods, 31(4), 359–374. https://doi.org/10.1177/1525822X19866578.

Davidoff, P. (1965). Advocacy and Pluralism in Planning. Journal of the American Institute of Planners, 31(4), 331–338. https://doi.org/10.1080/01944366508978187.

De Blust, S., Van den Broeck, P., Devos, T., & Moulaert, F. (2022). Relational Planning as a Collective Critical Inquiry. Socio-Environmental Justice, Critical Moments and Reflective Responses in Six Years of Studio Teaching. Planning Practice & Research, 1-21. https://doi.org/10.1080/02697459.2022.2109249.

Dewey, J. (1997). How We Think. Courier Corporation. https://dn790008.ca.archive.org/0/items/howwethink00deweiala/howwethink00deweiala.pdf.

Egard, H., Hansson , K., & Wästerfors, D. (2022). Accessibility Denied: Understanding Inaccessibility and Everyday Resistance to Inclusion for Persons with Disabilities. Taylor & Francis. https://doi.org/10.4324/9781003120452.

Erdtman, E., Rassmus-Gröhn, K., & Hedvall, P.-O. (2021). Universal Design as Guiding, Striving and Unifying: A Qualitative Study about how Universal Design is Understood, Practised and Realised in Contemporary Sweden. Scandinavian Journal of Disability Research, 23(1), 158–168. https://doi.org/10.16993/sjdr.770.

Flyvbjerg, B. (2004). Phronetic planning research: theoretical and methodological reflections. Planning Theory & Practice, 5(3). https://doi.org/10.1080/1464935042000250195.

Graneheim, U. H., & Lundman, B. (2004). Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. Nurse Education Today, 24(2), 105-112. https://doi.org/10.1016/j.nedt.2003.10.001.

Gunn, W., Otto, T., & Smith, R. (2013). Design Anthropology: Theory and Practice. Taylor & Francis. https://doi.org/10.4324/9781003085195.

Hanington, M., & Martin, B. (2019). Universal Methods of Design Expanded and Revised: 125 Ways to Research Complex Problems, Develop Innovative Ideas, and Design Effective Solutions. Rockport Publishers.

Hedvall, P. O., Ståhl, A., & Iwarsson, S. (2022). Tillgänglighet, användbarhet och universell utformning. In V. D. (Eds.), Participation: vad, när, hur (pp. 151-181). Lund:

Studentlitteratur. ISBN: 9789144153155. https://portal.research.lu.se/en/publications/tillg%C3%A4nglighet-anv%C3%A4ndbarhet-och-universell-utformning.

Hellquist, A., & Westin, M. (2019). Medborgardialog om konfliktfyllda samhällsfrågor: Konsensus, agonism eller mobilisering? . Uppsala: SWEDESD. https://uu.diva-portal.org/smash/get/diva2:1286917/FULLTEXT01.pdf.

Heylighen, A., & Herssens, J. (2014). Designerly Ways of Not Knowing: What Designers Can Learn about Space from People Who are Blind. Journal of Urban Design, 19(3), 317-332. https://doi.org/10.1080/13574809.2014.890042.

Hugemark, A., & Roman, C. (2007). Diversity and Divisions in the Swedish Disability Movement: Disability, Gender, and Social Justice. Scandinavian Journal of Disability Research, 9(1), 26–45. https://doi.org/10.1080/15017410600979553.

Imrie, R., & Hall, P. (2001). An Exploration of Disability and the Development Process. Urban Studies, 38(2), 333–350. https://doi.org/10.1080/00420980124545.

Kitchin, R. (1998). 'Out of Place', 'Knowing One's Place': Space, power and the exclusion of disabled people. Disability & Society, 13(3), 343–356. https://psycnet.apa.org/doi/10.1080/09687599826678.

Koch, D. (2022). Jämlik livsmiljö universell utformning och tillgänglighet som stadsbyggnadsutmaning. . Stockholm: KTH Arkitektur. https://urn.kb.se/resolve?urn=urn%3Anbn%3Ase%3Akth%3Adiva-312408.

Larsson, G. (2010). Land Management as Public Policy. University Press of America. ISBN : 1-282-82026-5. https://www.google.es/books/edition/Land_Management_as_Public_Policy/_cvVaLNwjcsC?hl=es&gbpv=1&dq=inauthor:%22Gerhard+Larsson%22&printsec=frontcover.

Lave, J., & Wenger, E. (1991). Situated learning: Legitimate peripheral participation. Cambridge: Cambridge University Press. https://psycnet.apa.org/doi/10.1017/CBO9780511815355.

Lawson, A., Eskytė, I., Orchard, M., Houtzager, D., & Vos, E. L. D. . (2022). Pedestrians with Disabilities and Town and City Streets: From Shared to Inclusive Space? . The Journal of Public Space, 7(2), 41-62. ISSN 2206-9658. https://doi.org/10.32891/jps.v7i2.1603

Lid, I. M. (2012). Likeverdig tilgjengelighet? En drøfting av menneskesyn og funksjonshemming med vekt på etiske problemstillinger knyttet til universell utforming, mangfold og deltakelse. . Oslo: Det teologiske fakultet, Universitetet i Oslo. https://urn.nb.no/URN:NBN:no-nb_digibok_2021071948583

Lid, I. M. (2013). Developing the theoretical content in Universal Design. . Scandinavian Journal of Disability Research, 15(3), 203-215. https://doi.org/10.1080/15017419.2012.724445.

Motulsky, S. L. (2021). Is member checking the gold standard of quality in qualitative research? Qualitative Psychology, 8(3), 389–406. https://doi.org/10.1037/qup0000215.

Müller, L., Ericsson, S., & Hedvall, P.-O. (2022). Visions of a City for All: Resources, Choices and Factors Supporting and Impeding Universal Design in the Urban Development Process. The Journal of Public Space, 7(2), 63-78. https://www.journalpublicspace.org/index.php/jps/article/view/1486/860

Ostroff, E. (1997). Mining our Natural Resources: The User as Expert. INNOVATION, the Quarterly Journal of the Industrial Designers Society of America, 16(1). http://berkeleyprize.org/downloads/files/global/OSTROFF%20-%20Mining%20our%20Natural%20Resources.doc.

Sanders, E. B.-N., & Stappers, P. J. (2008). Co-creation and the new landscapes of design. CoDesign, 4(1), 5–18. https://doi.org/10.1080/15710880701875068.

Sandin, G. (2022). Dialogens roll i planeringen av staden och dess arkitektur. In V. Denvall, & S. Iwarsson (Eds.), Participation: vad, när och hur Studentlitteratur AB.. https://portal.research.lu.se/en/publications/dialogens-roll-i-planeringen-av-staden-och-dess-arkitektur.

Scully, J. L. (2018). From "She Would Say That, Wouldn't She?" to "Does She Take Sugar?" Epistemic Injustice and Disability. International Journal of Feminist Approaches to Bioethics, 11(1). https://doi.org/10.3138/ijfab.11.1.106.

Steinfeld, E., & Maisel, J. (2012). Universal Design: Creating Inclusive Environments. John Wiley & Sons. ISBN: 978-0-470-39913-2. https://books.google.es/books?id=II6VV5iAW9cC&printsec=frontcover&hl=es&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

Storvang, P., Clarke, A. H., & Mortensen, B. (2014). Using workshops in design research. Proceedings of the 19th DMI: Academic Design Management Conference (pp. 2917–2938). London: Design Management Institute. https://portal.findresearcher.sdu.dk/en/publications/using-workshops-in-design-research.

Story, M. F., Mueller, J. L., & Mace, R. L. (1998). The Universal Design File: Designing for People of All Ages and Abilities. Revised Edition. Raleigh: Center for Universal Design, NC State University. https://eric.ed.gov/?id=ED460554

Swedish Association of Local Authorities and Regions. (2023). Delaktighetstrappan: Och Liknande Modeller. Stockholm: Swedish Association of Local Authorities and Regions. https://skr.se/download/18.3a0a1c2218723106f7691f6/1680012199306/Delaktighetstrappan.pdf

Tunström, M., & Löfving, L. (2020). The right to access the city: Nordic urban planning from a disability perspective. Nordic Council of Ministers, Nordregio. https://doi.org/10.6027/R2020:11.1403-2503

UN. (2006). Convention on the Rights of Persons with Disabilities. New York: United Nations. Retrieved from Department of Economic and Social Affairs: https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities/convention-on-the-rights-of-persons-with-disabilities-2.html

UN. (2018). General comment No. 7 on the participation of persons with disabilities, including children with disabilities, through their representative organizations, in the implementation and monitoring of the Convention. Geneve: United Nations. https://digitallibrary.un.org/record/3899396?v=pdf

Welch, P. (1995). Strategies for Teaching Universal Design. Berkeley, California: Mig Communications. https://ia801605.us.archive.org/7/items/strategiesfortea00welc/strategiesfortea00welc.pdf

Westerlund, B. (2009). Design space exploration: Co-operative creation of proposals for desired interactions with future artefacts. Stockholm: Skolan för datavetenskap och kommunikation, Kungliga Tekniska högskolan. https://urn.kb.se/resolve?urn=urn%3Anbn%3Ase%3Akth%3Adiva-11210

Yanow, D. (2009). Ways of Knowing: Passionate Humility and Reflective Practice in Research and Management . The American Review of Public Administration, 39(6), 579–601. https://psycnet.apa.org/doi/10.1177/0275074009340049

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