

Let us move beyond word battles and separatism: strategies and concerns regarding universal design in Sweden

Universal
design in
practice

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Abstract

Purpose – Universal design (UD) is defined in the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) and adopted in Sweden as a guiding principle for the design of new products, facilities, services, etc. This study aims to contribute to knowledge about UD in practice – how it is conceived, experienced and discussed in Sweden, especially regarding education, working life and housing.

Design/methodology/approach – A group interview and a workshop (immersion into personas and scenarios) with 14 practitioners of inclusion and accessibility from academia, civil society, business and the public sector were analyzed with qualitative content analysis.

Findings – The participating practitioners related UD to a cluster of terms for inclusion and wanted to communicate the reason for UD rather than battling about words. Flexibility was considered openness to the diversity of human conditions and situations combined with individualization capacity including assistance. Short-term demands for access and compliance to minimum standards must be balanced with long-term learning processes. Evaluation, relation-building and dialogs must update and contextualize UD, for example, in relation to categorization.

Originality/value – This study yields an in-depth picture of how the practice of UD is conceived, experienced and discussed among Swedish practitioners of inclusion and accessibility. It elucidates dissonances between experiences and ideals, standardized and flexible design, and the interests of users and institutions. It enhances knowledge of the dilemmas in inclusive and diversity-based practices, as well as the implementation and promotion of UD.

Keywords Accessibility, Disabilities, Diversity, Inclusion, Practice, Universal design

Paper type Research paper

Introduction

Universal design (UD) can be traced to the 1980s (Iwarsson and Ståhl, 2003) when the term emerged in architecture and product design “to bring people with disabilities into the mainstream of society” (Steinfeld and Maisel, 2012, p. 15). This design – or rather designing – was intended to ensure equal opportunities for human diversity and to eliminate discrimination due to disability (Steinfeld and Tauke, 2002). The adoption of UD into the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) (United Nations, 2006) has led to the concept becoming a guiding principle for policymaking in many countries and sectors of society.

UD is related to accessibility though positions vary. Steinfeld and Maisel (2012, p. 12) describe UD's origin as a reaction against the “accessible design” of the 1970s. They associate

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the latter with an attitude of separate-but-equal design for limited groups of people with disabilities, without a creative gaze for the innovative potential of designing for “all.” In Steinfeld and Maisel’s view, UD complements accessibility by adding social values and creativity to processes of inclusion. Accessibility remains the focus of legislation, such as that of the [European Union \(2019\)](#). UD is also included in Norwegian legislation ([Lid, 2013](#)). The study presented in this paper is about UD. Accessibility appears as experience, conditions for use and is related to regulations.

The most common definition of UD stems from the network of the American architect, Ronald Mace ([Iwarsson and Ståhl, 2003](#)). The UNCRPD extended the definition by adding the terms “programmes and services”, yielding the following definition: “Universal design’ means the design of products, environments, programmes, and services to be useable by all people, to the greatest extent possible, without the need for adaptation or specialized design” ([United Nations, 2006](#), p. 4). The states that ratify this convention endorse the application of UD to “research and development” and “standards and guidelines” ([United Nations, 2006](#), p. 6). According to General Comment No. 2 ([United Nations, 2014](#), p. 5), a “strict application of universal design to all new goods, products, facilities, technologies and services” shall be applied by ratifying states.

[Connell *et al.* \(1997\)](#) developed seven principles of UD:

- (1) Equitable use,
- (2) Flexibility in use,
- (3) Simple and intuitive use,
- (4) Perceptible information,
- (5) Tolerance for error,
- (6) Low physical effort and
- (7) Size and space for approach and use.

[Steinfeld and Maisel \(2012\)](#) complemented them with eight goals:

- (1) Body fit,
- (2) Comfort,
- (3) Awareness,
- (4) Understanding,
- (5) Wellness,
- (6) Social integration,
- (7) Personalization and
- (8) Cultural appropriateness.

Steinfeld and Maisel define UD as “a process that enables and empowers a diverse population by improving human performance, health and wellness, and social participation” ([Steinfeld and Maisel, 2012](#), p. 11). They emphasize the process, placing UD within cultural, social and economic contexts, as opposed to viewing UD as an “idealistic but long-range goal” ([Steinfeld and Maisel, 2012](#), p. xii). Their position may respond to the critique of UD for being too utopian ([Heylighen, 2014](#)). Another critique, launched by [Winance \(2014\)](#), regards UD as general solutions that ignore human diversity. However, [Mace \(1998\)](#) recognizes that the term “universal” caused misunderstandings. He stressed intention rather than outcome: “We can

almost always improve on the things we design to make them more universally useable” (Mace, 1998, p. 23).

Steinfeld and Maisel (2012) alternately use the term “inclusive design” by establishing a relationship between UD, sustainability and active living. However, inclusive design is associated with information and communication technology (ICT) in Canada and product design in the United Kingdom (Treviranus, 2018). In the field of education, universal design for learning (UDL) was developed at the Center for Applied Special Technology (CAST) in the USA. UDL emphasizes flexibility toward various needs and ways of engaging, learning and communicating. According to Burgstahler (2015), UD applied to instruction makes course content and educational activities, resources, services and technology accessible to and inclusive of people, regardless of abilities, ethnicity, language or learning styles.

Sweden has a long tradition of inclusive disability policy. D’Souza (2004) has traced UD back to the Swedish policies of normalization in the 1960s. In 2016, however, Andersson (2016, p. 23) argued that UD was an unfamiliar and controversial concept in Sweden, while accessibility is considered the “key parameter” for inclusive design. Since then, policymakers have included UD in the Swedish strategy for disability policy and in the official policies for architecture and design, procurement, standardization and research (Erdtman *et al.*, 2021). In these policies, UD is regarded as a “guiding principle” for designing new products, services and environments and also for the general planning of an inclusive society (Erdtman *et al.*, 2021).

Based on the UNCRPD, UD can be viewed as an obligation for countries that have ratified the convention. However, despite the substantial policy support in that convention and in European law and national policies, the understanding of UD and its implementation vary greatly in Sweden and around the world. Knowledge about implementing the UD policy at the local level and in society in general is highly needed and can also contribute to a broader understanding of diversity-based practices and endeavors for inclusion.

Aim of the study and research questions

The aim of this study is to contribute to knowledge about how the practice of UD is conceived, experienced and discussed by practitioners of inclusion and accessibility in Sweden, particularly regarding education, working life and housing.

Research questions

RQ1. How do the participants discuss and communicate UD?

RQ2. How do the participants conceive and experience UD in practice regarding education, working life and housing?

RQ3. What dilemmas and challenges are there for practicing UD?

Method

We initiated a group interview and a workshop where practitioners of inclusion and accessibility in Sweden were encouraged to converse and interactively explore UD in practice. We opted for a group interview with six participants and a workshop with eight participants. Each activity lasted two hours, and they were carried out in November and December 2020, respectively. Both were audio recorded. The design of the workshop enabled us to draw upon the preliminary findings of the group interview. For research purposes, we labeled the activities as “group interview” and “research workshop” (henceforth, workshop). This signaled to the participants that there would be an open conversation in the group interview and an interactive exercise in the workshop.

The interpretative nature of the inquiry – that of understanding the experience of the participants – calls for qualitative analytical methods. These are, according to [Yin \(2011, p. 4\)](#), suitable for studying people’s “views and perspectives” or, in the words of [Creswell and Poth \(2016, p. 8\)](#), for studying “the meaning individuals or groups ascribe to a social or human problem.” Groups rather than individual interviews are suitable to study how people discuss and share experiences. A workshop where the participants immerse themselves in fictitious scenarios was considered to be appropriate for studying imaginations of practice. The exercise combined creating personas with scenarios. According to [Hanington and Martin \(2019\)](#), these are supplementary methods for exploring personal experience from the user’s point of view.

“Personas” are reality-based user profiles that can facilitate the understanding of human behavior, in our case, by avoiding the unfocused discussions that “design for everyone” may convey ([Hanington and Martin, 2019, p. 63](#)). The persona is usually given a name and personal characteristics and placed in a “scenario” that consists of a story about a situation. The scenario, with some “trigger events” ([Hanington and Martin, 2019, p. 152](#)), “bring personas to life” and “help teams avoid the tendency to design toward technical requirements and instead focus efforts on building culturally meaningful artifacts that augment actual day-to-day human activity” ([Hanington and Martin, 2019, p. 152](#)). We used scenarios as “stimulus materials” for the discussion ([Wibeck et al., 2007, p. 60](#)).

Due to the Covid-19 pandemic, we carried out these activities on the Zoom digital platform. Although [Hanington and Martin \(2019\)](#) emphasize the importance of a physical room and palpable objects, our experience from the digital workshop was that we were able to maintain the engagement of the participants in the exercise (for 2 h) with a short break. On the positive side, online meetings enabled participation for people throughout Sweden. In addition, closed captions made the activities more accessible and transparent.

Selection and representation

In total, 14 people were strategically selected ([Yin, 2011](#)) to obtain a diversity of participants. Invitations were spread by email or phone calls to practitioners known to be engaged in inclusion, accessibility and UD. The inclusion criteria for the workshop were people with experience of UD in education, working life or housing. Some had been test persons or user representatives in design processes. To recruit them, we published an open invitation on a UD website and emailed it to participants in previous meetings on UD. Only women responded to the first invitation, so we drafted and sent out a second to improve gender diversity.

Since qualitative research results are not generalizable but rather focus on the meanings of statements and experiences, a small sample – in ethnographic or phenomenological studies down to a handful of participants – is regarded as sufficient ([Mason, 2010](#)). A larger sample would be inappropriate due to the time-consuming method of analysis. To ensure broad societal representation, we conformed to the four knowledge areas of the quadruple helix (QH) model of [Carayannis and Campbell \(2009\)](#): academia (UNI), civil society (CIV), business (IND) and public sector (GOV). The participants comprised professionals and activists, with a higher representation of the latter in the workshop. Examples of the occupations among the participants were as follows: designers, accessibility specialists, educators and human resource (HR) staff. They came from different parts of Sweden, mostly from urban areas, and were not acquainted with each other beforehand. The content of [Table 1](#) is based on estimations, unregistered or self-reported data.

The participants were asked to express their own experience and not “represent” any organization or company, what [Westerlund \(2009, p. 71\)](#) refers to as “direct participants.” Some of the participants talked about their experience of disability though they were not asked about impairments on a personal level. In the presentation of the findings, impairments

ID codes	QH	Gender	Age (approx.)	Sector (main focus)
GI-1	UNI	M	50	Education
GI-2	IND	F	50	Working life
GI-3	IND	F	40	Housing
GI-4	GOV	M	40	Housing
GI-5	CIV	F	50	Education
GI-6	IND	F	60	Working life
WS-1	CIV	M	50	Working life
WS-2	UNI	F	60	Education
WS-3	IND	F	60	Working life
WS-4	CIV	F	60	Education
WS-5	IND	F	50	Housing
WS-6	CIV	F	60	Education
WS-7	GOV	M	40	Housing
WS-8	CIV	F	30	Housing

Note(s): (GI = group interview, WS = workshop), area of quadruple helix (QH), gender, approximate age and sector (education, working life or housing)

Table 1.
Overview of
participants: ID codes
for quotations

are referred to if it was regarded relevant for understanding a statement. We used the terminology of UNCRPD (United Nations, 2006) and Swedish authorities referring to “disability” and “impairment” to denote the social and physical aspects of disability, respectively (Ericsson *et al.*, 2020).

How the group interview and workshop were carried out

The first author of this paper played the role of moderator (Wibeck *et al.*, 2007) in the group interview and facilitator (Hanington and Martin, 2019) in the workshop. The second and third authors assisted. A colleague administrated the digital group rooms in the workshop. Instead of a structured interview guide, we elaborated a “research protocol” with open-ended questions, one for the group interview and one for the workshop. According to Yin (2011, p. 102), this is better than a traditional interview guide in helping the interviewer to stay open-minded to issues that are important to the participants without losing focus of the original topic.

About two weeks after the group interview and workshop, the participants had an opportunity to clarify and complement what they had said by answering follow-up questions sent by email. The single response we received was analyzed along with the other transcriptions, yielding a richer picture.

Group interview. After introducing the aim of the study – which included a presentation of the different interpretations of UD and stated that there were no right or wrong answers – the participants were asked to describe how they work with inclusion. The subsequent questions from the facilitator were about eventual differences between UD of education, of working life, and of housing: how are human diversity and flexibility handled? How do ideals and practicalities relate to each other? What are the dilemmas and challenges? The final question was about the perceptions of UD the participants had gained from each other.

Workshop. Initially, the participants were asked about UD in their everyday contexts. The facilitator introduced the exercise with a personal story from his upbringing at a Swedish *folkhögskola* (folk high school (FHS) – Scandinavian educational centers for adults). The facilitator used six photos as stimulus material to aid in the workshop immersion into a similar environment. The FHS was chosen since education, working life and housing (such as student dorms) are intertwined in these environments, many times in older buildings in rural locations. Some FHSs offer courses or entire educational programs targeted at people with disabilities.

The participants were divided into two groups and sent to breakout rooms for immersion into one of the following personas, yielding two perspectives (quotations from the instruction):

- (1) Charlie, a man around 20 years old with “problems at school as a child”, on his way to a meeting to talk about the possibility of studying at the FHS (one way for the Swedish FHSs to select students).
- (2) Doris, a woman business leader with “recent rehabilitation”, interested in a vacancy for the director of the FHS and considering this possible future.

The groups could add characteristics to their persona if they wanted them to be more specific. After immersing into the feelings and struggles of the persona, they returned to the main room for the presentation of experiences and a final discussion. A summary of the previous group interview was presented by the facilitator to fuel the discussion and check the preliminary results from the group interview.

Analysis

The sound files from the group interview and workshop were transcribed verbatim by the first author, who analyzed the texts in the NVivo program, employing *qualitative content analysis*. In a style similar to that of [Graneheim and Lundman \(2004\)](#), meaning units were selected inductively, condensed and arranged in a hierarchy of codes and clustered into categories based on their allegiance to the research questions. Regularities among and across the categories were unified into themes. According to [Graneheim and Lundman \(2004, p. 107\)](#), themes express “underlying meaning through, condensed meaning units, codes or categories, on an interpretative level.” However, we used “theme” in a broader sense of key issues that arise from combining and transcending the statements and stories of experience ([Creswell et al., 2007](#)). The two activities were analyzed as a single unit since both are related to the research questions.

Ethical considerations

We have taken into consideration the guidelines of the Swedish Ethical Review Authority (*Etikprövningsmyndigheten*) and the ethical principles for social science of the Swedish Research Council (*Vetenskapsrådet*). The participants received information about the aim and background of the study approximately one week before participation. They also received a consent form, including the conditions and rights applying to their participation, for example, to stop at any time. We did not offer any incentives to the participants. We stored their recordings securely according to the rules of Lund University. We did not register any personal data.

Findings

In line with the analysis, the findings are presented on an aggregated level, not by dividing the material between group interview and workshop. Three themes correspond to the research questions. The first author translated the participants’ quotations from Swedish to English and put them in quotation marks. Block quotations are tagged with an ID code from [Table 1](#) to make them traceable.

Communicating the reason for UD, not battling about words

The participants talked about UD as an overarching or central concept, transcending questions about sizes and measurable functions. However, their use of the term revealed a pragmatic attitude where the intention of inclusion was more important than using a specific

Communicating the reason for UD was more important than using the “correct” term. Battles over words may obscure the reason for UD. Intention, ambition and outcomes were seen as more important than words. According to the participants, words constantly change; and in



Figure 1. Universal design as part of a cluster of related terms. CSR means corporate social responsibility

contexts where UD is a new or confusing term, it is better to use other words such as “inclusion” or even “sustainability.” As one participant asked, “Should you fight for an understanding of what it means, or is it a new name for old things?”

The anxiety, especially within the business sector, of being subjected to media scrutiny for using the wrong word was experienced as a “word barrier.” A participant explained that she/he once was corrected for using the term “black” and expressed vividly the feeling of discomfort such a correction can entail. Other participants argued that such corrections were academic in nature, driving one participant to the following self-reflection:

I’ve been working with human rights for almost 20 years, and you get completely entangled in your terms. This is not helpful when you want to contribute positively to the development process. [...] You must get down from your high horse and withdraw from using such terms without losing the reason for them. [...] If the recipients do not understand the terms, then it leads to a waste of resources and efforts and failure. You do not achieve success. (GI-2)

The participants coped with unawareness and misapprehensions regarding UD by stressing its fundamental moral aspect and the value of intention. Instead of just talking, they used pedagogical tools, personas, simulations and virtual reality techniques to instigate empathy with the needs and feelings of people, especially those with disabilities, creating what one participant called “experience-based knowledge.” Another trick to reflect on the reason behind unmet and neglected needs was to identify those who are not present at all.

UD as flexible design with assistance and predictability

The participants mixed experiences with ideas about how they thought things should be in the discussion on considering, respecting and including the multitude of situations people encounter in the design process. One participant argued that “people are different in different ways” and described how she/he worked with planning the university milieu by considering different aspects in the lives of students and staff. Interests, language skills, digital competence, location, family and work situation were mentioned, as well as disability. Distant studies and flexible curricula were suggested allowing students to work part-time or choose when and how to attend classes.

Regarding housing, existing or planned components (like movable switches and walls) were endorsed by everyone as flexible design, but ideals differed in other parts of the conversations. An argument for accessible housing was based on the right to a private and social life: people with disabilities should be able to visit friends and family, implying that all housing should be accessible (in this case to wheelchair users). Another position expressed was for smaller and cheaper apartments with a smaller ecological footprint.

Ideally, education should not offer separate courses for people with a certain impairment, which was denounced as “separatism.” According to the participants, pinning impairments on people in that way runs the risk for discriminating and depriving people with other impairments (or combinations of impairments) of their right to education and free choice. Given this, their fictitious FHS should welcome everyone to all courses. Self-instructive and straightforward assistive technology should be offered to everyone needing it, avoiding long and bureaucratic application processes:

An institution should offer a smorgasbord of technology and tools while catering to UDL. These options can be text based or YouTube links or offer other possibilities for reading and learning. These options should be made available for all. (WS-3)

An advantage described of such an arrangement was that people with disabilities do not have to specify their personal needs beforehand, disclose their impairments or propose solutions.

As one participant (experiencing disability) stated, “It is exhausting to take responsibility for my needs or to manage my accessibility and participation.” Likewise, the Charlie persona was intrigued about how to present himself, his needs and what kind of general and individual support to expect from the FHS. Participants argued that the focus should not be on diagnoses and individual impairments. Deducing support needs based on impairments was seen as problematic since impairments provide limited understanding of the situational needs.

Flexibility should, according to the participants, be combined with a “human dimension,” including support on the individual level. UD of education was exemplified by having an additional educator who provides support to everyone by orienting (all) the students on educational expectations and motivating them to get started with their studies. As one participant said, “You need someone to be able to ask questions to when you get stuck.” Personal support would also help students explore the possibilities and routines for technological solutions and assistive technology. UD was regarded as encompassing both general and individual solutions. These corresponded to each other since a good general design reduces the moments when people need individual support, thus increasing the time and opportunity for just that.

In working life, the participants recognized the complexity when considering diverse individual needs. For example, some people are more productive in calm and closed workplaces, in contrast to open office landscapes. However, such a norm seemed difficult to change. Given this example, a seemingly flexible solution may be inflexible in practice. Participants also argued that standardized solutions have the benefit of offering a feeling of certainty, which highly flexible solutions do not. For example, should classrooms not be swapped or rearranged without consulting the students beforehand. Thus, the level of flexibility can lean toward inaccessibility.

Challenge of balancing demands for access and long-term processes

The participants agreed on UD as a more ambitious endeavor than just complying to minimum requirements for accessibility, but they differed on strategies for improving accessibility and implementing UD. Nevertheless, some participants argued, referring to experiences of access problems, that a basic level of accessibility is ensured by standards, legal requirements and informal guidelines, such as checklists. However, these measures were seen as being inadequate on their own for producing design that is useable for all. One reason for this was the attitude in society to meet only the minimum requirements, not designing based on human needs. One participant cynically remarked that when the requirements for elevator installation changed from buildings higher than three floors to those higher than two, new buildings decreased in height to avoid extra costs. Likewise, they had experienced skepticism towards new web content accessibility guidelines requiring text captions in tutorial videos, triggering an assumed (and by some anticipated) decline in the number of published videos. However, a participant working in the building sector stated that it is complicated, referring to “grey zones” and varying interpretations of requirements.

The participants had experiences of ordering accessible solutions yet receiving inaccessible products from subcontractors. One example was of a website that did not work with screen reading programs. This failure was expressed as embarrassing but was attributed to the company’s arrogance and eagerness to make promises beyond their capacity to fulfill. From this experience of being clients, the participants drew the conclusion that clients cannot determine the best solutions beforehand and should therefore engage in dialog with the subcontractors and continuously evaluate and improve after product launch. Yet, they considered it highly demanding to include “all” perspectives at the start of a project:

It can be overwhelming to attempt to achieve perfection when improving a design or to reach and cater to all the target groups. This is because of the tendency to make mistakes the first time. It is

better to start, improve, and learn from this process, considering it a long-term strategy of learning. (GI-1)

This emphasis on the learning process was disputed by participants seeking immediately accessible solutions and predictability in their daily lives. They were frustrated by problems and obstacles that could be easily solved. One participant exclaimed: “I have started to lose patience with these processes. How difficult can it be?” Another point about the seriousness of accessibility was that obscure and thus inaccessible information about the current pandemic could indirectly cause sickness and death.

The participants concluded that professionals at different stages of the design process must understand the original reason behind specific accessibility requirements to be able to carry out a functional design. A participant who was blind referred to a technician who had incorrectly installed tactile paving. Since the technician did not understand the purpose of it, she/he installed it at ground level to avoid disturbing the cars. The experience of frustration was expressed in the following words: “During that whole designing process, nobody had told him *why* tactile paving is necessary.” Other examples of unawareness were discussed regarding the need of “accessible” toilets with reachable toilet paper or soap dispensers. The lack of a contextual approach was also exemplified with “accessible” homes surrounded by steps and slopes and disconnected from transport facilities.

According to the participants, understanding people’s needs was more crucial than adhering to standardized task descriptions (e.g. for project planning). Rather, by imagining different kinds of people in real case situations, professionals could gain empathy and an understanding of the reasons for the existing accessibility requirements. Such a behavioral transformation was attributed to relation building and knowledge on a personal level. It was assumed that the environment will be designed according to diverse needs when people become acquainted through informal chats, such as at a workplace. In the dialog between the business sector and disability organizations, members of the latter were considered to be the actual experts, sometimes having better knowledge about standards and techniques than the professionals. Such dialogs can promote the ability of professionals to make, for example, a better selection of who to involve in the design process.

Discussion

In Sweden, UD entails an idealistic and sometimes utopian tendency ([Erdtman et al., 2021](#)), while accessibility is associated with legal requirements and measurements ([Iwarsson and Ståhl, 2003](#)). The participants were familiar with and accustomed to the branch of (validated) experts, guidelines and indicators for accessibility. UD, on the other hand, has been introduced into Swedish policy relatively recently and is still conceptually immature. However, UD as “utopia” may, according to [Steinfeld and Tauke \(2002\)](#), push development forward, although the final point remains unreachable. Hence, the vagueness and malleable inclination of UD may increase the potential for openness in different contexts and applications in various sectors.

Beyond the pragmatic and strategic approaches of the participants, several concerns may be tracked. The conversations were characterized by a dissonance between everyday experiences of struggle for inclusion and the envisioned ideals of the participants. This could be attributed to the methodology where experiences were expressed more in the group interview and ideals expressed more in the workshop. There is another dissonance that runs through both experiences and ideals between general (or standardized) design based on similarities and individualized design based on the individual needs, including assistance. The metaphor of the “smorgasbord” (“buffet” in English) illustrates a general but flexible design with a variety of options to choose from. The participants wanted institutions, like the FHS, to offer such a variety of options, and at the same time, they requested personal

adaptations and support (to be able to access and choose from the smorgasbord). The correspondence between improvements in general design and a decrease in the need for individual solutions to improve their quality should thus be further investigated.

Although flexibility can trigger associations with instability, the participants celebrated flexibility as a preferred practice. Flexible practices in our study imply both a broad openness to human conditions and situations and a capacity for individualization. There is a borderland between flexibility and economics: is it possible to store and update all kinds of assistive technology for everyone in need of it? Another area of dispute when it comes to accessibility is that extreme flexibility causes uncertainty and confusion. Furthermore, what is regarded as flexible may appear to the user as not being so malleable, an example being open office landscapes. Further, without disclosing one's impairments in advance, it seems difficult for an institution to prepare for the participation of everyone, certainly if human recourses are limited. That wish for predictability from individuals and institutions may collide must be considered in design processes.

The conversations elucidated the disadvantages of dividing people and sectors into categories, such as disabled and non-disabled or working life and housing. Although disability is a necessary dimension of diversity that needs to be considered and categorizing it aims for adequate support, such categorization conveys stereotypes and discriminatory structures that coerce people into specific separate solutions against their will (Ericsson *et al.*, 2020). For example, housing policies targeting students, seniors or people with disabilities with separate solutions disregard the multidimensional nature of identities and experiences. The workshop revealed that location and access to transport and sports activities, as well as proximity to friends and family, are important factors for a quality housing experience. Age or disability provides little guidance about the kind of homes people may need or want.

The participants' dismissal of targeted efforts as separatism may seem harsh. One explanation may be due to the experiences of some people who have a rare impairment, for example, or an impairment that fits into several disability categories or ends up somewhere in-between. Nevertheless, the participants' views of inclusion in education may reflect daily negotiations with separatist thinking and resemble the Salamanca Statement from 1994. It states that environments and pedagogical practices should be adapted to human diversity instead of impairments. However, Gordon and Tavera-Salyutov (2018) doubt whether a human right to inclusive education can be morally justified regarding "students with severe mental impairments" (Gordon and Tavera-Salyutov, 2018, p. 516). Others do not see segregation as morally wrong *per se*, albeit often conveying inequality (Köllen *et al.*, 2018).

The dissonance between demands for access and the value of long-term learning uncover a dilemma for practice and strategic choices. Harsher regulations on their own do not appear to be effective in creating a more inclusive society. In the USA, Seale *et al.* (2022) note that many shortcomings remain despite detailed standards and anti-discrimination laws with harsh sanctions. Steinfeld and Maisel (2012) depict the relationship between UD and compliance to regulations as UD adding social, aesthetic and moral values to the regulations. UD is not "unrelated to regulatory compliance" but "a continuous improvement process rather than a compliance process" (Steinfeld and Maisel, 2012, p. 67). Hence, Mace (1998) sees the advantages of working with an unregulated sector, such as private housing. The participants' view of managing human differences by using flexible solutions for comfort and feeling well resembles Mace's (1998) argument for adjustable surfaces or shelves in housing, a flexible design that is not noticed as being "special" or is not noticed at all.

The dissonance between the interests of users and institutions, in terms of disclosure and predictability regarding individual needs, resembles what Seale *et al.* (2022) discovered when investigating the practice of American universities with a UD profile: medical certificates were required to receive assistive technology or individual accommodations. Yet, the participants' emphasis on personal assistance seems to contradict current trends of general

systems and artificial intelligence, as well as automated distance education classes and the lack of HRs in the Swedish welfare sector. Nevertheless, Ikeda (2005, p. 16) argues along similar lines that UD (within ICT) implies peer support and help from intermediate supporters. This may be true about other sectors as well.

According to Lid (2013, p. 205), UD is a “political strategy” based on the principle of “one population comprising people with various abilities.” The contributions of UD to the labor market are improved “efficiency, productivity, employee morale and general safety,” according to Maisel and Ranahan (2017). At the workplace, Mueller (1998) points to the bottom-up effect of learning from user experiences of assistive technology. Given that these needs reveal universal dilemmas, they make workplaces beneficial for everyone if they are targeted. At the local level, Kulkarni *et al.* (2016) found that self-support groups among employees, internal mentors, multi-stakeholder engagement and collaboration with external partners (such as from civil society) promote inclusion. This indicates that long-term learning enhancing inclusive practices is promoted by understanding individual accessibility needs.

Methodological considerations

The knowledge gained in this study depended on the context in which it was coconstructed by the participants and the researchers (Alvesson and Sköldbberg, 2009). That methodology and the small sample motivate some methodological considerations. The findings were dependent on the composition of the participants, but also on dynamic group processes. In these power relations and everyday roles outside the room, despite ambitions and statements about equal participation, shine through (Westerlund, 2009). The motives and agendas of participants were varied. While some advocated UD and sought ways to clarify its meaning, others had not reflected much on the concept before. They developed their ideas during the session in what Wibeck *et al.* (2007, p. 1) call “collective sense-making.” Beyond the positioning of identities and roles of the participants, views were constructed and modified by negotiations of interests and opinions. Behind the attempts to instigate controversies and to challenge or silence ideas, there was a tendency to refer to common experiences, values or goals in order to seek consensus, alliances and a “gathering” around UD.

In the group interview, the participants interacted by responding to each other spontaneously and at times interrupting. They shared sincere narrations about shortcomings and frustrations, made suggestions and exchanged contact information. The workshop aimed to disconnect participants from their everyday roles in order to “deeply experience and understand the user’s world” (Hanington and Martin, 2019, p. 60). However, one’s everyday motives and intentions are part of and color the immersion into personas. Hence, the findings can be interpreted as a blend of experience and imagination.

Concluding remarks

Our research questions and corresponding themes implicate the following strategies for inclusive practices and implementation of UD:

- (1) Communicating the reason for UD rather than battling about words,
- (2) Considering the human diversity and individual needs and
- (3) Integrating access needs in learning processes.

Dilemmas and concerns of practice have been expressed in dissonances between experiences and ideals, standardized and individualized design, short-term access needs and long-term learning, and the interests of users and institutions. The participants’ view of flexible design entails both openness to human diversity and capacity for individualization. For planning

that implies in the metaphorical terms of the participants: providing a smorgasbord of options while also being prepared for personalized assistance.

Evaluations must determine when and how to categorize disabilities and consider the risk of “locking in” solutions for a given group instead of solutions that can benefit the broader population. UD, by blurring and exceeding conventional categorizations, can highlight connections and overlaps and contribute to a noncategorical practice, one without irrelevant or discriminatory categorizations and/or group-oriented designs, what the participants called separatism.

UD may turn our focus to regarding accessibility as being contextual and regulations as being a framework and incentive for innovative creativity. Short-term compliance without understanding the reasons behind existing accessibility requirements can result in inaccessibility. It remains to examine if the current tendency to only comply with the minimum accessibility standards can be discouraged by involving people with disabilities in the design processes and if that engenders a more inclusive – and innovative – design.

The concept and practice of UD must be continually updated and contextualized to offer relevant and practical potential. At the corporate and societal levels, long-term learning by collaborating on joint evaluations combined with relation-building can promote empathy and an understanding of others that moves beyond stereotypes. Such endeavors gain from avoiding the use of precise definitions of terms that can result in obstructive “word battles” and locked positions. Instead, alliances and compromises can promote the exchange and development of ideas and practices. Dissonances, in the way we use the term, should not be regarded as being entirely negative, since such tensions are also signs of ongoing development and engagement, highlight hidden conflicts and raise awareness. This study provides an enhanced understanding of how people working with accessibility and inclusion tap into these dissonances and the strategies they use to move beyond current concerns towards a society for all.

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