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Universal Design as Guiding, Striving and Unifying: A Qualitative Study about how Universal Design is Understood, Practised and Realised in Contemporary Sweden

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Universal design (UD) is a concept that originates in architecture and design. Through its enrollment in the United Nations Convention on the Rights of Persons with Disabilities (CRPD), UD may contribute to the realisation of a more inclusive society. By means of qualitative interviews and content analysis, this study deepens the knowledge about how UD is understood, practised and realised in Sweden. Eight professionals from academia, business, civil society and the public sector were interviewed in 2019. They expressed a breadth of personal and non-authoritative opinions about UD and viewed it as enriching and provocative but also fuzzy and difficult to grasp, especially in relation to accessibility. Three ways of talking about UD were discerned: as guiding principle in the design process, as striving for an inclusive society and as unifying policies into a whole. Together they elucidate the implementation of the CRPD and inspire engagement for social innovation.

Keywords: Universal design; Accessibility; Disability; Policy; Inclusion; CRPD

Introduction

By means of qualitative interviews, this study explores how universal design (UD) is understood, practised and realised in contemporary Sweden. The term ‘universal design’ was coined by the American architect Ronald Mace in 1985 and has since thrived as a principle and concept in architecture and product design for including all people in design processes (Hamraie 2017). UD has then soared into politics and even legislation. In Norway, UD is included in the Planning and Building Act and the Discrimination Act (Broderick 2015: 292), while in Sweden UD appears in national policies for research (Prop. 2016/17:50), architecture and design (Prop. 2017/18:110), procurement (Swedish Government 2016) and standardisation (Swedish Government 2018). The Swedish Disability Strategy for 2018 to 2025 (Prop. 2016/17:188) includes UD as one of four ‘tracks.’ The following public investigation of the Strategy’s realisation proposed UD as a ‘guiding principle’ for achieving equality in living conditions and full participation (SOU 2019:23). Recently, ‘a universal design or design for all approach’ was recommended by the European Accessibility Act (European Union 2019). However, in a 2019 questionnaire, half of approximately 300 Swedish respondents from the public sector and civil society did not recognise the term and even fewer used it (Zotéeva 2019).

Treviranus (2018) denotes ‘accessible design’ from the 1960s and onwards as a ‘response to the failure of mainstream design.’ Although UD is closely related to accessibility, it was also a reaction to a narrow understanding of accessibility as complying with the minimum requirements of laws and guidelines, and as neglecting the innovative and marketable potential of designing for larger groups (Hamraie 2017; Imrie 2012; Lid 2013; Ostroff 2011).

Mace viewed UD as a ‘market driven issue’ (Hamraie 2017: 253), but early sources from the United States also stress the involvement of users (Danford & Tauke 2001). Steinfeld & Maisel (2012: 29) describe UD as ‘a process that enables and empowers a diverse population’ and Levine (2003: 7) as the idea to ‘extend the ideals of accessible design to previously underserved groups.’ Welch (1995: 2f) describes UD as a ‘democratisation of values through a more pluralistic definition of good design.’

Though derived from a ‘disability discourse’ (Grue 2015), the aim of UD is to dissolve the disability/non-disability dichotomy and regard human diversity as being intersectional. One such related parameter is body size, which is not an impairment but is an equally important aspect of designing flexible products. An example of this would be a classroom with chairs of different shapes and sizes instead of a potentially discriminatory standard one (Pritchard 2014).

Definition and Interpretation by the UN

The dominating definition of UD was formulated by The Center for Universal Design at North Carolina State University (CUD) in 1997 as: 'design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialised design' (Connell et al. 1997). The United Nations Convention on the Rights of Persons with Disabilities (CRPD) (United Nations 2006) included that definition in Article 2 but expanded it to encompass design of 'programmes and services.' Although alternative understandings of UD exist, this one prevails and because many nations have ratified the CRPD, has become authoritative for implementation in legislation and policies around the world.

Official explanations of how to interpret UN Conventions are found in the CRPD General Comments. No. 2 on Accessibility views accessibility as a 'disability-specific reaffirmation of the social aspect of the right of access' (United Nations 2014: §15–16). A 'strict application of universal design to all new goods, products, facilities, technologies and services' is a means for achieving full accessibility. So is the gradual removal of existing 'barriers' on the group level and reasonable accommodations on the individual level. The UD concept evolves throughout the General Comments. In No. 2, UD was narrowed to an instrument for achieving accessibility, while General Comment No. 4 on inclusive education (United Nations 2016) takes a holistic approach to a functional school environment, pointing to Universal Design for Learning (UDL) as a branch of UD that emphasises flexibility in instruction and the assessment of learning processes. General Comment No. 6 (United Nations 2018a) on equality and non-discrimination recommends proactive work with 'accessibility through universal design or assistive technologies.' No. 7 on consulting and involving disability organisations proposes the active involvement of people with disabilities in 'decision-making processes' and 'the universal design process' when it comes to accessibility requirements and laws, for example (United Nations 2018b).

Related Terms and Concepts

Design for all and *inclusive design* are related terms and concepts. A standardisation guide states that 'terms such as universal design, accessible design, design for all, barrier-free design, inclusive design and transgenerational design are often used interchangeably with the same meaning' (ISO/IEC 2014: Note 2 to Entry). A European standard for UD from 2019 translates 'design for all' to the Swedish 'universell utformning' (European Committee of Standardization 2019). Rather than different meanings this variety of terms seems to reflect a regional variation. Design for all used to dominate in Europe, while inclusive design is the common term when it comes to digital accessibility in Canada and product design in the UK (Treviranus 2018).

Beyond the terminological diversity and ideological or just-invented differences, there are common features and overlaps for several 'kinds' of designing with accessibility (for all) in mind. Treviranus (2018: 78) finds a common base for these concepts in the conviction that 'segregated, specialised design is not sustainable and does not serve the individual or society.' Iwarsson & Ståhl (2003) discuss UD as an inclusive design for a diverse population, denoting the process more than the results. UD has an 'attitude-oriented process character and less of a concrete, measurable nature' and is 'uttermost about changing attitudes throughout society, democracy, equity and citizenship' (Iwarsson & Ståhl 2003: 62f). Clearly, UD embraces a value-based and normative design tradition aimed at societal inclusion and improvements in people's lives.

Aim of the Study

By ratifying the CRPD, Sweden is obliged to promote UD in the development of standards and guidelines, and to promote research, availability and use of 'universally designed goods, services, equipment and facilities' with the minimum possible adaptation (CRPD Article 4:1f). Still, knowledge about UD is limited and more importantly, people still experience inaccessibility and discrimination. Does UD have the potential for social change or the promotion of social innovation for improved accessibility? The inclusion in Swedish policies is quite recent, however, and there is a need to explore what UD means to policymakers, designers, scholars, activists, etc.

The study aims to gain an in-depth picture of how UD is understood, practised and realised in contemporary Sweden. Eight qualitative interviews were carried out with professionals from academia, business, civil society and the public sector. They were asked about their interpretations, opinions, attitudes and feelings regarding UD, the ways in which they have used the concept, and how they view its realisation and implementation. This small sample of interview persons may not be generally representative of how UD is viewed in Sweden but provides examples of current arguments and sentiments on this concept. Such a qualitative study has not yet been undertaken in Sweden and the knowledge drawn from it can promote social change towards a more socially sustainable and inclusive society.

Research questions

- How do the interviewees interpret and understand UD?
- What opinions do the interviewees have about the practice and realisation of UD?
- How do the views of the interviewees relate to the implementation of UD in Sweden?

Method

To gain an understanding of UD by the means of qualitative interviews, an hermeneutical approach was applied. Hermeneutics, from Dilthey and onwards, stresses interpretation through experience. The researcher is a part of the

historical situations in the same world as (in the present case) the people being interviewed, interacting with them and producing knowledge in a process of co-creation. Rather than the positivistic gathering of data and explaining and presenting them as facts, hermeneutics interprets and reflects upon the data in order to understand its embedded meaning (cf. Barbosa de Silva 2002).

The people interviewed (interviewees) were selected strategically (Yin 2013; Kvale & Brinkmann 2014) to get a diversity of perspectives. Carayannis & Campbell (2009) developed the Quadruple Helix (QH) model for including four main areas of knowledge in modern society: industry (IND), university (UNI), government (GOV) (i.e. public sector, policymaking) and civil society (CIV). **Table 1** shows that some of the interviewees with long experience had worked in several of these areas. All interviewees had a professional relation to UD, albeit their specific professions were not in focus. Five worked with design or architecture, four had experience from business and four from civil society, mainly disability activism. All were over 50 and some over 60. Five live around Stockholm and three in other parts of Sweden. **Table 1** presents the interviewees according to the QH.

A pilot interview was carried out one month before the main interviews, which were performed between June and October, 2019. The people selected were contacted by phone, e-mail or in person and the interviews were scheduled a couple of weeks in advance. The interviews lasted about an hour and were carried out face-to-face in conference rooms or offices of the interviewee or interviewer. A restaurant and a café were also utilised. The interviews were semi-structured and recorded. An interview guide served as a frame of thought. Its opening sentence referred to the United States origin of UD, its European analogy, ‘design for all’ and the different interpretations of the concept. Questions dealt with:

1. Understanding UD (experience of its evolution; if it is a ‘new’ idea; its relation to accessibility; its most relevant aspects; the political ‘colour’ of UD).
2. Usefulness (professional and practical experience; needs corresponding to UD; relevance for whom; dilemmas, risks, challenges; how to assess).
3. Realisation (current policies and implementation of the CRPD; hurdles and opportunities for social change; influence, power and stakeholders; relation to sustainability, economy, aesthetics and justice).

In line with Kvale & Brinkmann (2014), the interviews were explorative, meaning that questions in the guide were reformulated and adapted to the knowledge and attitudes of the interviewees in order to improve the quality of the answers.

Coding and Interpretation

The interviews were carried out in Swedish and transcribed verbatim by an established contact at Lund University. The interview transcriptions were read through several times with an open mind. Graneheim & Lundman’s (2004) qualitative content analysis approach with a hierarchy of codes, subcategories, categories and themes was applied, yielding the subcategories and categories of **Table 2**.

Table 1: Identification (ID), gender, occupation and QH areas.

ID	Gender	Occupation	QH areas
i1	M	Academic designer	IND+UNI
i2	M	Accessibility expert	IND+UNI+CIV
i3	F	Architect & Activist	IND-CIV
i4	M	Designer	IND
i5	F	Academic architect	UNI
i6	F	Disability Activist	CIV
i7	M	Civil servant	GOV+CIV
i8	M	Civil servant	GOV

Table 2: Categories, subcategories and number of codes according to qualitative content analysis (Graneheim & Lundman 2004).

Category	Subcategories with number of codes
Opinions	The term UD (9), Use of UD (9), Attitudes (2)
Strategies	Policy (9), Justice (9), Struggle (9), Process (7)
Observations	History (6), Trends (3), Conflicts (2)

An 'ideational analysis' (Alvesson & Sköldbberg 2009: 235) was applied to understand conceptions, values, ideas and meanings in the interviews. The interviews were analysed and interpreted as a whole. This allowed for the discernment of general concepts and common ways of talking about UD. Thus, the focus was not on who said what, albeit the context and professional orientation are mentioned when relevant.

Methodological Limitations

The strategic selection of interviewees in this study has limitations because the interviewer already knew the interviewees professionally. The interviewees' familiarity with the interviewer can also influence their responses. Another constellation of interviewees would have improved diversity and probably focused on other aspects of UD, which may also be the case with other questions being asked with another tone, order and/or manner. Moreover, the compressed age span of the interviewees may have been a limiting factor for the diversity of ideas about UD.

The content analysis of detaching quotations from the context presents some difficulties, for example, of knowing when statements are referring to literature, personal experiences or spontaneous reactions. In a critical remark, there may be both a sweeping dismissal or a thoughtful scrutiny; a positive endorsement may hide uncertainty or disinterest. Other risks with a hermeneutic interpretation include the neglect of unusual or complex statements, or not being aware of one's own preunderstanding, which like expectations and knowledge conventions shape the interpretation.

Ethical Considerations

The interviewees participated in their professional roles. Though the interviews touched upon politics and disability, it was not on a personal level. The questions were therefore not regarded as sensitive and an ethical clearance for the study was not considered necessary and thus not applied for from the Swedish Ethical Review Authority. However, the ethical principles of social science adopted by UNESCO and the Swedish Research Council were followed. Informed consent was explained to the participants, read and signed by all. The interview recordings and signed consents are securely archived.

Results

The longer quotations presented in this section include the ID numbers of the interviewees listed in **Table 1**. Generally, though, the results are presented collectively. When interviewees say something, it does not necessarily mean they all agreed or that there were no nuances or inconsistencies, rather that this was a characteristic and widely accepted view.

The application of the Graneheim & Lundman's (2004) qualitative content analysis approach discerned four principal themes: 1) UD as enriching but difficult to grasp, 2) UD as guiding the design process, 3) UD as striving for an inclusive society and 4) UD as unifying policies into a whole. In this section, instead of themes, the last three are referred to as 'ways of talking about UD', which better captures their essence.

Enriching but Difficult to Grasp

Despite individual understandings and shifting interest and knowledge about UD, there was a coherent understanding of UD as intentionally good and enriching, especially for design and architecture. The interviewees described UD as 'good design,' 'best possible design,' 'the widest possible perspective from start,' 'something that works for everyone regardless of need, personal characteristics or abilities,' 'a way to design products that work and are understandable for many' or 'flexible solutions for all kinds of people.'

Interviewees related UD to a radical view of design beyond segments and categorisations, but also to a designers' common sense of trying to reach as many as possible. Historical associations were made with architectural functionalism from the 1930s, Swedish normalisation and the society-for-all ideology in the 1960s and 70s and to that era's ergonomic design of assistive products for certain disability groups.

Although interviewees were recruited for their professional association to UD, they expressed insufficient knowledge about UD, uncertainty and scepticism. One interviewee was introduced to UD in a project on disability policy and had not come across it before despite many years in a local disability association. UD seemed easy to grasp for this interviewee at first, but harder after realising that interpretations of it vary. Another interviewee, working with design, expressed curiosity and openness, but did not remember what term the company had used:

I am right now working to make our design more accessible for more people—and think we have said something about UD. ... We haven't used that concept. But thinking about it, it suits us well ... we would need this concept—and to understand it (i4).

The interviewees rarely referred to authoritative documents from the UN, the Swedish Government or UD centres. When such references were made, they sometimes expressed difficulties in understanding them or disagreements. Nor were references to the seven principles of UD, which have been viewed as its core expression (e.g. Persson et al. 2014).

The word 'universal' was bothersome because of its similarity to 'universality,' which was seen as negative. Hence, one interviewee had contemplated the phrase 'planning and development for diversity' instead of UD. UD was also perceived as an obligation. For one interviewee, UD had a magisterial connotation: '... something from above. Stomp! Do like this!' (i1).

Those who advocated for UD mentioned what they saw as misunderstandings and misuse of the term, such as the risk of simply replacing 'accessibility' with 'UD.' Yet, some interviewees did not separate these terms and, for example, wondered about the difference between universal design for learning (UDL) and accessible education. One disability activist struggled with the terms as follows:

A disadvantage can be if people do not understand what it means, if they think: well now they are changing words again. But then it is very important to explain the difference, that it is not a new way of talking about accessibility, that this is something else. ... I try to use it [UD] more and more, I really try. Even though I many times talk about accessibility or write about accessibility; at the same time, I try to lift UD, to explain that it is all actually about this. ... In fact, it is UD we have decided to work towards. It is an international commitment. That is how I use it; trying to educate (i6).

Objections were also raised about the possibility of including everyone: 'Why shouldn't there be different possibilities instead of all the same?' (i5). Another objection was to the perception of an 'old way of thinking about UD, doing one-size-fits-all' (i2). The interviewees were puzzled by the phrases 'all people' and 'to the greatest extent possible' in the CUD/CRPD definition. Does it mean one single solution or various flexible solutions? One interviewee reported how complicated it was and used the example of trying to 'bake a cake' that suits everyone when you have to take into account people with different allergies. That something could work for everyone was regarded as a paradox. Rather UD was explained as individual solutions offering the same value and experience for everyone or 'designing with human diversity in mind' (i8).

However, the common phrase 'as many as possible' was also puzzling. In response to the question about who 'the many' are, one interviewee answered:

It is all kinds of people. Primarily what we call common people, that is, those who don't have so much in their wallets. I would probably say that the limitations to that are a bit of fluid, at least as we stand now in any case. It is possible that things will change in the future depending on demographic changes and other things like that in society (i4).

Expanding design to all people was viewed as a core value of UD, but many remarks after all dealt with disability. One way to express this relation was that UD has a special relevance for those who are excluded by inaccessibility: 'It [UD] is about all, but for some it has more significance' (i6).

Three Ways of Talking about Universal Design

Three ways of talking about UD were discerned in the interviews. They are streamlined simplifications of complex and intertwined ideas. Verbs (guiding, striving and unifying), not nouns, were chosen metaphors to denote direction and process rather than a static outcome. The three ways of talking do not follow individual positions; the same interviewee may have expressed various 'ways' simultaneously during the interview.

1. Guiding the design process

Most of the interviewees were engaged in design processes and discussed the usefulness of UD in such processes and for their outcomes. They considered UD a tool for ethical orientation in the beginning of the process, but also having a provocative quality that served for starting discussions about who has access and which rooms are accessible for whom. One interviewee working with architecture stated:

We who work professionally with accessibility of the physical environment always start talking on the basis of UD. We do not use that term, but it is the very way we talk about making everything accessible to everyone as far as we have knowledge (i3).

However as a process tool, UD was regarded as unwieldy and too abstract to really contribute in the practical stage, especially regarding the time and monetary limits of all jobs. 'It is the next step that is the problem. Ok, we agree with that, so let's go to work—but what shall we do then?' (i2). UD, but also design for all, inclusive design, co-design, participatory design, etc., were perceived as concepts that were too wide and general to offer concrete help in the decision about options. Endorsing UD and letting it support thinking was easy but 'accessibility' was regarded as more helpful during the practical part of the process. This was in part because legal rules and recommendations about accessibility had to be observed anyway. Such guidelines could be evaluated and assessed in contrast to UD, but were also held as common sense and built on long-term research on human needs and experiences.

I use more the concept of accessibility, because I think it has much more precision. I see UD as a kind of almost ethical framework, almost at the level of the convention [CRPD]. If I am facing a design decision, and have to choose between A or B, then I can use the principles [of UD] and take decision A because it will be more universal

than B. But UD doesn't say much about what A and B consist of. Accessibility does, and that's why I see accessibility as a more accurate way to address these problems, which together then become UD, though fuzzier. ... How do we know something is actually universally designed? For that we have to break it down into a lot of different accessibility components. So, I rarely use UD as something you can work on in the design process. I see it more as guiding (i2).

There was also apprehension and even fear that a general and 'fuzzy' term like UD might be used, or even deliberately misunderstood, as an argument to evade complying with accessibility guidelines, causing ad hoc processes and arbitrary results. To persuade unwilling or even resistant companies to consider accessibility, just 'rock-solid legislation' was thought to work, not UD.

I am very afraid of this [UD]. ... to question already existing minimum requirements based on real needs. ... [But] the building sector is overwhelmingly happy about such a floating concept (i3).

Likewise, there was an opinion that too much focus on guidelines may impede fantasy and innovation. UD here turned out to be a creative principle for thinking in new ways about human diversity, tackling wicked problems and turning disagreements and divergences into unexpected solutions.

This harmonisation of UD and accessibility guidelines as complementary and mutually challenging drivers in the design process positions UD as an ethical direction, and accessibility guidelines as a guarantee of a minimum level of accessibility for solutions that work for many. Creativity and compliance converged in the following quotation: 'If you are creative, you solve the problem following the standards – and doing it cheaply' (i1).

The interviewees argued for involving stakeholders in the design process since that is the best way to discover and integrate diverse needs. Such involvement was ideally described as an open and legible process of fair negotiation, resulting in an empathy for others and their way of living. However, different views were presented by designers/architects on how to manage such involvement. One concern was to get hold of all necessary perspectives and the participants' lack of process competence:

You cannot plan just based on a few individuals who are part of a project. Because you will never get the breadth, even if you cover different disability groups. You may have visually impaired, but then you also should have blind. You must have people with wheelchairs, but also people with walking aids, or with poor balance without walking aids. You should have hard-of-hearing and deaf people. And in all what is cognitive. You should have lots of people, and it's still not certain you get it anyway because everyone talks about themselves (i3).

Another perspective was to rather focus on the personal experiences in the design process:

They should not be representatives of organisations ... highlighting just the general aspects and speaking in general terms. Real users, so to speak, have exact stories, like: 'When I went by train and talked to my mother last Thursday, this happened.' These are the stories that you can build on to understand how to design that interface or how a service can meet that demand (i1).

2. Striving for an inclusive society

Another way of talking about UD, mostly by disability activists and civil servants, was in terms of striving for a 'universally designed society,' characterised by the absence of segregating solutions for different groups. Talking about 'utopia' was not necessarily regarded as unrealistic or problematic, since: 'We need to think big thoughts and aim at high goals' (i6).

This way of talking about UD hid a double standard: a present state and a remote ideal. One of the interviewees took the example of the two separate school systems in Sweden:

I think, for the foreseeable future we have to work to make the special school as good as possible and include pupils as much as possible in other activities. But maybe 50 years ahead, or 30–40 years, I want to see one school for everyone, just like I want to see a society for everyone. I like to use the concept of UD in this way, a broad design that is also about a school for all or a working life for all (i8).

According to the interviewees, striving for a universally designed society is a slow but steady process of making the existing overall solutions suitable for more and more people and in the end abandoning separate solutions. They said that striving in such a way should be done with a constant reconsideration and reformulation of strategies according to circumstances and political conditions.

In contrast to the ideal, the present state of affairs was painted dark. There were complaints about the slow implementation of the CRPD. One civil servant said about the transformation of national legislation: 'Absolutely nothing has been done. ... It would have been better to start working, and then ratify when we had come at least part of the way' (i8).

Frustration was also expressed over current inaccessibility. Complaints were raised that minimum accessibility guidelines are not observed: steps are still appearing in the entrances and the balconies in new housing complexes. When asked for solutions, the answers did not mention UD, but rather stronger compliance to existing guidelines. 'When you meet resistance, the tools you have at hand are the building rules' (i3). Going to court to enforce them was regarded as very complicated, since someone has to press charges and take the economic risk.

Contemporary policy changes related to disability were perceived as a dismantling of support, and there were apprehensions that UD might be used by authorities as a pretext for withdrawing certain services. For example, special transport (general term for the municipal mobility transport service for disabled people) was regarded as a compensatory necessity due to the inaccessibility of general public transport, but had according to one testimony been denied with reference to the supposed general accessibility of modern busses and trains. The interviewees regarded a society without special transport as quite unrealistic and in general saw the need for special support services on a group level for 'a foreseeable future.' This was not seen as contradictory, but rather complementary to UD since solutions in the end have to be designed and 'adapted' individually in accordance with the right to reasonable accommodations: 'Even in a universally designed society, some people in certain situations will need individual adaptations' (i2).

After all, Swedish society and ways of governance were referred to as being grounded in trust and collaboration. Consumer power, national campaigns and alliances were believed to bring change. Market forces were, on the other hand, characterised as rapacious, in need of being domesticated by political pressure.

3. Unifying policies into a whole

A third way of talking about UD, mostly among policymakers and those who actively advocate UD, contains descriptions like: a 'base for the construction of society,' a 'design for diversity' or 'a view of humankind' related to dignity, freedom and independence. UD was also depicted as a 'democratic method' for recognising the rights and unique value of every individual, and for insisting that each individual had the opportunity to govern his or her life. This evolution of UD from a limited concept for designers and architects to a 'higher level' was expressed like this:

I think it [UD] responds to policy needs. That is where it has the greatest benefit, as a policy and some kind of ethical thinking; agreeing that it is an important principle to strive to design things so that as many people as possible can use them. In that way, it can have a tremendous impact by showing that 'we see you.' It gets into the legislation and in all sorts of places—telling how things should be. And there is a general acceptance in large parts of society: that this is the way it should be. We should not design for exclusion—it seems silly. And now we have even lifted it into legislation, and to the highest principles that humanity has. ... Now it's a kind of a guiding principle for everything we do. All things we construct as human beings should be guided by this principle. So, in a way it is an incredibly successful concept (i2).

Likewise, UD was referred to as an answer to the congestion of competing policy perspectives, such as different grounds for discrimination, but also sustainability and aspects of durability or quality. One interviewee explained how UD could integrate different policy fields and discourses into a whole:

The spirit of the times is very much divided into silos. You work very hard to achieve results in a limited area but are not very good at seeing the bigger picture. ... I think you miss a lot of things in between—and what UD can contribute to is bringing together the whole. I would say this mindset can contribute to a more holistic point of view; so that you think bigger in what you do, in order to get the bigger picture (i7).

A proposed strategy was coupling UD to the sustainable development goals in the UN Agenda 2030, since it was considered to have a nationwide engagement and a normative nomenclature. According to the interviewees, UD could economise resources to avoid expensive and unsustainable retrofits. 'The more universal a product or service is, the more sustainable it seems to be' (i2). Finally, UD as a holistic and unifying concept for the interviewees implied democratic methods of involving a diverse population in decision-making processes, but also possible dilemmas of representation and conflicts of interest.

A systematisation

Table 3 presents the function, orientation, application, goal and dilemma of the three ways of talking about UD:

Guiding implies an instrumental orientation to UD as a tool for the design process with accessibility as the goal, but also as abstract and fuzzy in relation to accessibility guidelines.

Striving means UD as an ideal society without segregation implying a visionary orientation. Being utopian in nature, though, it risks postponing or delaying necessary development.

Unifying is applied with convictional orientation at the policy level, aiming at political and societal inclusion but has to deal with conflicts of interests.

Table 3: Function, orientation, application, goal and dilemma of the three ways of talking about UD.

Ways of talking about UD	Function	Orientation	Application	Goal	Dilemma
Guiding	Process tool	Instrumen-tal	Design process	Accessibility	Abstract
Striving	Ideal	Visionary	Society	UD	Utopian
Unifying	Integrating	Conviction-al	Policy level	Inclusion	Conflict of interest

Discussion

The interviewees in relation to the evolution of UD

Behind the shared image of UD as enriching and exhorting for action and change, there was a notable variation in the understandings of the concept. Their collective view covers trends and stages in the conceptual evolution of UD like equitable design solutions, flexibility, social innovation, process orientation, user involvement, empowerment for marginalised groups, diversity and democratisation (cf. Danford & Tauke 2001; Levine 2003; Steinfeld & Maisel 2012; Welch 1995). The exception would be that the market orientation of the American pioneers in the field was not conspicuous.

Verbal references to authoritative documents such as the CUD/CRPD definition were few, albeit the statements of the interviewees circled around it, indicating the definition's dominance. For example, can the discussion about one or many (flexible) solutions be traced to the inherent ambiguity between 'all people' and 'to the greatest extent possible' in the definition. Obviously, the nature of the solution depends on the area of application: public spaces should serve all, while digital solutions have a high potential of flexibility. CUD (Connell 1997) asserts identical means of use for all users when possible, but 'equivalent when not.' Complementing attempts to nuance this is done by the Nordic Charter on UD, for example, which advocates 'built-in adaptability and compatibility, to facilitate for as many people as possible' (Nordic School of Public Health 2012).

The interviewees felt free to discuss, disagree and express scepticism, uncertainty and resistance to UD. Bothersome and provocative sides of UD were highlighted. UD does not seem to leave people unaffected, like many other policy 'buzzwords.' Especially, the word 'universal' was perceived as problematic, since it indicated an outdated modernist way of thinking of a generic universal human being with universal conditions. 'Unfortunately, there is no universal design that works in all contexts,' write Wikberg-Nilsson et al. (2015: 191), while simultaneously embracing 'design for all.' That and 'inclusive design' do not elicit the same reaction, indicating that UD might not be as self-explanatory as other terms. Misunderstandings and 'popular assumptions about the term' [UD] is the reason why Treviranus (2018) prefers 'inclusive design.' However, the provocative potential of UD may serve for discussion and stimulation.

The interviewees' alternated between 'accessibility' and 'UD'. UD was presented as an ideal inclusive society, reached by means of accessibility, but accessibility could also be the aim of UD processes. Yet, accessibility was more associated with requirements and something that could be assessed. Guidelines were helpful but also impeded fantasy and innovation. The dichotomy between accessibility as 'mandate' and UD as 'movement' (Knecht 2004) is reflected in the interviews but without a sharp division. Complying would be coupled with creativity, but clinging to accessibility may be rational in Sweden where that term seems more familiar and accepted than UD. The recent vision document, Stockholm 2040 (Stockholm City 2020), for example, uses 'accessibility for all' but not 'UD.'

UD in Practice

There were even more serious apprehensions in the interviews of UD being hijacked by companies to evade compliance and investing in accessible solutions, or by political organisations for saving money by dismantling support with reference to existing general accessibility. The fact that such experiences were not described in the first person but rather as misunderstandings that were more noticeable some years ago, does not mean that such suspicions should be ignored. In fact, they are alluded to in the second part of the UD definition in Article 2 of the CRPD, stating that UD 'shall not exclude assistive devices for particular groups of persons with disabilities where this is needed.'

How then does one favour 'assistive devices' and at the same time oppose 'adaptation or specialised design'? The interviewees saw support systems on the group level and reasonable accommodations for the individual as complements to UD. For example, special transport was a necessary substitute while striving for the UD society. Does such acceptance of a segregated service hinder or delay innovation? Which interests are really working for a universal transport system that comprises the flexibility of special transport and the stability of today's general solution? Such ideas have been around since the 1970s (SOU 1975:68) but one has also to ask both whether UD always means a unified administrative system, and what is realistic to achieve. Do utopias risk becoming a destructive illusion of the impossible? Does a more realistic vision yield a more suitable inspiration and strength to advance at least one step?

Lid (2020) stresses equivalence in people's experiences rather than grand unpersonal solutions, and argues for personal(ised) and holistic 'total solutions' for a broad spectrum of social roles and contexts of experiences. In her Norwegian context, UD means both legal requirements and an overarching political strategy for participatory governance and equality. She separates UD on macro and meso levels: as 1) a human rights dimension of accessibility and a new

way of thinking about and understanding equitable accessibility based on the fact that people are different' (Lid 2020: 94), and 2) accessibility legislation and institutional services in municipalities and cities. These levels interplay and the CRPD should, according to Lid (2020: 22), have an impact on all levels. The three ways of talking about UD in the present study may be an alternative way of discussing UD and may be better than 'levels' for illustrating the factors needed for realisation.

Utility of the Three Ways of Talking About UD

The three ways the interviewees talk about UD relates to vital aspects in a broad view of the UD concept and its realisation and implementation. *Guiding* relates to the design of products and environments in the CUD definition while *striving* and *unifying* relate to the CRPD's amendment of design of programmes and services. While *striving* is more about a remote goal, *unifying* seems more urgent. However, those who believe in a unifying orientation of UD seem to disregard conflicting interests in society, thinking that all policymakers would endorse UD as a unifying concept.

Hitherto, UD has been discussed mainly in disability policy, despite its message expressed in General comment No. 7 as: 'mainstream disability through inclusive policies' (United Nations 2018b §18). Such a change implies democratic processes with active involvement in decision-making. This relates to the vision of a society for all and the 'human, social and economic development of society' and its 'well-being and diversity' in the CRPD (Preamble M).

Both *guiding* and *unifying* stress the involvement of users and citizens, but while there was a lot of practical experience of this in the design processes, there were few references to such for societal processes of decision-making. The dilemmas of representation and power relation are probably the same, or even more critical when it comes to designing programmes and services as contributors or equal partners with authorities (cf. Lid 2016; Treviranus 2018).

Instead of opting for one of the three ways of talking about UD as correct, they may interact and complement each other. A guiding tool without an aim or direction is of little use; just clinging to a remote vision may reduce the urgency for taking action against inaccessibility and discrimination, and give the impression that UD is optional for ambitious politicians or companies. That can delay change and prolong existing separate solutions. Furthermore, if the unifier just operates in the sphere of policies, it will never make a change in people's real lives, since policies often are far from practice.

Hence, for the realisation of a more inclusive society, UD can serve as a provoking guiding principle for design processes as well as yielding inspiration from the vision of an ideal society. It may also gather disparate and sometimes competing policy perspectives around a common hub. The interviewees mentioned sustainability as a related policy realm, also discussed in relation to UD by Vavik & Keitsch (2010) and even by the UN General Secretary, in 2013 saying that: 'The principle of universal design' is an 'essential investment for sustainable development' (Handikappförbunden 2013: 11).

To end, if UD were a sailboat, the rudder would be the *guiding* principle directing it, the fore would point us toward the vision and goal we are *striving* for, and the mast would be the *unifying* of policies which hold the parts together. Steering depends on the winds, i.e. the opinions and political decisions, in order to not end up drifting around. Such a wide and dynamic understanding of UD may better promote social innovations for inclusion and social sustainability than a narrow but uniform idea about UD.

Conclusions

This qualitative interview study contributes new knowledge about how UD is understood, practised and realised in Sweden. Eight professionals who in different ways relate to UD within academia, business, civil society and the public sector were interviewed about how they interpret, practise and view the realisation of UD. They expressed personal and unauthoritative interpretations of UD but agreed that it is an enriching concept for the design process and governance in society. Their views reflect the diversity of trends in the conceptual evolution of UD, with the exception of the market orientation. Some of the opinions, arguments and sentiments resemble inherent ambiguities in the CUD/CRPD definition.

Interviewees expressed curiosity and openness but also uncertainty and disruptiveness towards UD, partly due to the word 'universal.' UD and accessibility were used interchangeably, even if accessibility was more associated with complying with guidelines and UD with creativity and innovation. UD was held as a provocative quality for triggering discussion and creativity. However, there was apprehension that authorities and companies might hijack UD as a pretext for either dismantling services or for evading compliance with accessibility guidelines.

Three ways of talking about UD were discerned:

1. **Guiding the design process.** UD as a tool for ethical guidance in the beginning of the design process, basing it on diversity through involvement and directing it towards accessible solutions for all, but too abstract for practical orientation and evaluation.
2. **Striving for an inclusive society.** UD as an inspirational vision and driver for an ideal society-for-all without separate solutions, however utopian and at the risk of delaying necessary action.
3. **Unifying policies into a whole.** UD as integrating disparate or competing policy perspectives and involving human diversity in governance, but with the dilemma of not considering conflicting interests.

These three ways of talking about UD can reinforce and facilitate the formal implementation of CRPD as well as the practical realisation of an inclusive and sustainable society through social innovation based on the human diversity in its full extent.

Acknowledgements

Thanks to the interviewees who made this study possible and to colleagues in the *Rätt från början Project* at the Swedish Disability Rights Federation for daily encouragement.

Competing Interests

The authors have no competing interests to declare.

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How to cite this article: Erdtman, Emil, Kirsten Rasmus-Gröhn and Per-Olof Hedvall. (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. DOI: <https://doi.org/10.16993/sjdr.770>

Submitted: 23 September 2020 **Accepted:** 04 February 2021 **Published:** 28 June 2021

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