

## What is Universal Design Theories, terms and trends

**Knut M. Nygaard**

NLB – Norwegian Library of Talking Books and Braille  
Oslo, Norway  
kmnyga@gmail.com



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### **Abstract:**

*The purpose of this paper is to reflect on the concept of universal design. In the paper I will discuss what universal design is: the scope of this concept (theory); universal design and other concepts used for inclusion (terms); and how universal design is changing (trends).*

**Keywords:** accessibility, disabilities, libraries, sustainability, universal design.

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### **Introduction**

In this paper I will discuss the concept of universal design. I will discuss what universal design is and what is within the scope of universal design (theory), universal design and other concepts used for inclusion (terms), and how universal design is changing (trends).

### **Universal design**

The term universal design was conceptualized in the middle of the 1980s by the American architect, Ronald L. Mace.<sup>1</sup> His view was that universal design requires only an awareness of need and market and a common-sense approach to make everything we design and produce usable by everyone to the greatest extent possible. Mace's definition of universal design is "The design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design."<sup>2</sup> The idea is that universal design is necessary for some people, but at the same time benefits everyone. The aim is to simplify life for everybody, and the target group is everybody, regardless of age, size or ability. If you look at the aim and the target group, the scope of universal design must be complex. It is really challenging to reach this aim and target group. It is interesting that the focus on disabled people and disability is missing.

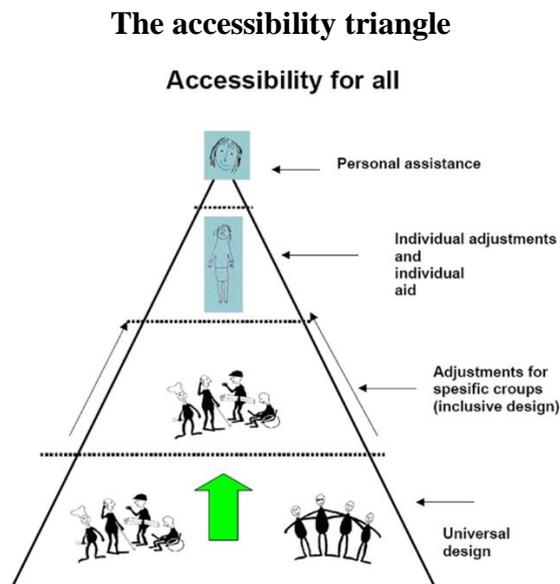
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<sup>1</sup> North Carolina State University 2008a

<sup>2</sup> North Carolina State University 2008b

## In the scope of universal design

Universal design is in other words about achieving an inclusive society where everyone has equal opportunities to participate, whether they are young, old, disabled or able-bodied. This means to design products, environments, programmes and services so that everyone can use them, to the greatest extent possible, without the need for adaption or specialized design. Universal design shall however not exclude assistive devices for particular groups of persons with disabilities where this is needed.<sup>3</sup> I think this is really important. Universal design is not a single solution that solves all problems and makes the world inclusive for all. It must be seen in combination with solutions for specific groups. For instance, in a library, hard of hearing users may need an induction loop, while visually impaired users may need tactile paths. Both are special solutions for specific groups, but at the same time a part of making the library universally designed. Whether you can claim that a library is universally designed without having an induction loop and tactile paths is a good question? If you can the library will be universally designed but not accessible for all, therefore it will not fulfil the intention of universal design.



Source: The Delta Centre, in Moseid 2006, p. 4

The accessibility triangle illustrates this issue. The triangle is divided into four sections, where the basic section contains universal design as the main strategy. The next section of the triangle contains adjustments for specific groups, or inclusive design. The third section contains the need for individual adjustments and individual guidance. The top peak of the triangle is meant to secure the need of some few individuals requiring personal assistance. Persons with large and complex disabilities often need a personal assistant to partake in different activities.

The point here is that you need a combination of the four levels to make a library, for instance, accessible for everyone. It is important to remember that the more effort you put into universal design as the major strategy, the more inclusive the library services will be. By ensuring that the division line between sections is pushed towards the top of the pyramid the library can be made more inclusive for all. Maximising the ceiling in each level of the model means less effort will be required to make special solutions at the next level.

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<sup>3</sup> United Nations 2006

Again we return to the question what is universal design and what is within the scope of this concept? Is the whole pyramid within the scope of universal design? Is it just the first section? Or maybe the two first sections? In my view the whole pyramid must be within the scope of universal design, because the levels are so closely linked together that they form a whole, here called accessibility for all. We have earlier looked at the aim of universal design and the enormously broad target group. To reach the aim and the target group, the first section of the triangle is not enough, you need the whole pyramid.

### **Micro, meso and macro level**

Another definition of universal design is made by Inger Marie Lid Professor at the VID Specialized University.<sup>4</sup> She describes universal design as a value-based strategy to achieve an inclusive society with space for all people. The human diversity should be protected and be given space. In the discussion she uses two concepts, equitable accessibility and universal design, and says it is important to use them together to form a whole. An important professional challenge is to find a good balance between individual and general adaptations and adjustments. In her view individual adaptations are sometimes needed as part of a universally designed entirety, and that personal service in some situations may be a supplementary part of the universally designed total solution. In my view both her concepts are within the scope of universal design. Lid also suggests three different levels of universal design: Macro, meso and micro, where the meso is the level with technical solutions and standards. The level where the initiatives traditionally have been implemented. In the micro level we find the individual perspective with acknowledgment, perceived quality, accessibility and usability. Even if the micro level is within the scope of universal design it is more appropriate to use accessibility and usability. The macro level is the upper strategic level. This includes elements of universal design such as ethics, values, humanity, democratic citizenship and political principles. Together these three levels give us a broader and in my opinion better definition of universal design.

In the paper we have so far been speaking about different kinds of barriers that have to be considered and handled. We have been speaking about both physical and architectural barriers. But there is a third kind of barrier that falls within the scope of universal design, attitudinal barriers. If we use Lid's explanation, with universal design at different levels, we find that universal design interpreted at a macro level, as democratic citizenship, includes respecting all citizens as equals. An example of attitudinal barriers can be that attitudes against people excludes them from taking part in the society, for instance attitudes against homeless people or people that have served prison sentences.

### **Terms**

We have so far discussed what universal design is, and what is contained within the scope of this. Let us move to the conceptual usage. A major challenge when it comes to the efforts to promote a more accessible society are the many different concepts that are used internationally. To name a few we have:

- Universal Access / Universally Accessible
- Accessible Design:
- Usable Design
- Adaptable Design
- Barrier-free Design

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<sup>4</sup> Lid 2013, pp. 19-21

- Design for all
- Inclusive Design
- User-sensitive inclusive Design
- Cooperative design / Participatory design
- User oriented Design

To make this even more complicated, some of the concepts imply different things. Some may mean the same but are used in different geographical areas, some may involve different things in different geographical areas, and some may mean different things, given the setting they are in.

Using Scandinavia as an example, the term universal design is used in Norway, while accessibility is used correspondingly in the other Scandinavian countries.<sup>5</sup> In Norway there is a distinction between the terms, but not in Sweden and Denmark. In Norway, accessible solutions are explained as special solutions for people with disabilities, while universal design is about solutions designed to be used by everyone. At the same time, in Norway, accessibility also sometimes means the same as universal design. Here it is implied that both are describing universal design. In other words, this is complicated.

If we return to the different terms, all describe accessibility and various concepts used for accessibility. A major problem is that the concepts are frequently used without being explained or defined, this makes it difficult to understand the actual meaning. A call here today is that everyone should be better at explaining what they mean by the term they prefer to use.

## **Trends**

Let us move back to universal design and discuss the development and where universal design might be going, in other words trends. In 2012 there was a large international conference on universal design in Oslo, UD2012, with participants from over 44 countries. Following this conference, the anthology *Trends in Universal Design* was published. This was based on the conference material and featured three trends that I would like to present here.<sup>6</sup> It's four years since the anthology came out, and I will therefore attempt to say something about how accurately these predictions have described the development that has actually occurred.

The first trend is a move from regulation to innovation. In other words a tendency to shift attention from meeting minimum requirements to designing new and better solutions. Focussing only on standards for different user groups could give too much attention to minimum standards. We need to have focus on research and innovation instead of making minimum solutions. In response to this, the Department of Information Technology at the Oslo Metropolitan University, led by Professor Frode Eika Sandnes, has launched an international master's study "Universal Design of ICT".<sup>7</sup> Within development and maintenance, there is a need for professionals who can lead the development work. Within control and quality assurance, there is a need for professionals who can verify whether solutions comply with laws, standards and guidelines (audit). Within research and innovation, there is a need for professionals who can develop new technology and ensure that universal design is taken care of in other technology development. The goal is to look beyond, create visions, and be in the front of the development.

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<sup>5</sup> Gaates 2015, p.18

<sup>6</sup> Haugeto 2013, pp 6-9

<sup>7</sup> Oslo Metropolitan University 2018

The next trend is a shift from accessibility to inclusion - considering the whole rather than detailed individual measures. From physical solutions, such as ramps for wheelchair-users and tactile lines for visually impaired people, to the total service or activity that is going to be universal, such as visiting a library, making a journey, or participating at a conference. This is what we are doing in the IFLA-LSN section, where we are making guidelines for universally designed Library Services. We have for example made IFLA Guidelines for Library Services to People Experiencing Homelessness and IFLA Guidelines for Library Services to Persons with Dyslexia. Inclusion is also within the scope of the United Nation Sustainable Development Goals (UN SDGs), which I will come back to.<sup>8</sup> The focus is that the social inclusion perspective should be a stronger driving force in universal design, together with a stronger user perspective.

The final trend is from barriers to sustainability. To regard universal design as something that concerns the whole community, not solely a minority. To focus on barriers for a minority of the population may seem expensive, and efforts could be made trying to limit the expenditure used on accessibility. On the other hand, inclusion supports contribution, quality and growth, to build a sustainable society, where all individuals should have possibilities to participate. This is a part of the work with the UN SDGs.<sup>9</sup> Included in the UN SDGs are; creating accessible cities, through affordable accessible and sustainable transport systems, and universal access to safe, inclusive, accessible and green public spaces. Promoting inclusive economic growth through allowing persons with disabilities to access fully the job market. Guaranteeing equal and accessible education by building inclusive learning environments and providing the needed assistance for persons with disabilities. In this way, the SDGs aim to foster inclusive societies and ensure dignity and equality for all people.

## **Conclusions**

In this paper, universal design has been described as a value-based strategy to achieve an inclusive society with space for all people. Universal design is not a single solution that solves all problems and makes the world inclusive for all. This was illustrated by the accessibility triangle, divided into four sections, from the basic section with universal design as the main strategy, through sections for adjustments for specific groups and the need for individual adjustments and individual guidance, to the top peak, meant to secure the need of some few individuals who need personal assistance. The conclusion is that it is necessary to combine universal design with adaptations for specific groups in order to reach the target group and meet the overall aim. Further, that this combination is within the scope of universal design.

Universal design was described on three levels, macro, meso and micro, where the macro level as the strategic, the meso level as the level with technical solutions and standards, the level where we traditionally have implemented the initiatives, and with micro as the individual perspective. The conclusion is that together these three levels give us a broader and more usable definition of universal design.

Internationally many different terms are used for describing accessibility and inclusion. This makes it complicated to keep the overview, because it can be difficult to understand what exactly is within the concept that is used. Some of the concepts imply different things, some may mean the same but are used in different geographical areas, some may involve different things in different geographical areas, and some may mean different things, given the setting they are in. The concepts are also frequently used without explanation or definition. The

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<sup>8</sup> United Nations 2012a

<sup>9</sup> United Nations 2012b

conclusion is that everyone must be better at explaining what they mean by the term they prefer to use.

Three trends were examined with the conclusions that these describes the development. The attention in universal design is shifting from meeting minimum standards to developing new and better solutions, from facilitating physical solutions to offering accessible services or activities, and from dismantling barriers for the few to being included in the concept of sustainability.

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