

# THE VISUALLY IMPAIRED AND COOKING AS A LANDSCAPE OF PRACTICE

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## ABSTRACT

This article discusses how the theory of learning based on landscapes of practice can be used in universal design. Universal design is the development of products and environments in such a way that they can be used, as far as possible, by all people without customisation or assistance. To secure accessibility, standards and regulation have been developed for how environments and products should be produced. However, these standards are often just minimum requirements, accessibility for a wheelchair user is not the same as accessibility for a blind person. If you only follow the standards, accessibility is limited.

Regarding not only professionals but also different groups of users as part of the landscape of practice can create increased accessibility. To exemplify this point, this article focuses on the case of blind people's relation to cooking food. It argues that the studies carried out can be implemented for other themes and user groups, and that introducing interdisciplinary practices of working in design education can lead to students developing products and environments that are more accessible.

The methods used for this article include in-depth interviews with three people who have experienced sight loss on how they experience cooking, as well an interview with a person who provides visual rehabilitation courses. An experiment involving removing vision while working in the kitchen was also carried out. The findings help us to understand what kinds of difficulties can occur, what people need and how learning from the landscape of practice can contribute to creating universal design.

*Keywords: Universal design, landscape of practice, diversity, visually impaired, cooking.*

## 1 INTRODUCTION

We live in a world with people of different cultures, religions, backgrounds and abilities. In order to value diversity, and what it can bring to a society, society needs to be accessible. Universal design is the development of products and environments in such a way that they can be used by all people without customisation or assistance as far as possible [1]. Norway strives to be accessible by the year 2025 [2]. To secure accessibility, standards and regulations have been developed for how environments and products should be produced. However, following the standards alone can result in limited accessibility.

There are many groups of people with different disabilities that all have different accessibility needs. To exemplify the possibilities of using the landscape of practice in relation to universal design, this article focuses on visually impaired people's relation to cooking food. This group was chosen as a case because we live in an era dominated by the audio-visual, which means that without these senses it is difficult to navigate in our society. Moreover, people regard not being able to see or hear as a huge disability and disadvantage. The World Health Organization (WHO) estimates that there are 285 million visually impaired people in the world [3]. Losing one's sight causes different reactions in different people, but losing one's sight abruptly after years as a seeing person can cause a huge loss of independence. An important aspect of managing to live independently is to cook food, an activity that can seem very difficult for visually impaired people who have relied on their sight.

To create accessibility for a diverse society, knowledge needs to be gathered from a diverse pool of experts. This article argues that learning from landscapes of practice offers an approach for working across different communities of practice [4] and is an ideal way to work with universal design. It allows people of different fields to come together to create a larger source of knowledge regarding accessibility. It is argued that a community of practice is not always professional but can also involve

a community of experienced users. In this article, the visually impaired are considered as a community of practice.

## **2 BACKGROUND**

According to Pallasmaa, '[i]n Western culture, sight has historically been regarded as the noblest of the senses, and thinking itself thought of in terms of seeing' [5]. Extensive research has been carried out on visual and auditory cognition, but relatively little is known about tactile cognition [6]. This seems to illustrate a hierarchy of senses. Cognitive skills such as reading and writing are valued more than bodily skills relying on the senses of smell, taste and touch [7].

According to the theory of Jinsop Lee, experiences that stimulate all five senses create a better experience than when only one or two of the senses are stimulated [8]. Cooking and eating are experiences involving all the senses, with the senses affecting each other. The main sense you connect with food is taste, but taste is actually an organoleptic experience. This means that it is an accumulation of several senses at once, and stimulation of one sense causes perception in the other senses [9]. Taste influences and is heavily influenced by our other senses. For example, research suggests that colour can affect taste. Studies have shown that adding red colouring to a sugar solution leads to the solution being experienced as more sweet. This is because we associate red with sweet fruits such as strawberries and apples [10].

It can be argued that designing for the five senses increases the accessibility of a product. In addition, a product that provides information that can be interpreted by several senses provides a better experience, as well as ensuring that more people can understand the information, even if they lack, for example, vision or hearing.

## **3 METHODS**

### **3.1 Interviews**

An interview was held with a person who works at *Hurdal syn og mestringssenter*, which offers courses related to visual rehabilitation and how to master your everyday life. The first course you are invited to is an introductory session where you can bring along a close family member or friend. There is then a basic course with an introduction to assistive devices and to the subject areas they teach. You can later choose subject areas you would like to learn more about, including cooking. You cannot access these courses until you have become visually impaired, with a visual acuity of 0.33 or other damage to your sight. If you are not classified as visually impaired, the cost of the course is not covered by the Norwegian Labour and Welfare Administration, *Arbeids- og velferdsetaten* (NAV). In the cooking course, the participants get to try out cooking while learning about different techniques and different kinds of equipment. The course also helps you to apply for assistive devices that may be needed.

Interviews were also held with three people with different levels of vision: a male with 20% vision who lost his sight at an older age, a woman who slowly lost her sight and now has about 1% vision and a woman who has been blind all her life and has some light sensitivity. They all have different perspectives and different needs, but they share in common the fact that they do not use a lot of assistive devices.

### **3.2 Blindfold experiments**

It would have been ideal to have carried out observations of how these visually impaired people work in a kitchen, but because of illness and other factors involving my informants, this did not prove possible. Instead, experiments were carried out into what it is like to cook and prepare food blindfolded. This creates a whole new appreciation of the senses and gives you a deeper understanding of what kinds of activities are actually difficult.

Although these few experiments do not equate to what it is actually like for someone who lives their life with low vision (as it has been proven that if you lose one of your senses, the brain and body will develop and enhance the other senses [7]), they did prove helpful in preparing for the interviews with the visually impaired. Before the experiment, the entire concept of cooking without seeing seems like a daunting task for someone with sight.

### **3.3 Benchmarking**

Research was carried out into the assistive devices that exist by visiting NAV's assistive device centre and the different shops that sell helpful equipment (e.g. *Adaptor Hjelpemidler AS* and *Enklere liv*). NAV only gives out devices that are absolutely necessary, such as talking kitchen weights and talking microwaves. Other supplies that are seen as necessary for everyone have to be bought by the visually impaired themselves. For example, *Adaptor Hjelpemidler AS*, which specialises in universal design for visually impaired and elderly people, sells common objects such as measuring cups with bigger or tactile numbering. Talking clocks are among the common devices that are seen as needed, but even though they may be more expensive than ordinary products, they are not available from NAV. Rather than being aesthetically pleasing, these assistive devices often have a special style and are recognisable as aids and functional items for people with special needs.

## **4 RESULTS**

As a result of these interviews and experiments, a number of interesting areas emerged that have the potential to lead to interesting design projects. Visually impaired people deal with prejudices in our visual society where it is believed that they can no longer do many things because they have lost their vision. It is a big hurdle to admit to yourself, as well as to others, that you are visually impaired. For instance, the woman I spoke to who has slowly lost her vision to the point that it is now 1% rarely wants to use a white cane because everyone can then see that she is visually impaired. She knows that the cane helps her to get around, as well as enabling the world around her to take precautions. But she still does not want to use it.

Using the stove is a kitchen task that most visually impaired people experience as difficult. This is because the heat is a deterrent, and it is difficult to turn on the cooktop and know where to place the kettle. It is possible to mark the switches and find techniques to locate where the kettle should be placed. Induction tops are really difficult to use, with their buttonless, slick surfaces. An induction stove has been developed with a silicone cover that can be put on top, but this is not something you can buy if you already have an induction stove. So there is the potential to create something that is more flexible and fits more induction cooktops. As the touch screen becomes more and more common, it is also important to realise how difficult this is for visually impaired people.

It might be assumed that it is difficult to use knives for cutting, but the blindfold experiment proved that this was not that hard. This was confirmed by one of the interviewees who had obtained a thimble-like device that protects fingers while cutting, but never uses it. She finds the knife to be an extension of her hand and that she has better control using small knives and her free fingers than using the assistive device. What actually did prove difficult was finding things. All the interviewees had systems for how they store different products. For example, they might put one elastic band on the milk carton and two on the juice carton or put flours in differently shaped containers so that they can recognise the products that originally had similar packaging. They also need to know where everything is in the kitchen, and they have specific places for equipment so they know where to find it. In this respect, there is the potential for designers to create recognisability that goes beyond the visual. Often, the shape of the packaging becomes part of the brand, but when different products are in similarly shaped packaging, they are not tactilely recognisable.

Designers often become mini-experts in the projects they are working on. But they never gain the full knowledge of the experts who are educated in the field. In universal design, the users are the experts. It is clear that the visually impaired are the ones with the knowledge of what is actually needed.

## **5 DISCUSSION**

Part of landscape of practice theory is that our competences and experiences are dynamic and affect each other. Listening to how people experience or carry out a practice may challenge the community's current regime of practice. A community of practice does not develop if new experiences and impulses do not occur. According to Etienne and Beverly Wenger-Trayner, 'Any new experience that does not quite fit the regime of competence may cause the community to inspect and renegotiate its definition of competence' [4]. This means that new experiences lead to new competences. In the field of universal design, architects and designers may gain new competences if they try to experience their projects through the eyes of people with disabilities as this can challenge their current ways of thinking.

The challenges faced by a community of practice may be refused and dismissed. One of the interviewees told a story of how a group of people had gone to inspect a library that claimed to be universally designed, but they noticed that it was not. This was denied by the creators as they had followed the standards and regulations of universal design. In this instance, the community of people with different disabilities was not seen as knowledgeable and competent in the area of universal design. However, it would seem to be a mistake to dismiss the competence of this community as they have the appropriate experience.

At the same time, the interviews also show that there are differences in how an individual experiences accessibility. This relates to their different degrees of vision and their personal history relating to sight. Our perceptions as an individual are due to the processes of our mind [11]. What works for one visually impaired person may not work for someone else who is also visually impaired. It is important during education to be made aware that our perspectives are shaped by our own prerequisites. When working with a design that relies on presenting information through audio or visual means, it may be interesting to explore our own perceptions by removing our vision or hearing in order to experience how the design works. Such new experiences lead to new competences.

Even bigger differences occur due to the demands of different people with different disabilities. For example, wheelchair users, the deaf, immigrants, the elderly and children all create their own communities of practice that need to be involved in the landscape in order to create better accessibility. If the theme of creating accessible kitchen tools were to be developed further, it could include other communities of practice such as chefs, but it is equally important to look at individual experiences within the community.

## 6 CONCLUSION

A hierarchy of knowledge often occurs in product design education where it is believed that knowledge is delivered by those who produce it to those who receive it. However, in a landscape of practice, the different groups are equal as practitioners. In universal design, the different communities of experienced users should be considered as equal to the communities of practice involving designers, architects, engineers, physiotherapists and other specialists. Their perspectives on the matter as individuals can provide a greater dimension to universal design knowledge than standards and regulations by themselves.

By using anthropological methods such as interviews and observation, students in product design education may gain a better understanding of the needs of the user groups, as was discovered through the interviews in this article. These methods produce qualitative data providing unique and individual perspectives that have great value. However, the individual perspective is not the same for everyone within a community of practice. Working in an interdisciplinary setting during their education may prove of great benefit to future designers in terms of knowing how to communicate with and create for a diverse range of users. Co-creation and the involvement of a diverse number of communities through the entire process are the best guarantee for securing better accessibility and functionality and ensuring that a product really covers people's needs. This will also increase the value of diversity in our society and enrich our landscapes of practice.

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