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Universal Design: Is it Accessible?

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Abstract Designing products and environments to be usable by the majority of people is the underpinning concept of universal design1. In some aspects, however, universal design fails to meet some of its own principles. This has resulted in a lack of understanding of the concept, which in turn, has allowed the terms "accessibility" and "disability" to inhabit the language of universal design. This means universal design is now bounded by concepts of accessibility, regulations and disability rights, rather than the intellectual challenges inherent in designing for the whole of the population bell curve. The universal design movement recognizes that making headway is proving difficult and is seeking ways to improve its position. Market research, however, indicates universal design is now branded as a disability product and this has implications for consumers, practitioners, and for the universal design movement in general. Discussed are the influence of terminology on the direction and perceptions of universal design, and the dilemmas of applying a regulatory framework as an implementation strategy.

What's in a name?

Language has played, and continues to play, a major role in the development of universal design. Words have the power to define, categorise, and construct meaning. One person assigns a name to something, others learn the name, continue to use it, and through tacit agreement a common understanding of the meaning is established. This rule of common usage means that if I call a chair a lamp, but mean something to sit on, it would be very confusing to others. This is not true of all words, however. Although some words are erroneously used interchangeably, as in the case of using "aggravated" (to make worse) instead of "annoyed" when meaning "to be angry", the intended meaning is understood because the word is commonly misused (Hospers, 1987).

Another example of how words can be erroneously used interchangeably, and yet understood, is on architectural drawings which have terms such as "disabled toilet", "disabled ramp", and "disabled parking". In spite of such toilets, ramps and parking places being fully operational, in this context "disabled" is now commonly used as a short form for "items for people with a disability". Interestingly, the grammatically correct form, "accessible toilet", etc., was not chosen over "disabled". Choosing the grammatically incorrect term shows the value-laden thinking that designers apply to the design features by choosing to identify the attribute of the user (disabled) and not the product or building feature (accessible).

Architectural drawings and public toilets signed as "disabled toilet" clearly show where the focus of thinking remains. If we now merge the notions of disability, accessibility and universal design, we have a three cornered association emerging as a factor which we can call "things for people with a disability". Because universal design automatically includes people with a disability, this is not an issue per se, but the potential for universal design to get bogged down in legislation is more problematic.

Advantages and disadvantages of legislation

Legislation is the antithesis of the original concept of universal design because it locks designs into a given point in time and impedes the notion of continuous design improvement. Nevertheless, there are those who believe that universal design should take the legislative route. Advocates of people with disabilities have good reason to believe that nothing will improve without legislation. It was not until disability discrimination legislation was enacted, that people with disabilities could participate in education, housing, employment, sport, entertainment and recreational pursuits on an equal basis as non-disabled people.

The advantage of legislation is that it forces designers to consider the needs of people with a disability. Good "accessible" design is by and large, good design for most people because it considers physical, cognitive, and sensory, aspects of all users. The disability rights movement fears that market forces, and changes in design thinking will be insufficient to guarantee desired

results any time soon, and that legislation is the safer route in spite of the negative effects.

The major disadvantage of taking the legislative route is that it has a focus on people with a disability. The benefits for others are lost in the quest to meet the requirements of regulations. Legislation encourages designers to think in terms of specialised designs—the very notion universal design is trying to prevent. From the designers' creative perspective, regulations are not welcome because they remove opportunities for creative thought. The needs of people with a disability become just another legal problem.

Legislation, codes and rules cannot cover all situations and events. When legislation is devised, every eventuality cannot be predicted and accounted for. Consequently, legislation can lead to mistakes, inequities, and poor design for everyone, not just people with a disability. Legislation sets design standards at a point in time and is counter-intuitive to the concept of continuously improving designs through an evolutionary process – one of the basic tenets of universal design. As each new design is implemented, it can be evaluated in practice and improvements incorporated into the next version. The alternative to legislation is education, but it is unlikely to be the guiding light of universal design in the near future.

Legislation as a substitute for education

The vision for universal design is to cultivate the creative minds of designers to consider the whole of the population bell curve in their designs. As a Utopian ideal, it is posed as an intellectual challenge for designers, but design schools have shown little enthusiasm for such a challenge. Education in the area of universal design is a low priority for designers and design schools. It is sometimes offered as a subject elective, which again makes it a "special" type of design and not a fundamental part of design thinking. Encouraging design teachers and students to learn about universal design will always be difficult if it is considered "accessible", a special "disabled" design. Word mis-usage once again hinders the development of universal design thinking.

Universal design fails on its own principles

The synonymous use of "universal" and "accessible" also stems from not knowing what constitutes universal design. This vacuum of understanding has allowed other words to inhabit the space and unintentionally hijack the original meaning. The term "universal design" was created in the United States of America, and is known as "Design for All" in Europe, and "Inclusive Design" in Great Britain. Each of these terms is based on the same underpinning concept—designing for the whole of the population bell curve by creating the maximum utility for the maximum number of people regardless of age, culture, and education or ability level. This apparently simple concept seems difficult to grasp, particularly when it comes to putting it into practice.

In an attempt to explain in a more concrete fashion, the Center for Universal Design in North Carolina State University, the home of universal design, developed seven principles to assist designers (1997). Briefly the principles are:

1. Equitable use: people with diverse abilities can use it
2. Flexibility in use: can be operated in more than one way
3. Simple and intuitive use: easy to use without prior experience
4. Perceptible information: all users can "see" how to use it
5. Tolerance for error: unintended and adverse use is minimized
6. Low physical effort: can be used comfortably and efficiently
7. Size/space for approach and use: people of any size or posture can use it

The principles, whilst generally explanatory, have not managed to span the yawning divide between designer knowledge and the diversity of the population. Critics claim the principles are too focused on function and do not address issues such as affordability, participation outcomes or social change. Those who are seeking practice guidelines cite lack of evidence and measurable guidelines, and that the language is unclear and somewhat contradictory (Steinfeld, 2008). These criticisms suggest that not only are the principles of little help, but also indicate the main flaw is buried within the concept itself—universal design is not universally designed—it is not easy to understand or simple and intuitive to use. The issue is not the nature of

the principles per se but the nature of the underpinning concept. Universal design is difficult to put into practice because designers have no experiential reference point from which to begin their thinking.

The role of language in universal design

New ideas need a base point from which to build the new knowledge: they cannot be developed in a vacuum. Universal design is a new idea—a different way of thinking about design. From the vacuum created by this newness a reference point of understanding has emerged—that of disability, albeit by default. When I explain universal design to others it is not until I describe how it will help someone with a functional difficulty does a look of recognition dawn accompanied by phrases such as, "Oh it's for the disabled!" almost suggesting that I should have said so in the first place. Clearly universal design cannot be understood without reference to disability. This is not an issue in itself: universal design automatically includes people with a disability, but the semantic difference is that it is not specifically for people with a disability thereby suggesting the exclusion of others.

Once locked into the disability scenario, the knock-on effect is that designer thinking defaults to disability discrimination legislation, accompanied by fears of litigation. In this environment designers tend to focus on prescriptive answers rather than meeting the intellectual challenge posed by designing inclusively. This fear also has the power to truncate the advancement of the underpinning concept of universal design. As we can see, the domino effect of using one term to mean another has the power to fracture and distort a concept whether intentional or not. It has the power to remove universal design from the domain of being for everyone, to that of being disability specific. The vexed issue of word usage, as discussed earlier and the implications for universal design come sharply into focus at this point. Perhaps this is why science is being recruited to the cause.

More science or better branding?

At a recent international conference, several speakers introduced the argument for an improved and expanded evidence base for universal design, and to engage in more "scientific" science. There was discussion about developing a form of research equivalent to the "gold standard" of the

medically based randomized control trials. The disability movement has spent years, with some success, distancing itself from the medical model, and it is somewhat alarming to find that we are turning full circle with terminology such as randomized control trials and evidence based practice. Paradoxically, the continuous improvement and evaluation processes of universal design have the capacity to side step the pitfalls of experimental science and still make improvements to designs. This practice based evidence can be documented and analyzed. In my view, this is not second rate science, just a different approach to science. It is unclear if more "scientific" science will serve the purposes of universal design. It may demonstrate the efficacies of universal design, but it will not necessarily make it more desirable and acceptable to consumers or designers.

At the same conference we heard the results of two research projects that focused on consumers and their preparation, or lack thereof, for ageing lifestyles. "Universal design" failed to register with consumers who had little, if any, idea of what it meant. This indicates that the term is still regarded as jargon and in marketing terms, lacks a brand. We also heard that consumers rarely purchase products based on efficacy alone because desirability is the key to making a sale. A product, therefore, labelled as a "disability" product has no appeal, even to people with a disability. The conclusions drawn were that the term "universal design" should be abandoned because it will have no appeal to consumers (or designers) regardless of how efficacious it is proven to be. (Wylde, 2008; Bright, 2008)

Is there a future for universal design?

Clearly those who wish to continue the promotion of universal design in its original form are in a fix. Lack of understanding and misusing "universal design" has created a void in which "accessibility" and "disability" now reside. As such, it has evolved from a process to a product; a disability product. This was unintentional, but we cannot turn back time. Universal design is a synonym for "disabled" design in the hearts and minds of disability rights activists, legislators and designers alike. From my perspective, the universal design movement has three choices. The first is to let the term "universal design" remain a synonym for "accessible design" for people with a disability, and make the best of the regulatory route. The second choice is

to continue the fight for recognition of the original concept as designs for the whole of the population, and to work harder on branding and education. The third option is to give up the nomenclature battle but not the cause, and develop another "brand" that will carry forward the concepts of designing universally. I fear that the benefits of the conceptual process underpinning universal design will be lost unless the movement becomes more strategic about promoting and developing its own form and function. Perhaps the time has come for a "product recall".

Summary

Designing universally has great advantages for many people with a disability, as they are automatically included in the design. This does not mean, however, that accessible and universal can be used interchangeably without distortion of meaning for both. Universal design is a concept, but has become a product; moreover, a disability product. Disability issues stand in a legislative framework and fear of litigation curbs design thinking. This in turn causes many to believe that the future of universal design, for the built environment particularly, belongs in a regulatory framework. Others believe the way forward is with more research and more scientific methods of inquiry. Those with a commitment to the original cause need to consider the options. Universal design has low levels of desirability because it is branded as a disability product. More science proving greater efficacy will not, therefore, win the hearts of consumers, but neither will more legislation win the hearts of designers. It is time for a product recall, and a re-engineering and re-branding of universal design. Perhaps then the vision of Ron Mace, founder of the Center for Universal Design in North Carolina, will continue to live on so that the design of our world will become truly inclusive.

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