

Universal Design. What is it and why does it matter?

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Abstract

This presentation will describe what Universal Design is and tell the story of how it is starting to influence the thinking about client service and support in academic Libraries. Universal Design is an approach to the design of the environment, buildings, products, services and communications that equitably, and ideally invisibly, accommodates all types of people and takes into account their differences.

In academic Libraries the approach in the past was to create special, separate spaces where people with special needs could be supported. With the current transformation of higher education and the increased emphasis on group learning this is no longer adequate. At Curtin University Library we are using the concept of Universal Design to re think not only our physical spaces and furniture but also our IT support and service models. This approach is starting to provide some surprising benefits for all Library clients and helping them connect and thrive together.

Conference attendees will gain an understanding of Universal Design and how it can be used in libraries in general, and academic libraries in particular, to enhance the experience of all of our clients when they use the Library.

Introduction

Libraries in general, and academic libraries in particular, have long been aware of the need to ensure access to our resources, services and support by clients with all kinds of special physical and mental access needs. To a very large extent this has been done by creating special facilities, adaptive technology rooms or dedicated help services and people.

In this paper I will present a different way of looking at the provision of our resources, services, and support through the lens of Universal Design. I will describe what Universal Design is and tell the story of how it is starting to influence the thinking about client service and support in Libraries. Universal Design is an approach to the design of the environment, buildings, products, services and communications that equitably, and ideally invisibly, accommodates all types of people and takes into account their differences.

At this stage it is important to note the language around this topic. Universal Design is sometimes used interchangeably with Accessible Design. Other related terms include Inclusive design, Usability Engineering, Design-for-all and Lifespan design. The United Nations Convention on the Human Rights of Persons with Disabilities decided the most appropriate term to use is Universal Design and so that is the term I will use in this paper (United Nations, 2006).

What is Universal Design?

In the past when talking to Library staff I was asked “is Universal Design related to the religious concept of Intelligent Design?” and, while I would be the first to agree that Universal Design is intelligent, it is not in the way my questioner suggested! The other frequent misconception is that is design for people with a disability. Rather, Universal Design turns that around and lends a general focus on the needs of all users; indeed it could be called "user needs design".

A useful and generally accepted definition is that:

“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” (Burgstahler, 2012).

A definition that indicates the scope of the term is:

“Universal Design is a framework for the design of places, things, information, communication and policy to be usable by the widest range of people operating in the widest range of situations without special or separate design. Most simply, Universal Design is human-centered design of everything with everyone in mind” (Rains, 2014).

It is generally thought that the term was first used in the 1980s in the United States in the building and architecture professions. Since then it has spread to other countries and other areas of influence (Duncan, 2014).

It extends beyond a narrow definition of disability and even beyond natural physical and mental diversity to include personal circumstances and temporary health problems.

Many people can appreciate and benefit from accessible and Universal Design features in the environment and may not even realise it. It could be things such as the sloping curb which makes navigating that shopping trolley, rolling luggage or baby pram much easier. Another example is step-free entries into buildings, and electric automatic opening doors which make life easier when carrying anything.

There is also the concept of being “circumstantially disabled”. These are people, (or in our case Library clients or staff), who, in the course of their everyday life find their circumstances mean they are moving or operating differently because of their activities. We need to think of everyone as having changing degrees of ability and disability instead of a binary description of being disabled or not (Duncan, 2014).

The theory of Universal Design

Universal Design is a philosophy, not a set of inflexible rules and the philosophical basis for the accessibility movement and Universal Design are quite similar: inclusion, full participation, and social equity. However, Universal Design extends beyond accessibility to include all persons and creates that inclusion by promoting integrated and mainstreamed products, environmental features, and services.

A clinical context is being less and less applied to disabilities. This, plus a social model of inclusion, is increasingly redefining the philosophical framework underpinning design for inclusion. This includes the objection to the need for people with disabilities to self-disclose their particular circumstances. Universal Design is an answer to this.

Universal Design theory has adopted seven principles which are applied in the different contexts. In summary the principles are:

1. **Equitable Use:** The design is useful and marketable to people with diverse abilities.
2. **Flexibility in Use:** The design accommodates a wide range of individual preferences and abilities.
3. **Simple and Intuitive:** Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
4. **Perceptible Information:** The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
5. **Tolerance for Error:** The design minimizes hazards and the adverse consequences of accidental or unintended actions.
6. **Low Physical Effort:** The design can be used efficiently and comfortably and with a minimum of fatigue.
7. **Size and Space for Approach and Use:** Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility. (Center for Universal Design, 1997).

Universal Design in learning

The Universal Design principles above have been adapted for learning to take in the design and creation of inclusive classroom instruction and accessible course materials. The assumption is that all students can benefit when they are given multiples ways to take in information, express their comprehension, and become engaged in learning. In Libraries this is directly applicable to our construction of information literacy programs.

The seven Universal Design Principles as adapted for a learning environment are:

1. Equitable educational experience, for example, Instruction is understandable and relevant to all students, and accessible to students with a diverse range of abilities.
2. Flexible material and instruction, for example, material is designed to accommodate the widest range of users, for example, material is easy to understand and logically sequenced, according to importance
3. Perceptible information, for example, information is communicated in multiple ways (i.e. visual and auditory)
4. Mistakes are tolerated, for example, learning hazards are minimised (i.e. a home page link on all web pages allows the user to return to home if they make a mistake)
5. Eliminate unnecessary physical effort, for example, non-essential physical effort is minimised (i.e. repetition of keyboard strokes).
6. Physical accessibility, for example, instruction is equally available to people with different physical characteristics and communication needs.

(Australian Disability Clearing House on Education and Training. 2014).

Universal Design improves access to all aspects of education, and reduces the need for students to seek individual study accommodations. The traditional “accommodations” approach to disability is an ad hoc process of retrofitting, repeated each semester, for each course, for each individual student making a request. Universal Design, by focusing on modification to the environment, constitutes a sustainable approach to the management of the diverse needs of learners. (McGill University Office for Students with Disabilities (2014).

Universal Design and the Library

Universal Design in a Library context means that rather than designing your Library facility and services for the average user, you design them for people with a broad range of abilities, disabilities, and other characteristics (such as age, reading ability, learning style, language, culture, and others). Students and other visitors may have learning disabilities or visual, speech, hearing, and mobility impairments. Making your library accessible, including the wealth of digital content that we now provide such as e Reserve, journal databases, e-books and web based resources, will make it more usable by everyone and minimize the need for special accommodations.

In academic Libraries the approach in the past was to create special, separate spaces where people with special needs could be supported. With the current transformation of higher education and the increased emphasis on group learning this is no longer adequate.

Some examples of physical environment in libraries could include:

- Enquiry and Reference desks at multiple heights to accommodate individuals
- Aisle between shelves at least 36" (91.4cm) wide

- Wide interior doors and hallways
- Computer work stations at multiple heights
- Light switches with large flat panels rather than small toggle switches
- Signs that are easily legible
- Access to e-books in multiple formats -PDF, Daisy, and live audio recordings,
- Screen readers on computers
- Handouts and newsletters that follow guidelines for font, colour and size
- Bright and appropriate lighting, particularly task lighting
- Choice of language on speech output

What this means at Curtin University Library

At Curtin University Library we are using the concept of Universal Design to re think not only our physical spaces and furniture but also our IT support and service models. This is not being done in isolation but is part of a plan to have the whole University seen as a centre of excellence with Universal Design. The principles of Universal Design underpin Curtin's Disability Access and Inclusion Plan and staff development regarding disability issues.

Examples at the University level include a new Student Services ticketing system so no student has to stand in a queue and wait, a program to install electric doors wherever they are not currently available, upgraded the University web site to Web Content Accessibility Guidelines version 2.0 AA rating, and paying the licence for all students to use the use of Browsealoud (<http://www.browsealoud.com/uk/>)

The University runs an annual University Design competition which, until this year, was open to all members of the Curtin community to submit ideas for a University Design improvement that could be implemented at Curtin. Entrants are offered ipads as prizes. The idea is to spread the understanding of University Design beyond a narrow band of the “converted”. Past winners have designed Apps, suggested way-finding ideas and offered ideas for furniture design.

This year we have taken a different approach with the competition and have chosen three study units which all now have Universal Design in the assessable content of the Unit. Class members will be able to submit a Universal Design idea based on the course content and a winner will be chosen from each unit.

In the Library last year we had a strategic initiative to introduce at least three Universal Design improvements. This strategy originally came about because of a conversation with an individual student. This student, I will call her Emma, had a significant visual impairment. Like most Universities much of her assessed work is done in group assignments. In order for Emma to work on the computers in the Library she needed screen reading software that was, at the time, only available in the “Equity room”. This meant she could not work on the computer with fellow members of her group assignments. This just exacerbated her feeling of isolation. After some work and lobbying of the University IT people, we managed to roll out screen reading software to all Library computers (all 600 of them). This meant Emma could do her assignments with her group but critically it also had at least two other benefits. We found by making the screen reading software prominently available students whose first language was not English greatly valued hearing words read to them as well as being able to read them. In addition, even students for whom English was their first language but were

new to a subject appreciated having those strange new terms read to them. This significantly enhanced their learning.

Two other things we have been able to do are install height adjustable tables on several levels in the Library and change our entrance gates to make them open with no barrier gates to be pushed through. Both of these things have been very well received and enhanced the Library's reputation within the broader University community as a leader in adopting Universal Design.

The triple C: Challenges, Champions, and Costs

Universal Design is not without its challenges (Centre for Inclusive Design and Environmental Access, 2001). These concerns are not just a lack of knowledge about what it means. It can be seen as a reason to remove support for clients with specific disabilities. For example, as we moved the specialist assistive technology equipment out of the "Equity room" into the Library there was a movement to re purpose the room for staff accommodation. In addition what may be a solution for one group of people could disadvantage another group. As Shakespeare says:

"People with different impairments may require different solutions: blind people prefer steps and defined curbs and indented paving, while wheelchair users need ramps, dropped curbs and smooth surfaces and sometimes people with same impairments require different solutions..."(Shakespeare, 2012).

The experience of many people when they look at their Library through the lens of Universal Design and what is possible is that it needs a well-informed champion who is able to take forward the ideas and win support. Research at Trinity College Dublin noted the importance of individuals in driving Universal Design. Understanding of Universal Design and its application could reside with individuals that champion or prioritise Universal Design as a topic of importance. They need not be experts themselves. TrinityHaus, School of Engineering, 2010).

Disability solutions and accommodations targeting individuals as was our previous practice are often expensive and Universal Design can be a cost effective approach. The idea is that with the growth in the application of Universal Design instances where individual costly accommodations are required will be fewer, less frequent, more limited, and less costly. However, I must sound a note of caution here. We found some solutions such as purchasing a site licence for some specialist software for the whole University is not feasible because the cost model is predicated on a single user purchasing access. This model of provision may change in the future. So try as we might Universal Design is never going to cover all people in all circumstances and some still need some individual accommodations.

Conclusion

Universal Design extends beyond the confines of accessibility to include all persons and creates that inclusion by promoting integrated and mainstreamed products, environmental features, and services. However, we need to work together to counteract or debunk the commonly held myth that by focusing our skills, knowledge and understanding on addressing

access and other problems on a one-by-one basis we are doing all that we can to provide the ideal access environment.

We all exist along a continuum of human capacity and performance and other characteristics. We all vary widely in height, strength, visual ability, hearing acuity, mobility, balance, etc. and will do so over the course of our lives. It would be more useful to think of each person as possessing varying and changing degrees of ability and disability instead of either fully-abled or disabled and applying this when we design a facility, service or program for our Libraries.

To sum up, Universality has become the standard by which design excellence is measured and recognized. Universal Design is good design and taking this approach will provide benefits for all our Library clients and help them connect and thrive together.

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