

Concepts of universal design in architecture



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There are many misconceptions surrounding the idea of universal design. People often believe that providing the disabled with signage or a ramp is sufficient and practices the ideals of universal design. What people must understand is that universal design is about providing these necessary amenities to the disabled without segregating them from the norm of society.

It is also about creating a space that can withstand multiple environments and the fads of time as a timeless creation. In a universally designed world peoples differences are not highlighted by building usage but are designed for and create seamlessness between users. The bottom up theory is looked to by many designers when establishing universal space; “ it works on the premise that the building users, the architect is serving include those with disabilities are all people who can be treated as normal people[2]” and with this you must start at the bottom of the pyramid and aim to reach the top and achieve universal design. Questions to consider when designing a universally designed space may be how this space will respond to different environments or eras and as the user or users change what will be the response to how it is used.

Universal designed has been outlined and defined into seven principles that can be applied to a wide range of areas including architectural spaces to product design.

1. Equitable use
2. Flexibility in use
3. Simple and intuitive

4. Perceptible information
5. Tolerance for error
6. Low physical effort
7. Size and space for approach and use

Access Living Headquarters

Access Living is an organization that started in the early 1970's and has been committed to rehabilitation and growth of disabled peoples by the support of disabled peoples. This company has personal with a multitude of disabilities and unique challenges that they encounter. In March 5, 2007 LCM Architects lead by partner John H. Catlin, FAIA designed access living's main headquarters in Chicago with not only a universal focus by as a sustainable design direction. This 50, 000 115 West Chicago Avenue. business footprint for Access living truly reflects the mission of the company and reinforces their ideals to empower the options available to differences of others. It has been awarded “ the Barrier Free America Award from Paralyzed Veterans of America; A sustainable design award from AIA; the Trend Setter Award from Friends of Downtown; LEED Gold Certification; and a Silver Award from the Association of Licensed Architects”.

Design Solutions

“ LCM architects started the vision of universal design, by choosing an accessible location” and considering building approach. The building is no more than two blocks from the local train's underground station and from the city bus. This close relationship not only encourages green transportation but it provided for uses that may not have other modes of transportation and its prime location allows for people from multiple locations to be able to utilize

this feature with ease. In addition to the consideration of close proximity, the garage of the building has designated spaces that allow for electric vehicles to be recharged for use.

As users approach, the building integrates two curb drop offs seamlessly added to allow for users coming from street level and for wheelchair lifts to have a “ direct route to the main building entrance”[4]. Being in a colder climate of the United States, architect Catlin devised a solution to deal with iced sidewalks in the winter months by designing a heated concrete sidewalks and well lit approaches. All of these features lead directly into the entrance of the building that is separated by two sets of sliding doors that open directly off the sidewalk. These doors have a wide opening of sixty inches to allow for easy mobility or two wheelchairs in passing.

Once you enter in to building for access living, its well designed interior lobby space and furniture selection leaves you no clue that this space is universally designed. LCM architects and there team of designers took close consideration into their interior choices being conscience of spacing, materials, colors and configurations so this truly was a universally accepting space. “ Universal design has a close relationship to human factor and ergonomics. As a process they both attempt to consider the abilities and limitations of users when developing a product or building an environment. [5]” All of the furniture came from the Steelcase, so a select piece could be duplicated in several forms to include with arms/without, adjustable or basic systems that encouraged change as necessary. Using a single manufacturer line allowed for a wide range of seating choices to read and flow seamlessly. Within this configuration ample space is giving for wheelchair move ability

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and integration within a personal or large group interaction. Multiple chair heights are included for users of all statures and “ clearance below some of the seating is open to allow the user to push up to the standing position with their leg muscles[6]”.

A custom feature within the lobby is the reception desk; “ Lechner points out that the reception area underscores the universal design. “” A person approaching the reception desk in a wheelchair should have the same ability to use it as a person who doesn’t have a disability. That’s the premise behind the entire design-no one uses a back door or side door, and no one uses a ramp. Everybody comes in the same door and uses the same elevators””[8]. Unique to most reception desk, the primary dimension is at a wheel chaired accessible “ counter height of (29-30” AFF)”[9]. Based on the guided approach to the desk knee and toe space is carefully designed and provide for. The reception desk does also include a small portion at the standard height of 42. Much consideration was giving to the reception side of the desk because this would be the primary and full time user of the millwork. The desk maintains the counter height and electrical outlets are placed at the ends of the counter opposed to across to minimize the need for users to strain to reach across counter span. The employee also is provided with a very accessible approach to their work station and a turning radius within, allowing for a 360 degree wheelchair turning radius.

Beyond the reception desk, clever inclusions of universal principles are utilized to assist with user move ability throughout. Two elevators with double entry points allow users to move quickly in and out without the need of turning within a small confined space. The elevators are also large enough

to support four wheelchairs within. Along with the maximization of mobility within the elevator Architect Catilin incorporated state of the art emergency use technology for the deaf and hard of hearing and enlarge elevator buttons placed at a universal accessible height. Each of the floors of the Access Living Company, are color coded so users can easily identify locality and direction. This color coding process is a wonderful tool to assist the young child to elderly and people with all timers. This would also eliminate the frustrations of getting off the elevator on the wrong floor, like so many of us have done. Once on a floor users, will notice ample floor space as to not to feel constrained by close furniture configurations and for wheelchair passing.

The high traffic and areas of egress are ingeniously designed with a floor border that lines the walls so the visually impaired can easily utilize this tool to maneuver through the floors. To a user with no sight impairments this simply appears as an aesthetical feature because of how well it integrated throughout. This feature is a prime example of how universal design principles do not highlighting the differences of users.

Obstacles

In designing the Access Living headquarter LCM Architects, incurred many obstacles in creating a space that was not only universal, sustainable but also aesthetically and functionally useable. With their primary focus on creating a universal space they quickly learned that “ what works for one disability doesn’t always work for another,[10]” Lehner says. As a universal designer you must learn to balance the integration of accommodations so they are not swayed by a particular user. “ That’s nowhere more apparent

than in the flooring. LCM discovered through research that carpeting, contrary to popular belief, serves people with MCS by trapping contaminants that would otherwise remain airborne. It also offers traction for people using canes. “ But carpeting can be difficult to negotiate with a wheelchair,” says Catlin[11]” This is a great lesson to be learned because when people think a disability they too often only think of wheelchair users. After selecting a fabric that architect Catlin thought would be perfect for all of the users in the space he quickly had to return to the drawing board after one employee had an epileptic seizure from the intense patterning of the flooring. This is one example of the many difficulties faced in this project in designing for the masses, but Catlin remedies this problem by installing a more muted pattern through the building while still “ ensuring there was still enough contrast on hallway borders to help guide people with visual impairments[12]”.

Conclusion

Although they are a portion of users there are wheel chair bound we must consider and be aware that there are countless impairments that cause all users to have different needs and ways in which they utilize a space.

Designing a universal space you must have an understanding of that and remember that you are not designing for outlined user but in turn everyone becomes your user. It is often very difficult to create and design a workable solution that all people will deem user friendly, which is why architects and designers seem to steam away from this principle. Catlin illustrates that not only can design be an aesthetically pleasing universal space but green principle can also be an applied in a brilliant way.

Works Cited

- Access Living. Ed. Geekpak. Access Living, 2008. Web. 14 Oct. 2009.
- Boniface, Russell. “ Paralyzed Veterans of America Honors Chicago-based Access Living for Accessible Design.” The News of American’s Community of Architects. AIArchitect, 17 Aug. 2007. Web. 20 Oct. 2009. .
- Dong, Hua. Shifting Paradigms in Universal Design. Vol. 4554/2007. Heidelberg: Springer, 2007. Print.
- Goldsmith, Selwyn. Universal Design. Maine: Architectural, 2001. Print.
- Meyers, Tiffany. “ UNIVERSAL DESIGN IN ACCESS LIVING HQ.” Metropolis Magazine Oct. 2007. Metropolis Magazine, Sept. 09. Web. 23 Oct. 2009. .
- Tandem, Byan, ed. “ Home Design: Understanding Universal Design.” AARP (2008). AARP. Web. 22 Oct. 2009. .

1. Goldsmith, Selwyn. Universal Design. Maine: Architectural, 2001. Print.

2. Goldsmith

3. Access Living. Ed. Geekpak. Access Living, 2008. Web. 14 Oct. 2009.

4. Access Living

5. Dong, Hua. Shifting Paradigms in Universal Design. Vol. 4554/2007.

Heidelberg: Springer, 2007. Print.

6. Access Living

7. Access Living

8. Boniface, Russell. “ Paralyzed Veterans of America Honors Chicago-based Access Living for Accessible Design.” The News of American’s Community of Architects. AIArchitect, 17 Aug. 2007. Web. 20 Oct.

2009. .

9. Access Living

10. Meyers, Tiffany. " UNIVERSAL DESIGN IN ACCESS LIVING HQ." Metropolis Magazine Oct. 2007. Metropolis Magazine, Sept. 09. Web. 23 Oct. 2009. .

11. Meyers

12. Meyers