

UNIVERSAL DESIGN - PUTTING IT INTO THE FIELD

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Nietzche said -" **He who has a WHY to live can deal with almost any HOW.**" It is not until society, all society, including consumers, designers, business and political leaders are sensitized to the reason behind the efforts to introduce Universal Design (UD) that they can understand and apply the concepts. Education is the vehicle to show the WHY and educators can offer the tools to give the HOW. We all have to be educated, we all are educators. If we can get that light of understanding into everyone involved in the process of the development, from the educator to the practitioner to the consumer and the people involved in any and every aspect of creating, marketing and financing universally designed products, and create the demand, UD in the home, workplace, community and city will become commonplace. Education increases the level and scope of support. It will be the understanding of the intent of this design concept as well as understanding the intent of accessibility laws, codes and guidelines; it will be the setting aside of egos and applying the best of all of our talents that will make UD universally applied. As advocates of Universal Design, it is our responsibility to get this message out of the dream and into the field of reality.

The demographics of the world is changing. To date, there are approximately 45 (some bring it as high as 54) million people with disabilities in America alone. I do not know the statistics of the world. Because of science, advancement in medical treatment and technology people are surviving illness and accidents that once were fatal. Our senior citizen population (over 60 years old) is quickly outnumbering our younger generation. People with injuries or disabilities that would, at one time, be kept in institutions are now being sent home, and, in many instances, becoming part of a working community again. The desire for independence is one of the major issues of design today. Living and working environments have to meet new needs. How are we, as designers of the future, keeping up with these changes? What manual can we go to get instructions on new ways to design? What example do we follow? How are we going to pass on this knowledge to the people who will execute the designs for the twenty-first century? We are here, at this time, to write the instructions, set the examples and offer the tools to the new generation. We are reinventing the wheel and restandardizing the standards. This is a great responsibility. This is a great legacy to give to the world.

It is not easy to introduce new concepts. It is not easy to develop new frameworks without destroying old ones. Changing global political, economic, and social environments has literally forced us to redraw the formula for design as we have been practicing it. It has resulted in a change in the demand for living and working environments. We are here today to help create new design parameters that everyone will benefit from. We are here in history to attend to these changes. And we will succeed.

We all can agree that there are either too many or not enough laws and guidelines for accessibility. We can also agree that there are good laws as well as bad ones. The United States is not the only country that has a myriad of national, state and local laws and regulations concerning the "right" way to design a building, a home, or a city for accessibility. But yet there are still problems trying to make accessible design accessible. With all of the guidelines and laws written why is it so difficult to find a bathroom that can be used by everyone, or, most everyone? Laws have to be enforced but many times the enforcers do not understand them.

Oftentimes these laws are impossible, or implausible to follow. Interpretations of these laws very often are decided by the courts and even their findings are questioned. No matter how many laws and guidelines are out there, if the intent of the law is not understood when they are written or are being followed then they can never be successfully implemented. Good design does not depend on minimum standards found in code books. Laws do not stop criminals but are successful in creating new barriers of attitude. Building codes cannot eliminate ego, attitude or a lack of sensitivity for the real issues. The law that applies to one city, state or country may not apply to another. Common sense applies wherever you go.

Universal Design is not about laws, it is about the creation of anything that can be used by almost anyone. Universal Design is a concept that has many names, such as barrier free design, design for all, accessible design, but basically only one intent. Universal Design equals Good Design for all people. It is Doable Design. It is not about "leveling the playing field", or relinquishing creativity. It is about using creativity to deal with the everyday quality of life for people everywhere. It is about addressing a change in attitudes about design. A change in attitude will result in a change in creativity. Its sounds far fetched, it sounds impractical, but in reality it is the practicality that makes the concept of UD so important to be understood. Improving homes for everyone improves the opportunities to build livelihood, new income earning opportunities, healthier and safer environments. This is the benefit of Universal Design and this should be our highest priority and goal.

EDUCATION

Where do we start? Education is the root, and it applies to every discipline and industry. We have managed to create the obstacles, we now have to create the tools to remove them.

Education is the vehicle to institute the change in attitude about concepts in design.

The instructor teaching design principles, and we are all instructors, have to understand the intent of what is taught and encourage the sensitivity of the needs of a diverse population.

Diversity is the reality of the world. The concepts of Universal Design have to enter into the curriculum for both the student and the professional. The educators have to offer the tools to work with and practice it. They have to encourage the development of design not as an opportunity for a designer to do their own thing, but as a challenge and opportunity to create good design that will enable people to participate in social and economics of the world to their fullest extent.

Apply Common Sense. Very often professional designers and architects have to go to classes to keep their professional licenses current. The last thing that they want to hear is that codes are changing, laws are being rewritten, and their liability for the interpretations is being multiplied. Their struggle with all of the codes, interpretations, and changes are legitimate. Giving common sense answers and motivations rather than citing codes from books can create understanding faster than remembering the necessary inches a handrail must be installed or a toilet seat must stand. The fruits of creativity should have a foundation of fundamental common sense. It is easier to be creative when the approach is a challenge for creativity rather than a "have to" because it is the law. Encouraging the understanding of the environment and economic factors, the human factor, cognitive issues, the variance in anthropometric measurements of men and woman, children and seniors, those people that travel on foot, aided or unaided, or by chair, manual or electrically, people that can see or hear with or without assistance is the challenge of the educator. Attending to the realities is the responsibility of the designer. They have to understand that children dimensions are not only for children but for people with short stature,

wider doorways and hallways are not just for wheelchairs users but allow for easier traffic flow, lever door knobs are easier to use by everyone and hand rails offer safer supports for anyone getting out of a bathtub. A more holistic approach to design should be stressed so that solutions in design become a more humane approach to design.

Design students and practicing professionals must be made aware of their responsibility for the creation of the future environment we will be living in and that their work, good or bad, will continue to condition design and development for the future. We who are so passionate about the concept of Universal Design have to declare, institute, teach, use and totally immerse ourselves in this change of design concept. Although laws are necessary, we don't have to insist or encourage the creation of new laws or mandates. The law that applies to one city, state or country may not apply to another. Common sense applies wherever you go.

Provide The Tools -As educators, we have to create the tools that will enable the students to use in developing their own creativity. Design parameters have to be developed to contain language and specifications that address issues and concerns of people worldwide. Acknowledgment of the realities of human needs are a test to our sense of purpose and ingenuity and, with cooperative efforts and solutions, it will give these tools form and substance that can be applied within an international framework.

Language - In the classroom and in the field language is an important tool. People shy away from stigma and language can either create a stigma or enhance a name or title. Changing the language can make accessibility more politically and socially acceptable and correct. And the language has to change to meet the situation, the site and the audience. A ramp can become a bridge or walkway. An appliance can become an accessory, a uni-sex bathroom can be called a family bathroom. I was recently called in to mediate a conflict between the Board of Directors of a large condominium and some of the apartment owners. The "problem" existed on the second floor of a twelve story building. The elevator opened into a path that led into a lower large lobby. There were four steps down and then four steps up to get to the apartments. One of the shareholders had a foot injury and was temporarily confined to a wheelchair. She was able to get permission to build a temporary ramp that connected the elevator corridor to her, and to several other, apartments. Two years had passed and the tenant's injury healed. The Board insisted that the temporary ramp, which was designed by an architect and structurally very sound, be removed. The tenant, as well as the other apartment owners that used the ramp, had gotten used to the ease of pushing their groceries wagons and luggage across it instead of going up and down the steps that led to their apartments. After speaking with the Board, I realized that their objection to the ramp was the stigma it represented to the image of the building. I presented them with plans that enhanced the lobby area where this "problem" was located by adding plants, and sculpture and identifying the structure as a "walkway". They approved the changes and now have a beautiful "walkway" between the elevator and apartments and both the apartment owners and the Board are happy. The word "bridge" would have also be used successfully. A sensitive use of language never fails.

Although the right words and phrases, when necessary, can help sell progress, there are times that silence is golden. Words very often can get in the way of creating change in the process of progress. Introducing UD on projects without advertising it often times are just accepted. There is no discussion of design decisions unless I am asked. When, in my opinion, I specify a good, functional design that may be new to the contractor, or client, or when I am reproached for the change in a design "should" and accused of "reinventing the wheel", I explain my decisions to

everyone involved in the project. And my approach and explanation will vary with my adversary. There can never be a stronger argument than common sense, especially when defending design that is based on form following function, safer design, aesthetically appealing and most importantly, a smart financial decision. I carefully select use of my language so that it fits my audience. I want the people I am talking to understand that I understand their concerns and that I can relate my responses to their interests. The challenge of introducing new ways of doing things on projects are not easy but, I am convinced that the use of Universal Design concepts continuously will eventually be accepted as the only way to design.

Marketability - Throughout the United States it is not uncommon for housing developers to sponsor showcases that enable home builders to create instant communities. Much work, effort, marketing and money is spent on these developments. Usually these homes are fully decorated, with furniture and accessories that are for sale, and are open to the general public to view for several weeks. Why do 99% of these homes have stairways leading into the house, and staircases leading to second and third stories with no easy way for the future addition of an elevator? Most of these "award winning houses" also have "award winning" unmanageable bathrooms. People who can't manage steps or use poorly designed "designer faucets", no matter what age, are immediately eliminated from the market of these homes. And, according to all the statistics, these people are the largest growing segment of the population with the highest source of expendable income. Why is this fact being ignored by industry?

In order to get the concept of UD into the field we have to address the needs of the bottom line, profit. We have to impress people of its value and marketability. No matter how important and honorable the intent is of a good design, if doesn't sell, then it doesn't make it into production. I was recently introduced to the president of one of the largest manufacturer of kitchen cabinets in the world. The discussion of designing accessible kitchens very quickly became a topic of our conversation when he confided that his oldest daughter had been born with cerebral palsy and now, at the age of thirty five and on her own, was having a difficult time working her kitchen. I asked him why his company, who was so powerful in the industry, never created accessible cabinets for production. He told me that he had tried but found that it was not profitable for him, so he never pursued it! Imagine the impact on cabinet design if he had a designer that could show him that his market would be greater if he had put accessible, adaptable cabinets in production at the time that his daughter was born. Even though the impact would have created easier living conditions for his daughter, the financial investment wasn't worth the effort. And no one was around to prove to him that it was. Addressing money and profits is the bottom line to succeeding with Universal Design.

And we have the power to address profits. We specify, create, purchase, install and can demand from industry. According to an article in the Wall Street Journal dated October 9, 1998, interior designers, alone, were involved in at least \$21 billion dollars of home-decor purchases last year. This did not include the impact of architects and builders. That is power. And our reach is unlimited. Transportation, walkways, symbols, signals, signage, colors, heights, storage, telephone systems, as well as safeguards, especially on controls on appliances, escape routes, security systems, and fire retardant fabrics are just some arenas that we can have influence. We have the numbers, we have the power, we have the responsibility.

APPLICATIONS

Special accommodations do not have to be antiseptic or look as if it belongs in a hospital setting. Using special accommodations does not have to be just for the elderly or people with disabilities.

Cabinets can have pocket doors, be designed without a threshold and have flexible hoses and hydraulic lifts to adjust heights of wall and floor units to accommodate the short wife or tall husband. Landscaping can add inviting appeal to an accessible entry. Automatic sensor lighting along the walkway and the front door is safer for both you and your guests. Grab bars, available in any color, makes it safer and much easier to get in and out of a tub or shower for anyone at any age. Lifts can become a piece of art as it does in the center of a corridor in Victoria Museum in Victoria, British Columbia. Painted bright red, and centered in the middle of a large corridor next to a set of four steps it becomes a visual asset to the total setting. Thirty-six inch doorways and sixty inch hallways in a home add to the graciousness of the walkway. If a client questions the “excessive” use of space I explain that it is easier to move their furniture through wider doors and hallways. In a multi-story home, a large (five foot by five foot) closet on each level, on top of each other can allow for the future addition of an elevator or lift without any change in the structure of the house.

Prewiring for remote control of window treatment, door openers, automatic lighting, security systems, intercom and computerized controls save countless dollars before the drywall goes up. The installation of blocking around the toilet and bathing room and in the hallways, and inclusion of a roll-in shower in at least one bathroom during construction is also looking ahead to the future. Multi-level work surfaces, good task lighting, consideration of privacy and social activities in the home, are areas to be considered during the planning stages. Flooring selections, both soft and hard, is available in an unlimited selection of materials and styles, and fill any need. Not only can they be slip resistant, but can act as tactile definitions of spaces. The varieties of style, texture, size, color, pattern, costs are too numerous to mention. Front loading washers and dryers, decorative trim with tactile surfaces, fire resistant fabrics and upholstery are just a few items that are readily available for our use and specifications. There is so much room for creativity and so many products that are and can be made available. We just have to learn to use them in our plans before our clients need them. For additional specifications we can apply in the design process see the Appendix.

SOLUTIONS

Today we must establish networks of researchers, developers, individuals and organization societies that have a stakehold in the future of design. We must make available the broadest range of information on products and design, technology, resources, experience, expertise, including national reports, discussion of new ideas and issues and sources of support. Commitments from all sources should be formulated. We must adopt and implement work programs and organize local and country forums on design. Sharing presentations and documentation of examples of best practices in Universal Design of ideas and sources should be without the sense of competition but with commitment.

Best Practices represent a wealth of experience, and original ideas, of dealing with everyday quality of life for people everywhere. Issues of environmental changes and developments, improvements in transportation and water supplies, the urban and rural economy and social developments with communities, education and practices should be included in these forums and reports. New partnerships on global, national, local, public and private levels, and societies of all people from all walks of life should be encouraged to participate. All these people have a vested interest in this work. The creation of new alliances and partnerships can create the major actors in this drama of change and challenge. There should be a global bank that will hold

concrete solutions that can attract creative capital for development of these solutions around the world.

While this task might have been impossible ten or fifteen years ago, the revolution in telecommunication technology enables to send ideas around the world with the touch of a key. We now have at our fingertips a vast stage comprising of both the large and small urban and rural world. The larger the stage, the greater the influence for change.

TO THE FUTURE

We are a generation responsible for each other. We must embrace the intent of Universal Design guidelines, work with and teach them so they become integral parts of our lives and practice. Innovative design generates economic growth, alleviating poverty, enhancing urban and rural environments. Do-able design advances independence in human relations. We must understand that the lines drawn on vellum, or on the computer, can either continue to create barriers and monuments within our society, or, open the world so all human beings can live to their fullest potential. Once we understand and accept our responsibility we will achieve a lower interdependent population, a larger work force, a larger tax base, a retention of cultural and social values for family, a greater independent population, a more affluent society, a safer and richer world.

Changes must take place in the practice of design. We have to create the spaces, and the products, and pave a way for environments that encourage independence. These changes in environments around the world may be a gradual and subtle but will result in healthier, safer and improved living and working conditions. Common sense and understanding of the relationships of space, function and spirituality have to displace ego. Using our unique aesthetic abilities, we, the designers of environments, have the responsibility to encourage, educate, inform, practice and insist on safer, comfortable, more affordable, more livable spaces to be in. It is symposiums and workshops such as this that offer seeds for new visions, and a more profitable future. I thank the Building Research Institute, Ministry of Construction, and Japan International Science and Technology Exchange Center for their commitment to Universal Design. The continuation of UD international conferences will result in a productive interchange and exchange of ideas that will benefit the future of design for everyone.

In summation I would like to paraphrase Dr. Wally N'Dow, Assistant Secretary-General United Nations Centre for Human Settlements to the Second Committee at the 50th Session of the General Assembly at United Nations in his address on human settlements on November 14, 1995. Our work..." must start from the inside...reaching out...It is about attitude, about leadership, and about the willingness...to meet needs of..." our society and our "...soul." Then together we can "transform the built environments into human -- and humane -- settlements."

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Appendix

UNIVERSAL DESIGN HIGHLIGHTS FOR DESIGN FOR THE FUTURE: RESIDENTIAL DESIGN

A preliminary tool kit for the practice of UNIVERSAL DESIGN

PURPOSE - To make it possible for everyone to live anywhere

FEATURES-

- Adaptable
- Marketable
- Safer design
- Encourages independent living
- Easy to use
- Aesthetically appealing
- Functional design
- Good design

HOMES WITHOUT RAMPS

Build bridges and walkways, not ramps.

Build up the terrain to meet the front door.

Use slip resistant firm ground surfaces. Slope gently to avoid accumulations of water.

Remember irregular brick, cobblestones, gates, and wide grout lines are difficult to maneuver.

Add moderate curves to walkways leading to front door for interest. Threshold at doorways should be no higher than 1/2" inches.

Wire for electric sensors for lighting along pathways and at doors.

Use lever hardware for doors.

Use door bells that remain lit.

Wire for automatic door opener.

Plan for underground plumbing to defrost snow and ice

KITCHENS

Specify slip resistant floors, lo-gloss, firm, well secured flooring.

Use lever, c-design handles or push release hardware.

Place controls at counter height.

Select stove top with front controls.

Specify task lighting and non-glare surfaces.

Install rear drain, shallow large sink.

Allow for side and parallel approach spaces for stove, oven, refrigerator.

Specify pocket or removable doors for under sink, stove work areas cabinets.

Have interior of cabinets reinforced for installation of handrails, if necessary.

Use child proof locks.

Add a contrasting color stripe and texture change on counter and table tops.

Include pull out shelving at varied heights in cabinets for additional work space.

Allow for hydraulic lift cabinetry and sinks.
Specify scald proof controls for water faucets.
Install faucets on the side instead of rear of sinks.
Design counter height cabinets for dishes and pots.
Add roll out shelves and lazysusans for easy access.
Design low, shallow spaces for pantries.
Use bi-fold doors for full access.
Place receptacles, switches, and telephones within easy reach.
Specify multi-level counter tops and work stations.
Install pull out cutting boards at different levels

BATHROOMS

Specify slip resistant floors.
Lower mirrors to height of vanity top.
Use scald-proof water controls.
Design at least one roll in shower with a fixed seat.
Select easy to use paper dispenser.
Plan for storage at chair level.
Specify bidet or adaptable hygiene unit.
Use glass block for natural light and privacy.
Specify swing- out doors, no less that 36" (clear space) wide.
Plan for telephone and emergency button.
Reinforce all walls.
Place master bedroom bath in close proximity to closet and sleeping area.
Select easy locking mechanism lever knobs with exterior emergency release.
Locate bathrooms to assure privacy, where possible.
Place commode near tub for use as a transfer seat.
Place controls for tub in easy access locations.
Avoid long cantilever sinks.
Place light switches within easy reach, not behind an open door.

SOME INTERIOR FEATURES

Specify a remote control fireplace.
For lower level living area design ramps and enhance with furniture.
Radius edges of corners.
Specify pocket doors, sliding doors, bi-fold doors.
Eliminate thresholds.
Design sliding doors to patios with low thresholds.
Refer to the Americans With Disabilities Architectural Guidelines for design of stairs
Plan for task lighting and prewire.
Plan and rewire for remote controls on windows, door openers.
Plan for air ducts so there are no drafts in sleeping areas.
Study computer aided house features and apply where feasible.

Install windows at seat height for easy exit and good viewing from a lying down or seated position.
Specify windows that are easy to open, have tandem locking systems and are of tempered glass.
Specify shallow closets with easy access multi-level shelving and clothing rods.
Install light sensors that open and close automatically.
Built in multi-storage units can never be overdone.
Place receptacles at either or both sides of the bed, not behind it.
Controls for security systems, interior and exterior lighting, music and television, access of phone jacks, computer lines, reading (task) lighting should be within reach of either side of bed, in the living area and kitchen.
Floor receptacles should be planned for and installed.
Install illuminated switches at exterior doorways, stairways, bathrooms and bedrooms
Install fire detection systems that can heard and seen.
Specify extra insulation around heating and cooling systems, laundry rooms and bathroom to control level of noise.
Reinforce hallway walls to 36" for future addition of handrails.

EXTERIOR ACCESSIBILITY

Refer to the concepts of Feng Shui to understand the use of the flow of positive energies and allow that energy to enter and surround your space.
Plan your home to work with your building site.
Plan for privacy outdoors.
Design low and high planting areas.
Design easy access to interior and exterior of home.
Specify slip resistant, firm ground walkways.
Plan for seasonal flowers, butterflies, trees for shading and easy maintenance.
Remember water fountains add the sound water.

When designing
consider the sounds,
smell, touch
experience of the
outdoors for
everyone
to enjoy.

The time for attending to the needs of everyone is now. Acknowledgment of the issues of the realities of the human factor will make it easy to create a change in design concepts. Universal Design is the concept that offers answers. All we have to do is understand the reason and apply the principles.