Designing for Everyone: Adopting an Inclusive Design Approach At Cal Poly

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Universal Design (UD) Definition

• “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”
  – Source: Ron Mace, The Center for Universal Design at NC State, 1997

• Related terms:
  – Inclusive Design
  – Design For All
  – Lifespan Design
Inclusive Design….a more suitable term

• Synonymous with Universal Design, but more in step with campus emphasis on diversity and inclusivity
• “Design that enables and supports the participation of individuals and groups representing the full range of human diversity (ability, language, culture, gender, age and other forms of human difference).”
  – Source: Inclusive Design Research Centre (Toronto, ON)
• Term originated in the UK and is frequently used abroad to represent philosophy of Universal Design
• Comprises accessibility, usability, aesthetics
Inclusive Design....

- **is a philosophy**, not a set of rules/regulations; it’s a holistic/inclusive way of thinking about accessibility
- **is proactive**, not reactive (e.g., accommodations and modifications)
- **places high value on diversity and inclusivity**
- **aligns with the social model of disability** (disability is caused by society/environment, not the individual’s impairment)
- **is non-stigmatizing**
- **is an ongoing process**
Why Inclusive Design for Cal Poly?

• This is a well-defined strategy for addressing our campus initiatives around diversity and inclusivity.

• Inclusive Design is aligned with social justice. Where bad design can marginalize and segregate people, inclusive design values all diversity and enables integration and participation by everyone as much as possible.

• Inclusive Design “is a process that enables and empowers a diverse population by improving human performance, health and wellness, and social participation.” (Source: Steinfeld and Maisel, 2012)
Reframing Disability

- Disability is a **normal part of human diversity**. Focus on difference instead of deficit.
- People with disabilities represent the largest, most diverse **minority** in the world.
- Most **barriers** that people with disabilities encounter are physical, digital, policy and attitudinal.
Reframing Disability

• Disability is a “mismatch between the needs of the individual and the service, education, tools or environment provided.”
  – Source: Inclusive Design Research Centre

• View disability as the “mother of invention or innovation”. Not a burden to accommodate, but an opportunity to innovate.
Reframing Disability

Disability as Diversity drawing from “Finny’s Five: 5 Keys to Disability Awareness” zine (online flipbook link)
Reframing Disability

• Everyone is Different video (3:56 RT)
Reframing Accessibility

• Accessibility isn’t just for people with disabilities.
• It’s time we expand the definition to reflect that it is a key aspect of good design for everyone.
• When we design with accessibility/disability in mind, whether it’s physical or digital spaces, everyone stands to benefit!
• “By designing for someone with a permanent disability, someone with a situational disability can also benefit.”
  – Source: David Storey
Curb cuts were originally designed for wheelchair users but have since become useful to many more "wheel" users – skateboarders, parents with strollers, cyclists, people toting wheeled luggage, workers pushing carts, etc.

Reframing Accessibility

The “Curb Cut” Effect
Video captioning isn’t only for deaf/hard of hearing individuals. Captioned videos are now regularly found on social media sites like Facebook because they enable all users to watch videos with the sound turned off.
Reframing Accessibility

- **Touch**
  - One arm
  - Arm injury
  - New parent

- **See**
  - Blind
  - Cataracts
  - Distracted driver

- **Hear**
  - Deaf
  - Ear infection
  - Bartender

- **Speak**
  - Non-verbal
  - Laryngitis
  - Heavy accent
Inclusive Design vs ADA

• Inclusive Design and ADA compliance are not necessarily the same thing.

• ADA compliance is about **minimums**. Inclusive Design is about **optimums**. (Source: Paul Wolff)

• ADA compliance in the form of accommodations or modifications represents a **reactive** approach. Inclusive Design is always **proactive**.

• ADA is about **civil rights** for people with disabilities. Inclusive Design is about **human rights** for everyone.
7 Principles of Inclusive 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
Principle #1 – Equitable Use

- The design is useful and marketable to people with diverse abilities.
- Entrances with automatic doors are easily accessible and usable by everyone.
Principle #2 – Flexibility in Use

• The design accommodates a wide range of individual preferences and abilities.
• Scissors that can be used by left- or right-handed individuals
Principle #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.
- Elevator buttons that are self-explanatory to everyone of all ages, skill levels or understanding.
Principle #4 – Perceptible Information

- The design communicates necessary information effectively to the user, regardless of ambient conditions or the user’s sensory abilities.
- Closed captioning makes TV, movies and videos accessible to deaf and hard of hearing individuals and anyone watching in a noisy environment or one where they must have the sound off.
Principle #5 – Tolerance for Error

- The design minimizes hazards and the adverse consequences of accidental or unintended actions.
- Bagel slicer prevents accidental cutting injuries and also makes it easier for almost everyone to split a bagel cleanly.
Principle #6 – Low Physical Effort

• The design can be used efficiently and comfortably and with a minimum of fatigue.

• Touchless soap dispenser is easier for those with mobility disabilities to use, and it’s more hygienic for everyone.
Principle #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.
- Wheelchair-accessible kitchen with varying heights can be used by everyone in the family.
Goals of Inclusive Design

- **Body fit**: Accommodate a wide range of body sizes and abilities
- **Comfort**: Keep demands within desirable limits of body function
- **Awareness**: Ensure that critical information for use is perceived easily
- **Understanding**: Make methods of operation and use intuitive, clear, and unambiguous
- **Wellness**: Contribute to health promotion, avoidance of disease, and prevention of injury
- **Social integration**: Treat all groups with dignity and respect
- **Personalization**: Incorporate opportunities for choice and the expression of individual preferences
- **Cultural Appropriateness**: Respect and reinforce cultural values and the social and environmental context of any design project.

(Source: Ed Steinfeld, IDeA)
Ed Roberts Campus
Ed Roberts - disability rights activist
Ed Roberts Campus

Historical photos provide reasons to pause along the way up/down the ramp

Gradual, wide spiral ramp that everyone can use to move between levels
Ed Roberts Campus

Fountain is pleasant to see/hear and provides orientation for visitors with visual disabilities.

Open areas with high visibility facilitate sign language communication.
Ed Roberts Campus

Physical access to unlocking door by simply holding up one’s ID card

Alternate elevator call buttons can be operated by foot or wheelchair footrest
Ed Roberts Campus

Floor surfaces with varied textures indicate pathway to offices for people with visual disabilities.

Circular barrier at base of columns prevents collisions and provides a footrest during conversations.
Cal Poly examples

- **Entrance to Education building** – ramp is embedded in the stairs (though the ramp lacks a railing); same entrance for all
- **Building 13 (Engineering) courtyard** – re-designed by RRM last summer; peaceful, lots of plants, movable tables/seating
- **Real-time captioning on Jumbotron** at Commencement
- **Inclusive Lectern** – motorized, height-adjustable lectern that can accommodate a wide range of heights (developed by Mechanical Engineering students)
- **Gender-inclusive housing and restrooms** - can also be useful to those with significant disabilities who require assistance from a personal care assistant of a different gender
Cal Poly examples

- **SensusAccess** – free, online alternate media solution for all campus members. Convert PDF to mp3 or convert an image PDF to a more accessible PDF. Private and available 24/7. (Funded/hosted by Kennedy Library)

- **Accessible computer workstations** with assistive software are integrated throughout Kennedy library instead of being kept in a designated room where only DRC students could use them. Allows students with disabilities not registered with the DRC to access the assistive software. Also makes it available to students without disabilities who might find some features helpful (e.g., text-to-speech reading).
Commencement Captioning
Engineering Bldg 13 Courtyard
Engineering Bldg 13 Courtyard
Inclusive Lectern
Inclusive Design Campus Goals

- Inclusive Design is infused into campus culture like “Learn By Doing” is. Perhaps a companion motto like “Design By Including” or “Design Inclusively”
- Campus moves beyond a mostly compliance approach for accessibility to an approach that embraces inclusive design.
- By adopting Inclusive Design as a campus philosophy, accessibility/usability for all is considered as a forethought, not an afterthought, in all programs, services, activities and facilities on campus.
Inclusive Design Campus Goals

- Decreased need to request or create special disability-related accommodations in and out of the classroom.
- Increased campus-wide appreciation of how inclusively designed programs, services, activities and facilities benefit everyone, not just people with disabilities.
Inclusive Design Campus Approach
Inclusive Design Campus Approach

(Self-assessment outlined by Sheryl Burgstahler of UW DO-IT)
Example: Kennedy Library

1) **Planning/Policies**
   - What do we do when a patron requests accommodations?

2) **Staff** - interactions/communication with patrons with disabilities ("etiquette")
   - Address myths, microaggressions, misconceptions about disability

3) **Physical spaces** – mobility, vision, hearing
   - Is there room for wheelchair users to move through aisles?
Inclusive Design Campus Approach

4) Information Technology (IT)
   - Library website accessibility
   - Assistive Tech workstations
   - Loaner AT devices (keyboards, trackballs, headsets are available for checkout at PolyConnect)
   - Access to general IT in library (online databases, printers, copiers, scanners)

5) Events
   - Are library events accessible for campus members and visitors?
Inclusive Design Implementation Strategies

• Increase adoption of Inclusive Design on campus through 3 main efforts:
  1. Outreach/Marketing
  2. Training/Resources
  3. Recognition/Awards
New Inclusive Design poster

INCLUSIVE DESIGN

Inclusive Design considers the full range of human diversity with respect to ability, language, culture, gender, age and other forms of human difference. Also known as "Universal Design," this approach results in products, services and environments that are accessible to, and usable by, everyone to the greatest extent possible. For example, a captioned video is accessible to deaf and hard of hearing individuals, helpful to second-language learners and anyone learning to read, understandable by those in noisy environments, and searchable by everyone. That's inclusivity.

At Cal Poly, we’re committed to...

TEACHING
Using instructional materials (e.g., textbooks, videos) that are accessible to students with disabilities at the same time they are available to non-disabled students.

BUYING
Accessible electronic and information technologies (e.g., learning management systems, software, kiosks)

DESIGNING
Electronic Information (e.g., websites, PDFs, apps, physical spaces (e.g., restrooms, classrooms, labs) and events that are accessible and inclusive for everyone.

Learn more about how you can help make Cal Poly accessible, inclusive and welcoming for all at accessibility.calpoly.edu

*Source: Inclusive Design Research Centre
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Inclusive Design – Campus Resources

• UDL (Universal Design for Learning) online course created by Dr. Luanne Fose of CTLT

• Web Accessibility courses (Skillsoft) created by Craig Schultz of ITS

• Cal Poly Accessibility website (accessibility.calpoly.edu)
Inclusive Design - Online Resources

• **DO-IT website** ([washington.edu/doit](http://washington.edu/doit); then click/select “Universal Design” under “For Educators”) – Best practices for Faculty, Facilities, Student Affairs, ITS, etc.

• **UDL on campus website** ([udloncampus.cast.org](http://udloncampus.cast.org))

• **Equity and Excellence in Higher Education: Universal Course Design** ([eeonline.org](http://eeonline.org))
Steps to Success

• How can we all help to infuse Inclusive Design into our campus culture?:
  1. Educate
  2. Advocate
  3. Celebrate
Educate

- Frame Inclusive Design as tailor-made for supporting campus diversity efforts by using the term “Inclusive Design” instead of “Universal Design.” Display the Inclusive Design poster throughout campus.
- Direct campus departments to UW DO-IT’s guidelines/considerations (see Online Resources) for implementing inclusive design in their areas.
- Conduct on-demand trainings throughout the year at various Student Affairs, Faculty, ITS and Facilities department meetings.
- Conduct Inclusive Design workshops during Inclusive Excellence month and Student Affairs recharge events.
Educate

• Develop “Inclusive Design Champions” (peer support networks of faculty, staff and students who “get it” and can help recruit and support others on campus) – similar to the “Train the Trainer” model.

• Incorporate Inclusive Design philosophy as a topic in course curricula (e.g., STEM, architecture, business, etc.).

• Show short captioned videos illustrating inclusive design on digital displays throughout campus.

• Bring in guest speakers, films, and interactive exhibits about disability issues and Inclusive Design/accessibility.

• Consider establishing an annual “Inclusive Design” conference on campus (bring in experts on the topic)
Educate

• Planned rental of **Allies for Inclusion: The Ability Exhibit** for campus on Oct 11-13, 2017
Advocate

- Identify areas on campus and in campus life where Inclusive Design could be incorporated to make for a more welcoming and inclusive campus and actively advocate for it (e.g., ramps, curb cuts, announcement of each floor on elevators, more electric door openers, height-adjustable bistro tables, new housing/dining).

- Feature people with visible disabilities and other forms of diversity in campus marketing materials and media.

- Advocate for increased funding for accessibility and inclusive design efforts on campus.
Celebrate

• **“Excellence in Inclusive Design” award/s** - annual award given during President’s Diversity Awards to recognize exemplary efforts to promote Inclusive Design on campus.

• Regularly highlight examples of **“Inclusive Design In Action”** in social media, websites, campus newspaper, outreach/marketing materials.

• Hold events to recognize and celebrate annual diversity-related days/months such as Disability Employment Awareness Month (in Oct) and Global Accessibility Awareness day (in mid-May)
Celebrate

Global Accessibility Awareness Day (GAAD)

Make accessibility a forethought…not an afterthought!
Inclusive Design Ideas

- **Language, symbols, images we use (or don’t use):**
  - Replace “compliance” with a more inclusive, welcoming term.
    - Recently changed name from Disability Access Compliance Committee (DACC) to Disability Access & Inclusion Committee (DAIC)
    - Propose changing name of “508 Compliance Officer” to something less intimidating like “Information Accessibility Coordinator”?
  - Gradually replace the old accessibility icon on campus with the [new accessibility icon](#), which is more dynamic and active.
  - Regularly include people with disabilities in the images/stories of diversity that Cal Poly shares on campus and with the world.
Inclusive Design Ideas

- **Instructional materials** - Encourage adoption of accessible OER (Open Educational Resources) on campus.
  - Decreases need for accommodation requests because books are already in an **accessible** digital format. Easy to convert to audio or use with text-to-speech and screen reader software for those with reading disabilities and English language learners;
  - They are **affordable**, which is inclusive to lower-income students and helpful to all students;
  - Digital books can be more **easily manipulated** by people with mobility disabilities using assistive technologies, such as speech recognition, eyegaze systems, trackball/mouse, or switch scanning.
Inclusive Design Ideas

- **Transportation** - Explore possibility of **accessible driverless bus** (Olli) as an inclusive mode of transport for people with and without disabilities during the day as well as after hours.
Inclusive Design Ideas

• Campus monorail (PolyRail) in our future???
Inclusive Design Ideas

• **Wayfinding** - Develop an *interactive campus map app* that provides customizable guidance and details for campus members and visitors, including those with physical, visual, hearing and cognitive disabilities. Include point-to-point visual/auditory directions and destination photos.
Inclusive Design Closing Thoughts

• In order to fully embrace inclusive design at Cal Poly, we need to reject ableism, the idea that there is such a thing as “normal” and that disability and other forms of difference are abnormal and inferior. When ableism guides design, it alienates and excludes diversity in favor of some mythical "normal" or one-size-fits-all ideal.

• We must embrace diversity and let it guide our design of programs, services, facilities, activities, events and instruction. Inclusive Design is a proven and effective approach that we can employ to make our campus welcoming, accessible and inclusive for all.
Upcoming Events!

Inclusive Design Matching Game
UU Plaza Marketplace
Thurs (5/25) 11:00 – 12:30 pm
Play to win a fidget cube or shark stress toy!
Upcoming Events!

“More than a Diagnosis: Disability as Diversity in Higher Ed”
Speaker: Danielle Johnson, DRC
Next Wed (5/31) 11:00 – 12:00
UU 220
Comments?

Questions?
Thank you!

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