

# **Universal Design of Instruction: Effectively Teaching All Students, Including Those with Disabilities**

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1970 UW student:

*“Ramp the curbs. Keep  
me off the street.”*

-the UW Daily

**DO·IT**



# 1992 UW student (Karl Booksch)

- *DO-IT started with NSF funding*
- *We had*
  - *curbcuts! We were serious about physical accessibility.*
  - *Disabled Student Services Office*
- *Awareness & attitudinal barriers persisted*



# 2011 UW

- *Much greater awareness of accommodations requirements*
- *Promotion of the social model of disability & universal design*
- *Most disclosed disabilities are “invisible”*

# Handout

## *Broadening Participation in Science & Engineering by Welcoming Participants with Disabilities*

-Funded by NSF  
as part of DO-IT's *AccessSTEM*



# Models of Disability

- *Deficit/Medical/Rehabilitation/*
- *Legal*
- *Social*



# Approaches to Access

- *Accommodations*
- *Universal Design*

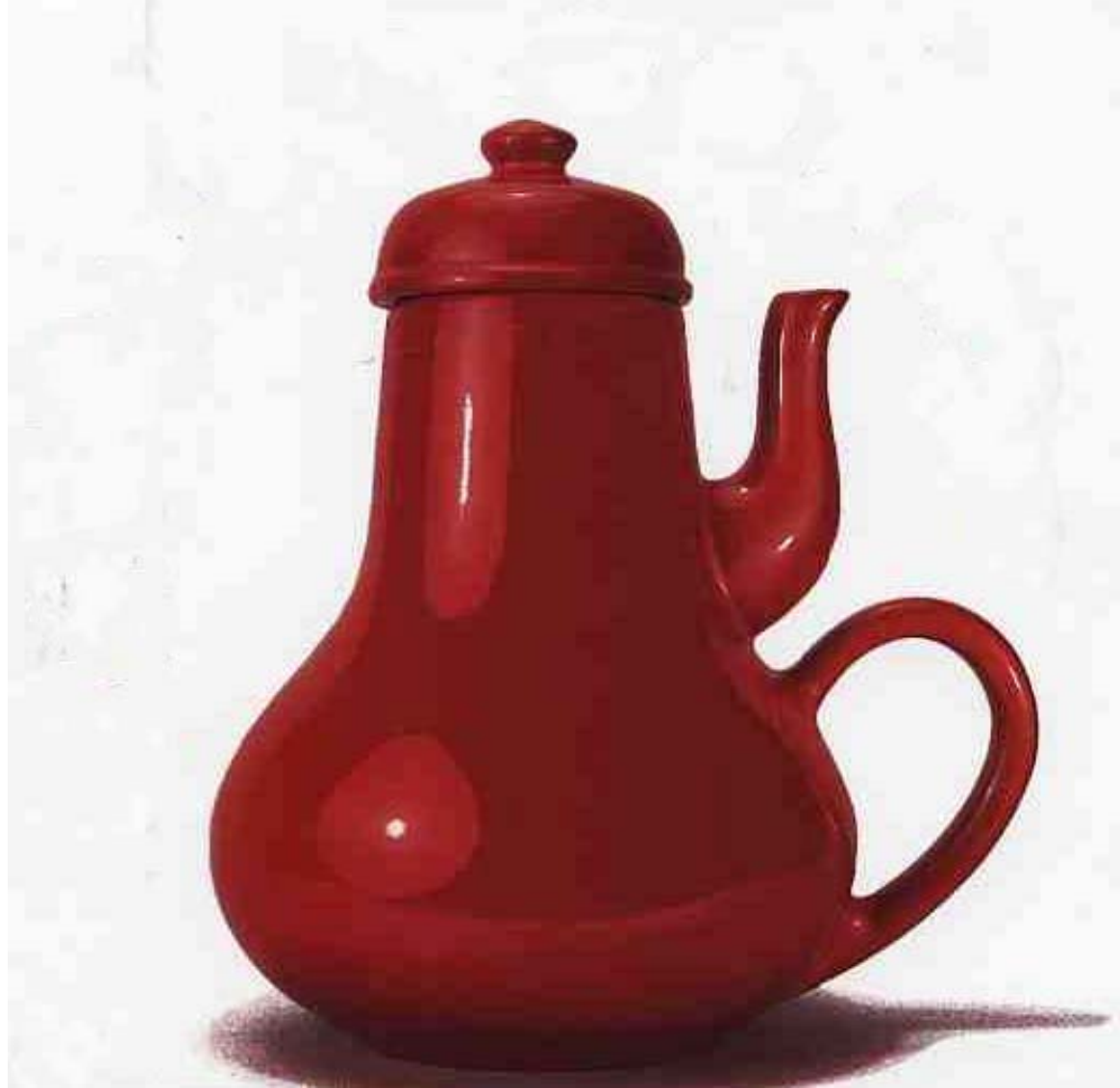


Accommodation =

*Alternate format, service, &/or  
adjustment for a specific  
individual*







**“Coffeepot for Masochists”, Catalog of Unfindable Objects by Jacques Carelman; in Donald Norman’s *The Psychology of Everyday Things*, 1988**

Sheryl Burgstahler at NDEW 2011/**OXIDE**

# Universal Design =

*“the design of products & environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.”*

The Center for Universal Design  
[www.design.ncsu.edu/cud](http://www.design.ncsu.edu/cud)



How could you universally design a name tag?



We need both:

***Universal design*** (proactive for everyone)

***& accommodations*** (reactive for individuals)



# Quiz

*A faculty leader along with a total of 9 other instructors & students met to discuss potential curriculum changes to a chemistry course. One participant requested a sign language interpreter. When the invoice arrived...*

# Who is right about the cost of interpreters?

- a. *Accountant: “Ouch. \$80 for one person? That is expensive!”*
- b. *Faculty leader: “Oh, no, the cost was only \$8 per person.”*

# UD of Instruction:

- *embraces the social model of disability*
- *is a proactive process.*
- *can be implemented in incremental steps.*
- *focuses on benefits to all students.*
- *does not replace good teaching practices or lower academic standards.*
- *minimizes the need for special accommodations for individuals.*



# Apply UDI to:

- *Class Climate*
- *Interaction*
- *Physical Environments & Products*
- *Delivery Methods (apply UD to overall choices & to each method)*
- *Information Resources & Technology*
- *Feedback*
- *Assessment*
- *Accommodation*





# Examples in a UDI Course

- Arrange seating so that everyone has a clear line of sight.
- Design chemistry labs with at least one station accessible by wheelchair-users; purchase accessible technology (talking color detection; hands-free stirrers, beaker holders).
- In labs, make sure a student with a disability plays an active role.

- Welcome students by name.
- Be approachable & available.
- Avoid stereotyping & stigmatizing a student by drawing undue attention to a difference.
- Model mutual respect.
- Use large, bold fonts on uncluttered overhead displays & speak aloud all content presented.
- Repeat questions students ask.

- *Face the class while speaking; consider using a microphone; make eye contact.*
- *Provide multiple ways to gain & demonstrate knowledge, using multiple senses. Provide scaffolding tools (e.g., outline).*
- *Avoid unnecessary jargon; define terms.*
- *Summarize major points.*
- *Provide multiple, diverse examples.*

- *Select flexible curriculum.*
- *Select materials early.*
- *Provide materials in accessible electronic formats.*
- *Accommodate a variety of reading levels & language skills.*
- *Provide regular feedback.*

- *Provide corrective opportunities.*
- *Monitor & adjust.*
- *Test in same manner in which you teach.*
- *Minimize time constraints.*
- *Address individual needs in an inclusive manner.*
- *Know how to arrange for accommodations.*

Good teaching is good  
teaching.



# Universal Design is:

- *an **attitude** that values diversity, equity, & inclusion.*
- *a **goal**.*
- *a **process**.*
- ***practices** that make products & environments **welcoming, accessible, & usable** for everyone.*



# UD – know it when you see it:



...at “skateboard park”

Sheryl Burgstahler at NDEW 2011/**OXIDE**