St. Lawrence College
BROCKVILLE • CORNWALL • KINGSTON

Universal Instructional Design

CCDI Conference
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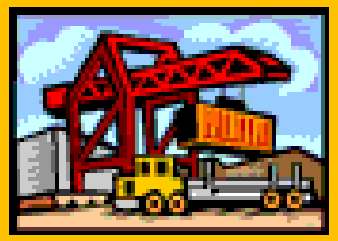
Overview

- Brain Research and Learning
- History of Universal Design
- What is UID ?
- Principles of UID
- Why Implement UID?
- Roadblocks - Supports
- Questions?



Brain Research and Learning
3 Primary Networks

1. Recognition Networks

Gathering facts.

- How we identify, categorize, what we see, hear and read
- Identifying letters, words
- an author's style

- recognition tasks.

- The "what" of learning

Brain Research and Learning

2. Strategic networks

- Planning and performing tasks.
- -organize and express our ideas.
- Writing an essay or

The “how” of learning

Brain Research and Learning

3. Affective Networks

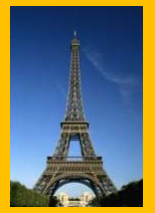
- How students are engaged, motivated, challenged, excited or interested.

The "why" of learning

Source: Centre for Applied Special Technology, 2007

History of Universal Design

Origins in architecture



- Curb cut
- Automatic doors

- Ramps
- Elevators with Braille signage
- Wider door frames
- Water Fountains

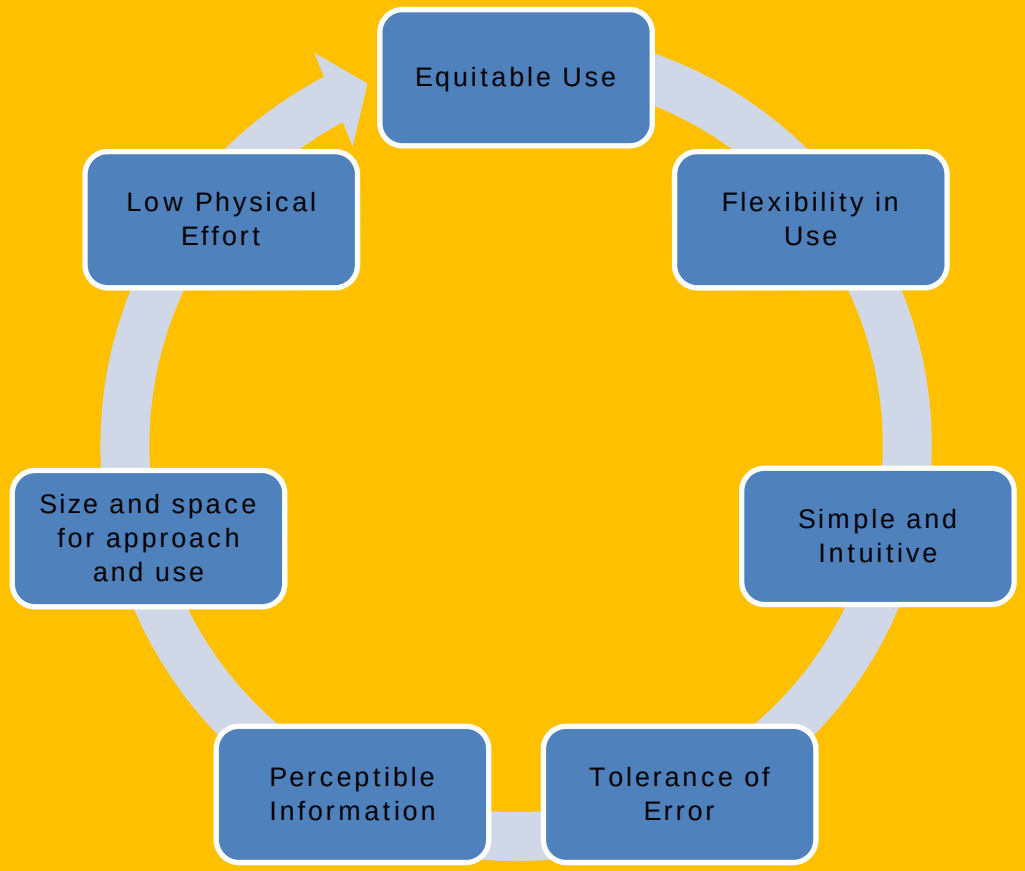
Definition of Universal Design

- ..... 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 (Ron Mace)

Universal Design History

- Centre for Universal Design at North Carolina State University
- Group of architects, product designers, engineers, and environment design researchers
- Developed 7 principles for universal design

Product Design



Product Design	Instruction Design Example
Equitable Use	Website
Flexibility in Use	•Read or listen to a description •Right/left handed scissors
Simple and Intuitive	Equipment with red/green buttons
Perceptible Information	.Multimedia with captions •Talking Thermometer
Tolerance of Error	“undo” button computer
Low Physical Effort	•Door opens automatically •Lever door handles
Size and space for approach and use	• Wheelchair accessible turnstiles

Cell phone

Georgian College

Jim Bryson

- Universal Instructional Design In Postsecondary Settings, An Implementation Guide.

- Learning Opportunities Task Force, Ministry of Training, Colleges and Universities

University of Guelph

- Project to make “universal design” principles applicable to third level education
- Funded by “The Learning Opportunities Task Force of Ontario in 2002—2003
- 7 Principles of Universal Instructional Design

Universal Design

- Is Not One Size Fits All

- The term "universal" means universal access to your courses, not a universal curriculum.

Acronyms

- UID - UDL -UDI
- Universal Instructional Design (UID)
- Universal Design for Learning (UDL)
- Universal Design for Instruction (UDI)

7 Principles of UID

Instruction Materials and Activities should.....

1. Be accessible and fair.
2. Provide flexibility in use, participation and presentation
3. Be straightforward and consistent
4. Be Explicitly presented and readily perceived
5. Provide a supportive learning environment
6. minimize unnecessary physical effort or requirements.
7. ensure learning spaces that accommodate both students and instructional materials

Principle 1

Instructional materials and activities should be accessible and fair

Principle 1

Definition

- Instruction is designed to be useful and accessible by students with diverse abilities, respectful of diversity and with high expectations for all students

Principle 1

Examples

- On-line course web site with materials (accessibility checked – http://bobby.watchfire.com/bobby/html/en.index.jsp)
  - organizers
  - lecture outlines
  - key points
  - announcements

- Invite students with disabilities to meet with professors individually to review their specific needs

Principle 2

Instructional materials and activities should provide flexibility in use, participation and presentation.

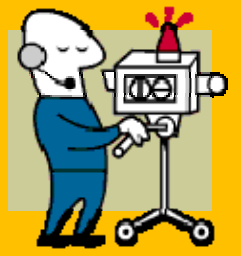
Principle 2

Definition

- Learning is most useful when it is multimodal. Materials are presented in multiple forms. Students have multiple ways of demonstrating their knowledge

Principle 2 - Examples

- Presentations in verbal, text, images, audio
- Variety of teaching strategies – discussion/problem solving exercises
- Exercises and quizzes posted on-line



Principle 2 - Examples

- Choice of assignments – report, project, portfolio, take-home test.
- Choice of topics and sometimes due dates
- On-line discussion groups
- Group work to foster peer-to-peer learning

Principle 3

- Instructional materials and activities should be straightforward and consistent

Principle 3

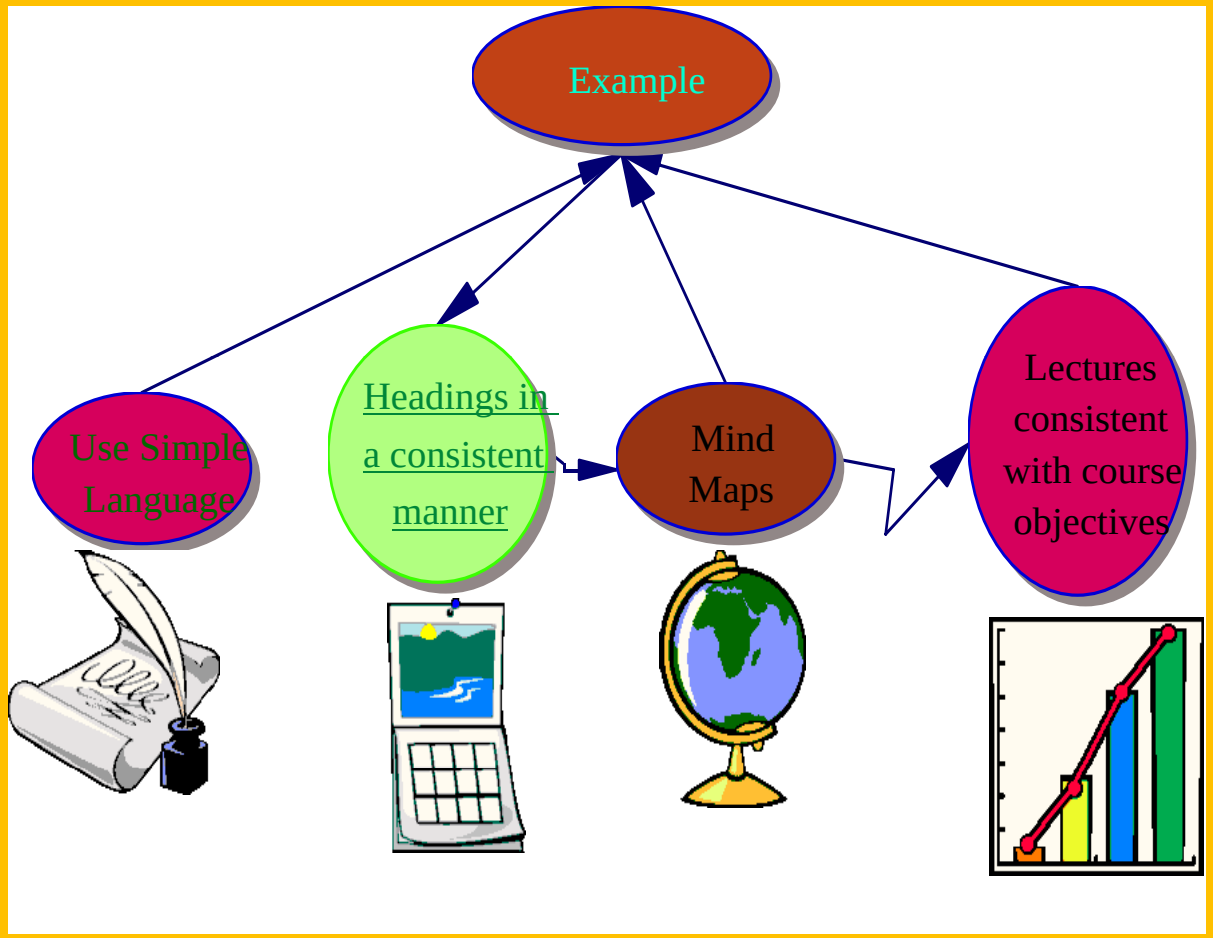
Definition

There needs to be consistency between course objectives and how the course is presented

Principle 3

Examples

- Lectures - consistent with course objectives
- headings in a consistent manner
- concept maps for complex topics
- simple language
- Grading Rubrics


Example
Use Simple Language
Headings in a consistent manner
Mind Maps
Lectures consistent with course objectives

Principle 4

Instructional materials and activities should be explicitly presented and readily perceived

Principle 4

- Definition

  Maximize the clarity of each medium of communication and present information through multiple channels

? ? ?

Principle 4- Examples

- Face the class when speaking – use a well modulated voice
- Summary of key points a few days before class – notes after class
- Website - choice of file formats
- Professors - assistance with new teaching strategies

Principle 4- Examples

- PowerPoint (20pts) instead of handwritten notes
- Clearly identify major topics
- Avoid lingo, culture specific language, or too many acronyms

Principle 5

- Provide a Supportive Learning Environment

Principle 5

Definition

- Provide an inclusive environment, that is welcoming and encouraging to students and allows for learning from mistakes


www.funnyplace.org

http://search.live.com/video/results.aspx?q=+professor+and+student+in+exam+vidoe&docid=639137415884&mid=8B177DD8EB3DE759DD6D8B177DD8EB3DE759DD6D&FORM=VIVR3

Principle 5

- Posted regular office hours
- E-mail capability
- Channels for help - a help room
- Include marginalized students
- Share teaching philosophy

Principle 5

- Examples
- drafts of assignments

- Think, pair, share activities ***

- Collaborative Learning***

Think, Pair, Share

- Memorize the following list of letters

R T R N R H A V S N A I Y E S I Y W E S I G

A O T O R U T L A C H N T N L P R J I A R G

T O F C E S C T S R W Y R S B W Y G M S T

Clue

- Clue # 1

Clue

- # 2 Clue

Audio Clue

- http://www.youtube.com/watch?v=9XbN-fSLu-k

Collaborative Learning

- Case Study Review
- Group work

Principle 6

Instructional materials and activities should minimize unnecessary physical effort or requirements.

Principle 6

Definition

Eliminating any unnecessary or not relevant physical effort

Principle 6 – Examples

Course websites:

- minimize clicking, scrolling or hunting for information – include “return to top of page”
- Inform guest speakers of needs of students
- Lighting, physical space, entrances and exits

Principle 6 – Examples

- Labs - work in pairs

- On-line library reserve

or Web CT for reading material -students access from home

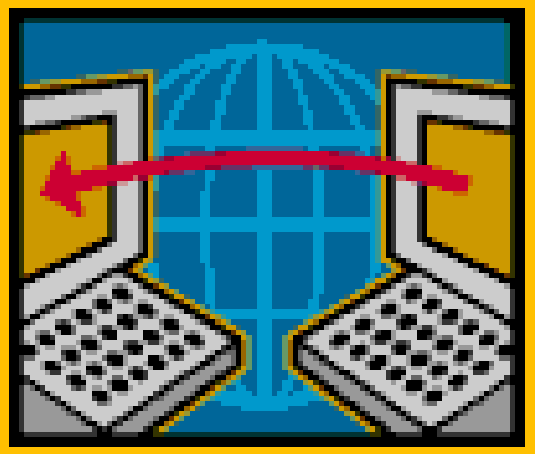
Principle 7

- Instructional materials and activities ensure learning spaces that accommodate both students and instructional materials

Principle 7

Definition

- Learning happens in virtual and physical space. The space must be designed to accommodate diverse learners

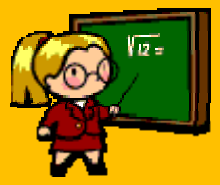


Principle 7- Examples

- Space that fits the professor's teaching techniques and subject area
- Technology match between course and exercises
- Large and small group activities possible
- Videotape class - review

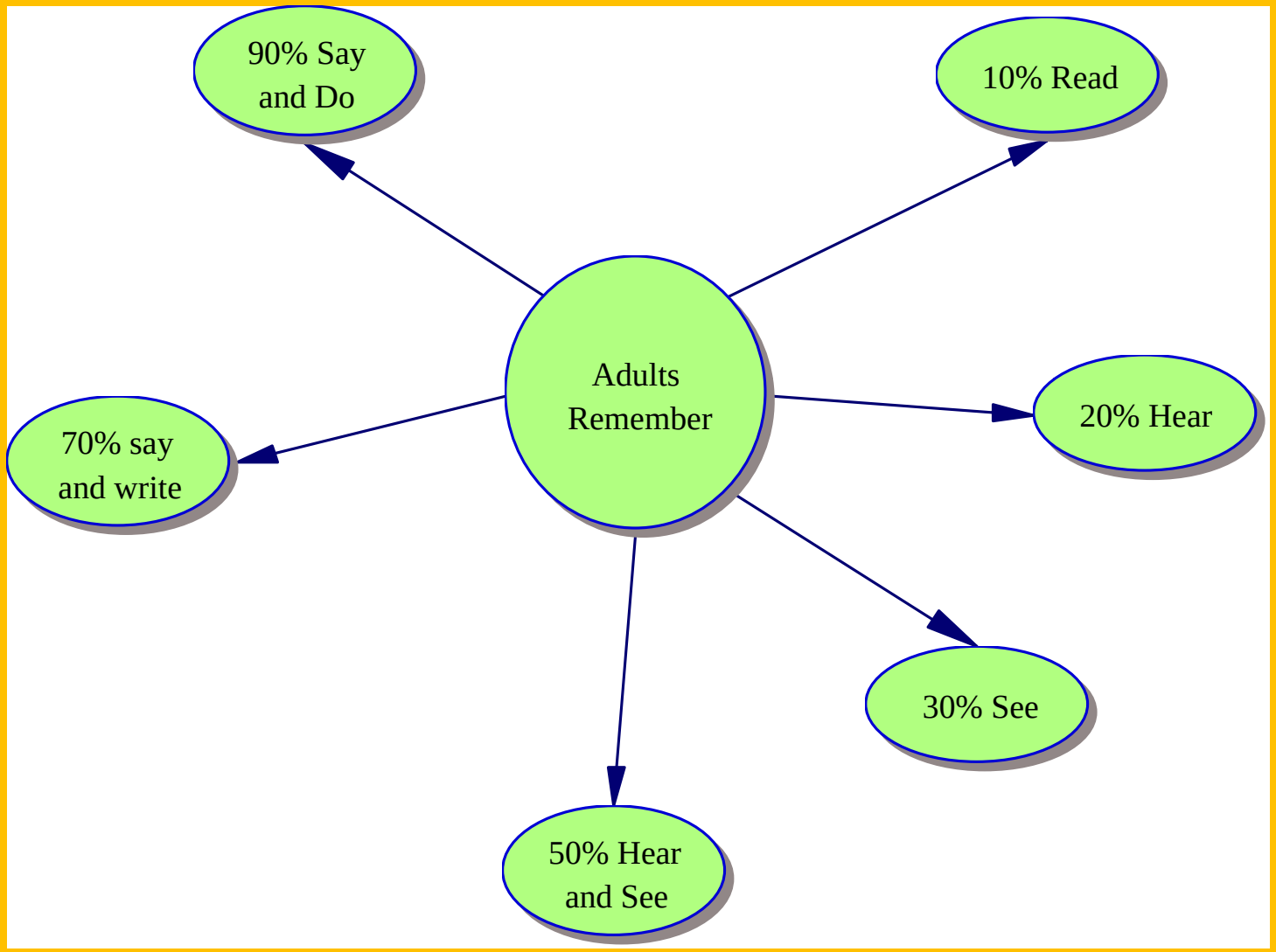
Universal Instructional Design

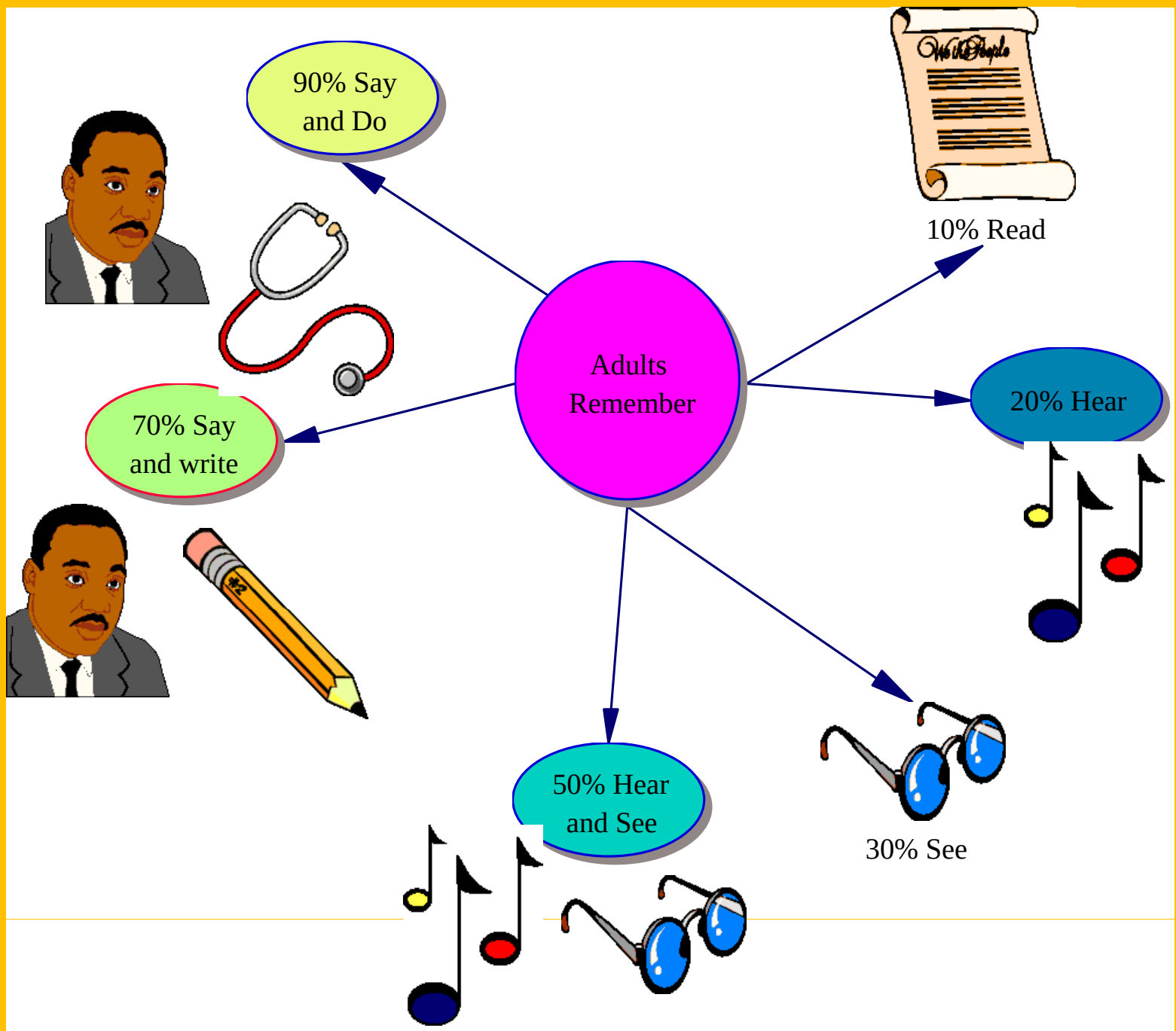
- Challenges faculty to incorporate flexibility in instructional methods and materials to serve diverse learners



How do you teach?

- Adults remember
- 90% of what they say as they do a task
- 70% of what they say and write
- 50% of what they hear and see
- 30% of what they see
- 20% of what they hear
- 10% of what they read


90% Say
and Do
10% Read
Adults
Remember
70% say
and write
20% Hear
30% See
50% Hear
and See


90% Say and Do
10% Read
Adults Remember
20% Hear
70% Say and write
50% Hear and See
30% See

Technology in our lives

- List all the new technology you have used in the last 10 years.

Technology in our lives

- Bank machines
- Cell phones
- Blackberry

<u>Speech recognition technology</u>

- banks
- airline reservation systems
- phone systems

Technology in the Classroom

- Digital media offers feasible foundation for UID
- Versatile
- Transformability
- Networked

Why Change?

Why Change?

- Change is central to college cultures
- New laws (AODA 2005)
- New demographics – Millennial student
- New Educational Theories

Why Change?

- Fewer shared icons
- Entire population of diverse learners

Who benefits from Universal Instructional Design?

EAL

Millennials

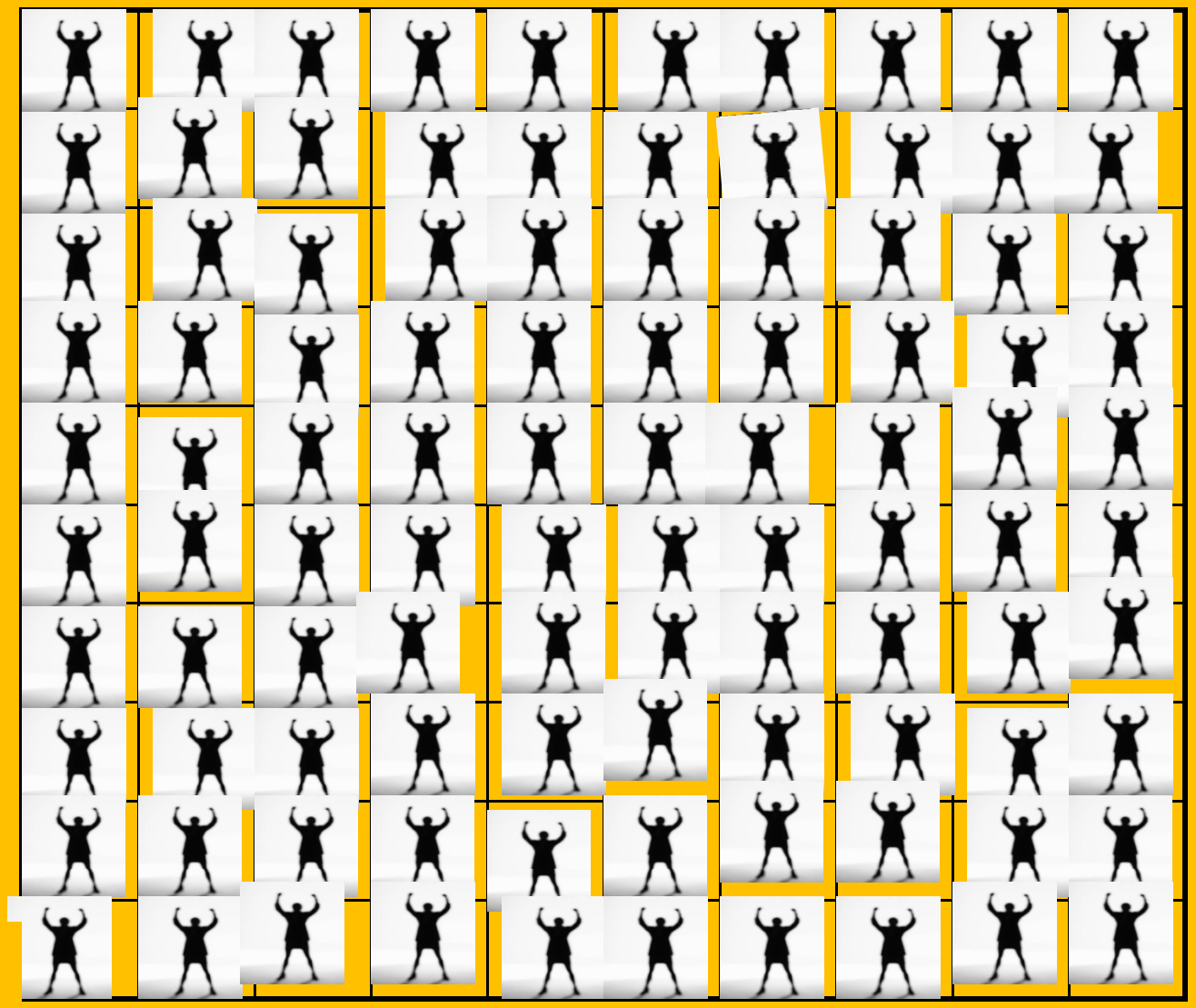
Mature Learners

Cultural Difference - Values

Students with disabilities

International Students

Learning Styles



Why incorporate U.I.D?

- Multiple means of representation

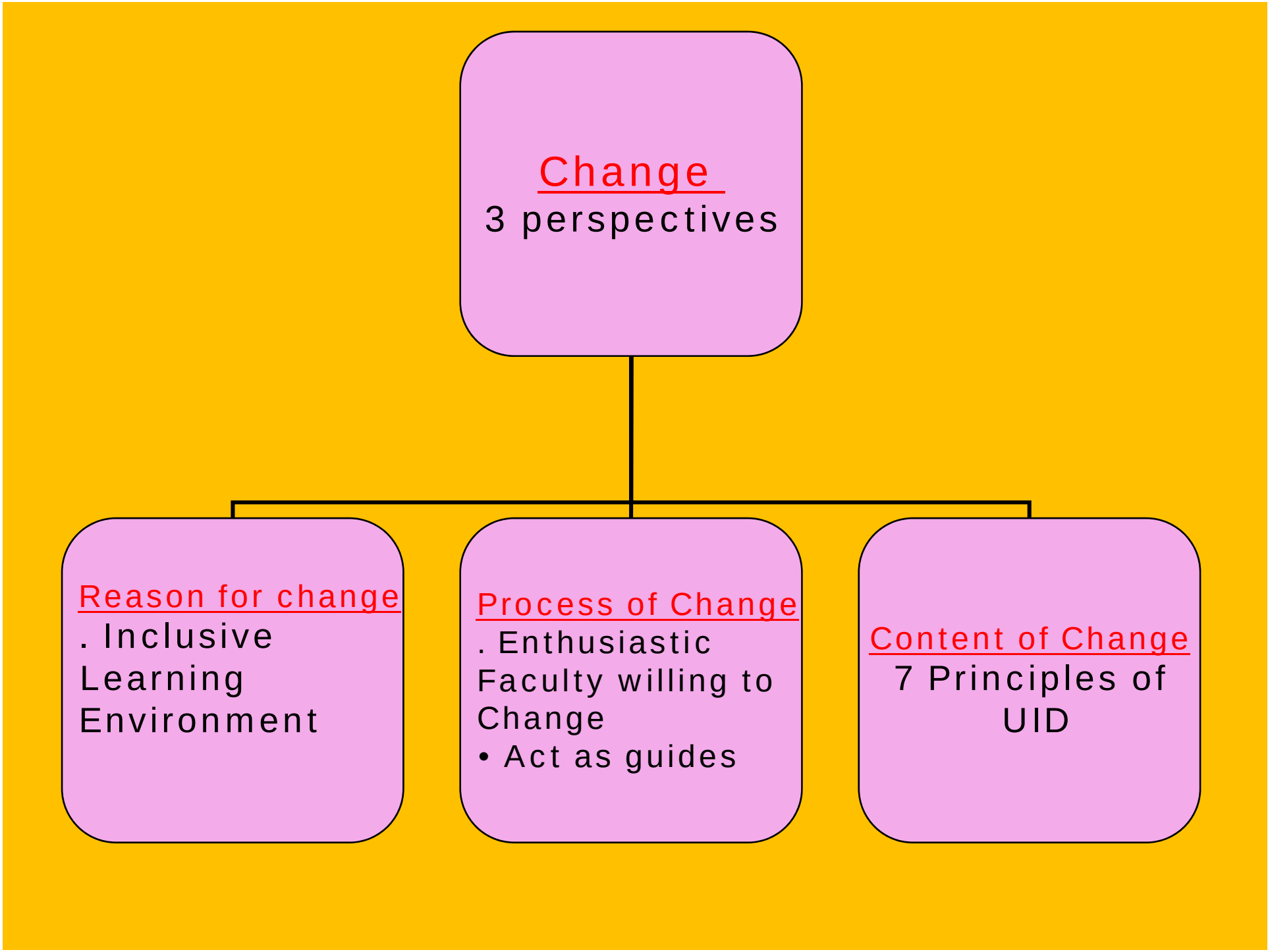
Offers students various ways of acquiring information

- Multiple means of expression

Provides alternatives to students for demonstrating what they know

- Multiple means of engagement

Taps into student's interests, challenges and motivates them


Change
3 perspectives
Reason for change
. Inclusive Learning Environment
Process of Change
. Enthusiastic Faculty willing to Change
• Act as guides
Content of Change
7 Principles of UID

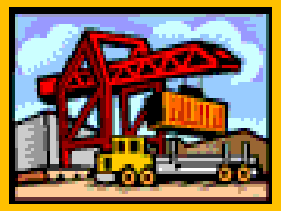
Universal Design for Student Services

- http://www.washington.edu/doit/Video/ea_student.html
- Video

- 15 minutes – if time

Roadblocks

Supports Needed



Quotation

- “The greatest good you can do for another is not just to share your riches but to reveal to him his own.” (Benjamin Disraeli)

Contact Person

- Contact - Eleanor Condra

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Resource List

CAST – Universal Design for Learning, University of North Carolina
http://www.cast.org
Facultyware – University of Connecticut
http://facultyware.uconn.edu
Student Case Studies on Universal Design
http://www.washington.edu/doit/Faculty/Strategies/Academic/International/intl_case_studies
Universal Design: Applications in Postsecondary Education, University Of Arkansas in Little Rock.
http://www.ualr.edu.pace/ud/index.htm
Universal Design, University of Washington
http://www.washington.edu/doit/Resources/udesign.html

Resource List

Universal Instruction Design in Postsecondary Settings, An Implementation Guide, Jim Bryson

http://www.mohawkcollege.ca/dept/stdev/Disability/UID-manual.pdf

Universal Design for Instruction, Sheryl Burgstahler,Ph.D., University of Washington

http://www.washington.edu/doit/Brochures/Acadmeics/Instruction.html

Universal Design Faculty Room

http://www.washington.edu/doit/Faculty

University of Guelph, Lecture Guide

Resource List

Universal Design for Instruction, Sheryl Burgstahler,Ph.D., University of Washington

http://www.washington.edu/doit/Brochures/Acadmeics/Instruction.html

Universal Design Faculty Room

http://www.washington.edu/doit/Faculty

University of Guelph, Lecture Guide

http://www.tss.uoguelph.ca/projects/uid/guides/LecturesUIDprinc.html

University of Guelph, UID Resources

http://www.tss.uoguelph.ca/uid/uidresources.html.