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Adopting Universal Design in Libraries: Collaborating for Student Success

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Adopting Universal Design in Libraries: Collaborating for Student Success

Bronx EdTech Showcase, Lehman College, 2016
Collaboration with Access and Technology Center (ATC)

- Collaboration with Lehman College’s ATC and Office of Student Disability Services

- Technology and AppShare 1.0 and 2.0 (spring 2015, spring 2016)

- Library and ATC presented at CUNY Accessibility Conference 2015, John Jay - underlying Universal Design for Learning (UDL) theme
Collaboration with ATC – Lessons Learned

- Students are tech-savvy
- The need for accessible documents from faculty
- Students recommend uploading accessible text documents so their screen readers (e.g. JAWS) can recognize text
- Faculty require software to create accessible documents
- QuickBooks for accounting classes to replace Peachtree
Collaboration with ATC - Apps Used by Students

- Scholly - scholarship finder
- Grammarly - corrects grammar mistakes
- Flashcards – virtual flashcards to study with
What is Universal Design?

Image and video of Lucy Greco, Web Accessibility Evangelist, University of California, Berkeley

Watch video on https://www.youtube.com/watch?v=u5JcY9wnBK4
What is Universal Design?

Image of Cartoon
“Clearing the Path for people with special needs clears the path for everyone”
What is Universal Design?

Products and services that are accessible and functional for as many persons as possible, regardless of their age or ability, without the need for adaptation, or if needed, easily adaptable according to different individual requirements.

… [a] “design for all”

What Is Universal Design?

The Principles of Universal Design

**Equitable Use**
The design is useful and marketable to people with diverse abilities.
1a. Provide the same means of use for all users, regardless of physical abilities.
1b. Avoid segregating or stigmatizing any users.
1c. Provisions for privacy, security, and safety should be equally visible to all users.
1d. Make the design appealing to all users.

**Perceptible Information**
The design communicates necessary information effectively to the user, regardless of ambient conditions or the user’s sensory abilities.
4a. Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information.
4b. Provide adequate contrast between essential information and its surroundings.
4c. Minimize reliance on essential information.
4d. Differentiate elements in ways that can be described (e.g., make it easy to give instructions or directions).
4e. Provide compatibility with a variety of techniques or devices used by people with sensory limitations.

**Flexibility in Use**
The design accommodates a wide range of individual preferences and abilities.
2a. Provide choice in methods of use.
2b. Accommodate right- or left-handed access and use.
2c. Facilitate the user’s accuracy and precision.
2d. Provide adaptability to the user’s pace.

**Tolerance for Error**
The design minimizes hazards and the adverse consequences of accidental or unintended actions.
5a. Arrange elements to minimize hazards and errors; most accessible, hazardous elements eliminated, isolated, or shielded.
5b. Provide warnings of hazards and errors.
5c. Provide failsafe defenses.
5d. Discourage acceptance of action in aids that require vigilance.

**Size and Space**
Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user body size, posture or mobility.
7a. Provide a clear line of sight to important elements for any seated or standing user.
7b. Make reach to all components comfortable for any seated or standing user.
7c. Accommodate variations in hand and arm size.
7d. Provide adequate space for the use of assistive devices or personal assistance.

**Low Physical Effort**
The design can be used efficiently and comfortably and with a minimum of fatigue.
6a. Allow users to maintain a neutral body position.
6b. Use of unnecessary operating forces.
6c. Watertight repetitive actions.
6d. Minimize sustained physical effort.

**Simple and Intuitive Use**
Use of the design is easy to understand, regardless of the user’s experience, knowledge, language skills, or education level.
3a. Eliminate unnecessary complexity.
3b. Be consistent with user expectations and intuition.
3c. Accommodate a wide range of literacy and language skills.
3d. Arrange information consistent with its importance.
3e. Provide effective prompting and feedback during and after task completion.

**Image from Interaction Design Foundation at https://www.interaction-design.org/literature/article/the-seven-principles-of-universal-design**
What is Universal Design for Learning (UDL)?
What is Universal Design for Learning?

A. provides flexibility in the ways information is presented, in the ways students respond or demonstrate knowledge and skills, and in the ways students are engaged; and

B. reduces barriers in instruction, provides appropriate accommodations, supports, and challenges, and maintains high achievement expectations for all students, including students with disabilities and students who are limited English proficient.

From the Higher Education Opportunity Act of 2008
UDL’s Three Principles

1. Multiple Means of Representation –
   • Face-to-face reference, library instruction, QuestionPoint chat, videos

2. Multiple Means of Action and Expression –
   • Different learning styles for diverse student body: individual, group, one-on-one sessions
   • Active pedagogical learning styles for example flipped classroom.
   • Real-time and asynchronous-online learning with tutorials, research guides, to view at your pace

3. Multiple Means of Engagement
   • Databases, periodicals, eBooks, iPads, laptops

From https://teal.ed.gov/tealguide/udl
UDL Helps a Wide Range of Learners

• What is it?

• Who benefits?

• Why is it important?

From A Policy Reader in Universal Design for Learning by Gordon, Gravel, Schifter
UDL Helps a Range of Students

- Self-identified students to Office of Student Disability Services
- Choose not to self-identify or unaware of services available
- Senior adult learners, student veterans
- ESL students
- Students with different learning styles
Federal, State, Municipal Mandates - Accessibility

- Federal and state-level accessibility laws, and guidelines for public and private institutions.

- Rehabilitation Act, Section 508, 504, ADA, W3C, WCAG 2.0, Higher Education Opportunity Act (HEOA) 2008 and more.

- NYS is a hybrid of Section 508 and WCAG guidelines.

- NYC legislation, March 14, 2016, mandates an accessible website protocol for all government agency websites within 6 months - http://tinyurl.com/z4r69l8

Faculty and UDL

Faculty grapple with resources such as:

• Skills and familiarity
• Time
• Expense

Image of Doc Brown - the mad professor
UDL at the Leonard Lief Library

Image of Leonard Lief Library's B27A computer lab
Image of Lehman eLibrary website example of dyslexia font

Research Databases GVRL

Image of Gale Virtual Reference Library website

T. Christopher Apolin

Hip-hop, a musical culture born in urban African American ghettos during the 1970s and 1980s, provides an important reminder about the historically consistent cooptation of indigenous North American peoples. Some natives will dispute this labelling, a result of the mistaken and well-documented guilt between expectations of what “indian” histories and identities mean to non-Natives and their self-evident meanings within indigenous communities, themselves. Students might pause to think: hip-hop is Black, and not Fred; modern, not “traditional” is it of the urban ghettos, not rural reservation; it is of the word, not “of the world.” The properly confrontational, but honest hip hop responds to non-Native doubts: Got over it.

We foreground the unexpected universality of Indigenous North American hip-hop by addressing widespread ignorance about indigenous interactions with African-derived peoples in the New World. In the earliest days of the
Research Databases EBSCO

Image of EBSCO database accessibility settings
Technology

• Access and Technology Center (ATC)
  • JAWS (screen reader)
  • Dragon Naturally Speaking 10
  • Kurzweil 1000 and 3000
  • ZoomText
  • LiveScribe smartpens

• Videos
  • Closed Captioning of videos

• Word
  • make into OCR PDF

Image of Pedro Laureano, Student Disability Services Specialist using AbbyyFine Reader.
Website Redesign

“The webpage is the primary or exclusive access point for many patrons and needs to be as inclusive as possible.”

From Clark Nall “Academic Libraries and the Principles of Universal Design for Learning”
Mobile Devices and Accessories

- Mobile devices as recording devices
- Headphones to listen in class
- Speaking notes into cellphone

Image of Ear Plugs for VoiceDream App
Apps

- Note-taking apps such as Evernote
- Scanner apps such as CamScanner
- Audio recording such as Audionote, Evernote, Voice Memos
- Text-to-speech apps – Voice Dream
- Cloud storage apps - Dropbox, Google Drive, OneDrive

Image of Google Play Apps for Hearing Impaired
How to make libraries accessible, usable, and welcoming...
Reference Services – Chat, Email, In-Person

- Offer directions or instructions both orally and in writing.
- Listen carefully. Repeat what you think you understand. Ask the person with a speech impairment to clarify or repeat the portion you did not understand.
- Face people with hearing impairments so they can see your lips.
- Do not interact with a person's guide dog or service dog unless you have permission.

From http://www.washington.edu/doit/equal-access-universal-design-libraries
Library Instruction Classes

- Speak all content when writing on blackboard, describe overhead projections and visuals, discuss handouts.
- Allow a student to take a picture of blackboard for further study or to send to a student with a visual impairment.
- Email handouts to professor or students prior to class.
  - Students can read before class for increased comprehension (e.g. flipped classroom).
  - Students can listen to document using screen reader before class.
- Provide information in clear, calm, respectful tones.
- Allow opportunities for addressing specific questions.

From http://www.washington.edu/doit/equal-access-universal-design-libraries
UDL Tips & Tricks

• Make documents accessible by:
  • using Microsoft Office
  • use Adobe Acrobat or an OCR program such Abbyy FineReader

• Make images accessible by:
  • Embed alternative text (Alt text) in Microsoft Office - Excel, Outlook, PowerPoint, Publisher, Word
  • Alt Text tool available on Microsoft Office 2007 onward (PC) and 2011 onward (Mac).

From http://accessibility.psu.edu/microsoftoffice/microsoftalttags/
CUNYPortal → CUNY eMall → Software

Image of Software available to faculty/staff via CUNYPortal
CUNY computer software site licenses available for faculty:

- **IT**
  - Accessibility workshops available
    http://www.lehman.edu/itr/faculty-workshops.php

- **Software**
  - Adobe CS6 Design Premium Web Premium
    http://www2.cuny.edu/about/administration/offices/cis/technology-services/cuny-site-licenses/software-availability/
UDL Tips & Tricks – Administrative Involvement

- If you are using images and graphics for Alt Text, please provide the description for JAWS to read to the student. Please be sure to add a title to the image, for example: This is a picture of the Mona Lisa. Following the image title, provide your description.
- If you are posting documents, when saving your document, SAVE AS .pdf. Screen readers such as JAWS will not read a word document.
- Use a consistent layout for the material that you post and please do not use color. Use Arial or Tahoma fonts.
- Apply Universal Design for Learning (UDL) Principles through multiple strategies. Consider: multiple means of engagement (interest and motivation), multiple means of representation (content and assignment), and multiple means of expression (knowledge and assessment).
- Consider the diversity of the learners enrolled in your class: Sensory, Physical, Cognitive, etc.
- If your classes utilize charts and tables, please enter the data horizontally.
- Use the Accessibility Checker that is found in Office 2010, 2013 and Office 365. The accessibility checker is not found in Office 2011 for Mac.

The above are some items that can be used today to make your classes more accessible and engaging for all learners.

Please feel free to contact our Online Teaching and Learning Technology Specialist and Blackboard Image of email from Vice Provost of Academic Programs, Stefan Becker to faculty, to engage learners.
Future Ideas

• Interlibrary Loan Documents - All articles should be OCRd
• Communicate with students through technology and app shares
• Training for Librarians
• Create or find compliance videos for library faculty
• Create a library UDL compliance list
• Liaise and collaborate with departments, professors about UDL
• Consult with university administration to create initiatives promoting universal learning and design
Further Information - UDL Compliance

- 508 Compliance Checker - www.508checker.com
- Access Technology Higher Education Network (ATHEN)
- CUNY Assistive Technology Services (CATS)
- Center for Applied Special Technology (CAST)
- National Center On Universal Design for Learning, at CAST
- National UDL Task Force
- GSA Section 508.gov - Create Accessible Electronic Documents
- Web Accessibility Initiative (WAI), WC3 - https://www.w3.org/WAI/
- WebAIM
Thank you and Questions
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Slide 8: https://www.interaction-design.org/literature/article/the-seven-principles-of-universal-design
Slide 9: https://www.flickr.com/photos/83633410@N07/7658286734/
Slide 23: http://www.voicedream.com/