A Quick Overview of Accessible Course Materials

Elizabeth Tu

Center for Faculty Development

http://www.sjsu.edu/cfd/teaching-learning/accessibility
Videos of Different Learning Styles

Videos of how students with disabilities learn:

- **Gloria A’s story** for tips on accessible documents: http://teachingcommons.cdl.edu/access/materials/GloriaA_Story.shtml

- **Lana’s story** for tips on accessible slides: http://teachingcommons.cdl.edu/access/materials/LanaStory.shtml

- Real Connections: [Making Distance Learning Accessible to Everyone](https://www.youtube.com/watch?v=F3sdR53ho2g) for tips on how students with different disabilities learn.
WHO ARE OUR STUDENTS?

- Educational, does one size fit all?

- Individuals bring in different skills, culture, learning style, needs, interests, and other characteristics to learning.

- "Diversity" in our student population is more than cultural; it includes a wide range of physical, visual [sensory], hearing, learning [cognitive], attention, and communication abilities.

- Courses or presentations designed with Universal Design for Learning (UDL) “strive to focus on the strength of individuals… what they CAN do rather than on what they cannot” and “proactively address the needs of people with the broadest range of characteristics…” (Emmert, M. A. 2008)
AEC Student Registration Data at SJSU

SJSU AEC student registration data from 2004 to 2015:

- A growth from 2% in Spring 2004 to about 4% in Spring 2015

<table>
<thead>
<tr>
<th>Semester</th>
<th>AEC Registered Students</th>
<th>SJSU Student Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 2004</td>
<td>553 (2%)</td>
<td>28,800</td>
</tr>
<tr>
<td>Fall 2005</td>
<td>890 (3%)</td>
<td>29,975</td>
</tr>
<tr>
<td>Fall 2006</td>
<td>933 (3%)</td>
<td>29,604</td>
</tr>
<tr>
<td>Fall 2007</td>
<td>1073 (3%)</td>
<td>31,906</td>
</tr>
<tr>
<td>Fall 2008</td>
<td>1124 (3%)</td>
<td>32,746</td>
</tr>
<tr>
<td>Fall 2009</td>
<td>1127 (3.6%)</td>
<td>31,280</td>
</tr>
<tr>
<td>Fall 2010</td>
<td>1058 (3.6%)</td>
<td>29,076</td>
</tr>
<tr>
<td>Fall 2011</td>
<td>1127 (3.7%)</td>
<td>30,236</td>
</tr>
<tr>
<td>Spring 2012</td>
<td>1102 (3.9%)</td>
<td>28,002</td>
</tr>
<tr>
<td>Spring 2013</td>
<td>1125 (4.1%)</td>
<td>27,503</td>
</tr>
<tr>
<td>Spring 2015</td>
<td>1142 (3.8%)</td>
<td>29,954</td>
</tr>
</tbody>
</table>
AEC Spring 2015 student registration data

- Visual disability = 25 (2.2%)
- Communication = 54 (4.7%)
- Deaf/HOH = 39 (3.4%)
- Functional disability = 548 (48%)
- Learning disability = 397 (34.8%)
- Mobility = 79 (6.9%)

Total = 1142
edX was created by the Massachusetts Institute of Technology (MIT) and Harvard University in 2012 as a nonprofit platform for select universities to offer MOOCs to the world.

It has about 60 university and institutional members providing over 450 courses to over 3,000,000 learners.

On April 2\textsuperscript{nd}, 2015, edX reached a settlement agreement with Department of Justice for the alleged violations of the Americans with Disabilities Act (ADA).
The Four-Year Agreement Requires edX to

- make the edX website, its mobile applications, and learning management system software, through which online courses are offered, fully accessible within 18 months;
- ensure that its content management system, called Studio, which edX makes available to entities creating online courses, is fully accessible and supports authoring and publishing of accessible content within an additional 18 months;
- provide guidance to course creators at its member universities and other institutions on best practices for making online courses fully accessible;
- appoint a Web Accessibility Coordinator;
- adopt a Web Accessibility Policy;
- solicit feedback from learners on the accessibility of the courses;
- conduct Web Accessibility Training for employees responsible for the website, platform, and mobile applications; and
- retain a consultant to evaluate conformance of the website, platform, and mobile applications.
Complaints over Inaccessibility

7 complaints from disable students at University of Montana over inaccessible online courses:

1. Inaccessible live chat and discussion board in Moodle LMS
2. Inaccessible faculty-prepared class assignments and materials on the learning management system, Moodle.
3. Inaccessible documents that are scanned images on webpages and websites.
4. Inaccessible videos, and videos in Flash format, that are not captioned.
5. Inaccessible library database materials.
6. Inaccessible course registration through a website, Cyber Bear.

Note: For more information about the 7 complaints, visit http://goo.gl/FIIZjB
Settlement Agreement over Inaccessibility, May 2013

UC Berkeley’s Settlement Agreement with Students with Print Disabilities on May 7, 2013:

- Timely access to instructional materials with accessible alternate media format
  - Textbooks: 10 business days
  - Course readers: 17 business days
  - Request for timely delivery of alternate format: 3 days prior to start of class
- Improve library online catalog software for screen reader access
- Implement scanning machines or other assistive technology to allow self-service by students
- Provide assistance with scanning for those with physical disabilities
- Faculty may be subject to referral to the Vice Provost and reference the Faculty Code of Conduct if they refuse to submit textbook adoptions at least 7 weeks prior to start of class
- Reading materials posted by the faculty and staff will be made accessible in a reasonable and equitable time frame.

Note: For more information about this UC Berkeley’s Settlement Agreement, visit http://goo.gl/P6L56
Settlement Agreement over Inaccessibility, July 2013

Louisiana Tech University’s Settlement Agreement on July 23, 2013:

Synopsis

- A blind student was unable to participate in a course due to an inaccessible online learning product (MyOMLab) and hard copy classroom handouts
- Faculty member directed student to app vendor and assigned another student in the course to convert the handouts
- Campus failed to provide equal and timely access to the course materials within one month
- Student dropped the course due to inability to participate equally in the class discussion or prepare for the exams in a timely manner

Outcomes

- Policy Related
  - Affirm the role of Disability Services (DS) Office as the authorized liaison between students and faculty and DS to coordinate with instructors on the delivery and service of course accommodations
  - University will revise and adopt policies and procedures to comply with accessibility standards and disseminate appropriately within 120 days
Settlement Agreement over Inaccessibility, July 2013 (cont.):

Louisiana Tech University’s Settlement Agreement on July 23, 2013 (cont.):

- **Training Related**
  - All instruction-related individuals [faculty, TAs, administrators] must receive [ADA] training on their role and responsibilities, campus resources, best practices
  - All student orientation will include presentation by Disability Services office

- **Reporting Related**
  - Report the above faculty and student training dates and attendance
  - Submit initial and annual compliance reports concerning this Settlement Agreement (policy revision, training and related complaints)

Note: For more information about this Louisiana Tech University’s Settlement Agreement, visit http://www.ada.gov/louisiana-tech.htm
What is an accessible document?

- Accessibility = Usability = Universal Design for Learning (UDL)
- Accessible documents are digital documents which can be
  - modified by highlighting texts, increasing the font size, or,
  - read out loud by text reader software for users with disabilities.
What is Universal Design?

“Universal Design” was coined by Ronald Mace in the 1970s.

 “…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.”
Examples of barrier-free and user-friendly physical environment and products

- Street sidewalk curb cuts
- Accessible Ramp
- Electronic sensor door
- Door levers
- Easy-grip tools
- Speaker phone
What is Universal Design for Learning (UDL)?

- More learner-centric and barrier-free UDL educational environment
  - Different ways to present, describe or explain course content information
  - Different strategies or technologies to engage or involve our learners to participate and interact with their learning activities
  - Different ways for learners to express or demonstrate their learning
The Three Principles of UDL

- **Multiple means of**
  - **Representation** of your content
  - **Engagement**: to engage and motivate your learners to learn
  - **Expression**: to allow alternatives for learners to demonstrate or express their learning

<table>
<thead>
<tr>
<th>I. Provide Multiple Means of Representation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perception</td>
</tr>
<tr>
<td>Language, expressions, and symbols</td>
</tr>
<tr>
<td>Comprehension</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II. Provide Multiple Means of Action and Expression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical action</td>
</tr>
<tr>
<td>Expression and communication</td>
</tr>
<tr>
<td>Executive function</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>III. Provide Multiple Means of Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruiting interest</td>
</tr>
<tr>
<td>Sustaining effort and persistence</td>
</tr>
<tr>
<td>Self-regulation</td>
</tr>
</tbody>
</table>
The Brain Research

Drawing from the brain research, we learn these three unique DNA or pattern of our brain networks in processing information:

- Recognition networks
- Strategic networks
- Affective networks

<table>
<thead>
<tr>
<th>Recognition Networks</th>
<th>Strategic Networks</th>
<th>Affective Networks</th>
</tr>
</thead>
<tbody>
<tr>
<td>The &quot;what&quot; of learning</td>
<td>The &quot;how&quot; of learning</td>
<td>The &quot;why&quot; of learning</td>
</tr>
</tbody>
</table>

UDL and Accessibility - October 2014
Brain Research and UDL

Adopting and merging the brain research and UDL in learning and teaching:

- Set clear goals and objectives by analyzing the true purpose of our content

- Provide flexible instruction by involving as many dimensions of our brain networks via different technologies, methods or strategies

- Monitor/assess learner progress and adjust instruction to ensure individual learner are motivated to stay on track and accomplish course goals/objectives
Is My Document Accessible?

- The 2-Minute PDF Quick-Check
- Use accessible syllabus template
- Follow accessibility guidelines in creating Word or PowerPoint slides:
  - Structure
  - Links
  - Images
  - Table/Chart

For more information, visit CFD accessible documents page at http://www.sjsu.edu/cfd/teaching-learning/accessibility/accessibility-accessible-documents
Are My Course Materials Accessible?

1. Have I submitted my textbooks order or course readers through Faculty Resources at SJSU Bookstore?
2. Have I submitted library reserve materials, if any, through course reserves list?
3. Have I used accessible syllabus for my course?
4. Have I followed accessibility guidelines to create handouts or slides?
5. Are my quizzes, examinations or assessment materials accessible? Contact AEC’s Testing Accommodations office for assistance.
6. Do my video course materials include captioning? Do my audio course materials include transcript? View captioning guidelines for details and or complete this request form to request for help.
7. Are all materials uploaded on my website or Canvas learning management system accessible? Use this tool to test the accessibility of any websites you reference by entering their URLs.
How to read a PDF document

How to convert a scanned image pdf file into an accessible document
References and Point of Contact

Useful References:

- **Accessible syllabus template** at http://www.sjsu.edu/cfd/docs/accessible%20syllabus%20template.doc
- **Accessible course materials** at http://www.sjsu.edu/cfd/teaching-learning/accessibility
- **Free Adobe Acrobat Professional** (part of Adobe Creative Cloud software) download at http://its.sjsu.edu/services/software/
- **Captioning** at http://www.sjsu.edu/cfd/teaching-learning/accessibility/captioning for accessible videos

- Elizabeth Tu, 408.924.3093
BACK UP SLIDES
The PDF Study Results

- In April 2014, an email was sent to the faculty of 1350 courses with 30 or more student enrollments.

- Total number of requests sent = 1350

- Total number of responses received = 352 (27%)
  - No PDF documents posted = 152 (44.3%)
  - Total number of respondents submitted PDF documents = 196 (55.7%)

- Accessible PDF documents = 162 (82.7%)
- Not or partial accessible PDF documents = 34 (17.3%)
## Results by College

- A total of 1350 requests were sent to faculty by college with 352 (27%) returned responses.
- Out of the 352 responses, 156 respondents (44.3%) do not use PDF documents and 196 (55.7%) use and submit their sample PDF documents.

<table>
<thead>
<tr>
<th>Colleges</th>
<th>Total Requests sent</th>
<th>Total Returns</th>
<th>No PDF used</th>
<th>Yes PDF submitted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Sciences &amp; Arts</td>
<td>228</td>
<td>63 (27.6%)</td>
<td>23 (36.5%)</td>
<td>40 (63.5%)</td>
</tr>
<tr>
<td>Business</td>
<td>249</td>
<td>53 (21.3%)</td>
<td>25 (47.2%)</td>
<td>28 (52.8%)</td>
</tr>
<tr>
<td>Education</td>
<td>76</td>
<td>28 (34.2%)</td>
<td>10 (35.7%)</td>
<td>18 (64.3%)</td>
</tr>
<tr>
<td>Engineering</td>
<td>154</td>
<td>39 (25.3%)</td>
<td>14 (35.9%)</td>
<td>25 (64.1%)</td>
</tr>
<tr>
<td>Humanities &amp; the Arts</td>
<td>160</td>
<td>40 (25%)</td>
<td>18 (45%)</td>
<td>22 (55%)</td>
</tr>
<tr>
<td>Sciences</td>
<td>228</td>
<td>62 (27.2%)</td>
<td>30 (48.4%)</td>
<td>32 (51.6%)</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>255</td>
<td>67 (26.3%)</td>
<td>36 (53.7%)</td>
<td>31 (46.3%)</td>
</tr>
<tr>
<td><strong>Total =</strong></td>
<td><strong>1350</strong></td>
<td><strong>352 (27%)</strong></td>
<td><strong>156 (44.3%)</strong></td>
<td><strong>196 (55.7%)</strong></td>
</tr>
</tbody>
</table>
# Accessible PDF Results by College

- **82.7%** of the submitted PDFs are accessible.
- **17.3%** of the submitted PDFs are not accessible.

* Text was readable but images were missing alt text

<table>
<thead>
<tr>
<th>Colleges</th>
<th>Yes PDFs submitted</th>
<th>PDF Accessible</th>
<th>PDF Not/Partial Accessible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Sciences &amp; Arts</td>
<td>40</td>
<td>31 (77.5%)</td>
<td>8+1* (22.5%)</td>
</tr>
<tr>
<td>Business</td>
<td>28</td>
<td>26 (92.9%)</td>
<td>1+1* (7.1%)</td>
</tr>
<tr>
<td>Education</td>
<td>18</td>
<td>17 (94.4%)</td>
<td>1 (5.6%)</td>
</tr>
<tr>
<td>Engineering</td>
<td>25</td>
<td>21 (84%)</td>
<td>2+2* (16%)</td>
</tr>
<tr>
<td>Humanities &amp; the Arts</td>
<td>22</td>
<td>20 (90.9%)</td>
<td>2 (9.1%)</td>
</tr>
<tr>
<td>Sciences</td>
<td>32</td>
<td>24 (75%)</td>
<td>8 (25%)</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>31</td>
<td>23 (71%)</td>
<td>8 (29%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>196</strong></td>
<td><strong>162 (82.7%)</strong></td>
<td><strong>34 (17.3%)</strong></td>
</tr>
</tbody>
</table>
Discussion

- The total return rate was 27% with a range across college from 21.3% to 34.2%

- From the 196 submitted PDFs, 162 (82.7%) are accessible and 34 (17.3%) are not accessible

- Common problems in non- or partial accessible PDFs are:
  - scanned images
  - Text was readable but images were missing alt text
  - Text was readable but formula on test questions were not readable