Active/Applied Research on Online Learning and Quality Assurance

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Enhancing Accessibility of Online Courses: Course Development Practices and Tools

Dr. Rae Mancilla and Dr. Barbara Frey
Session Goals

• Develop exemplary course development practices that promote digital accessibility.

• Identify tools for creating inclusive online materials and reviewing their accessibility compliance.

• Recognize advances in digital accessibility in the past decade by QM member institutions.

• Assess next steps for QM member institutions in enhancing the digital accessibility of their online courses.
Background
Key Terms

Web Accessibility

Digital Accessibility
## The Numbers

<table>
<thead>
<tr>
<th>Count</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6,359,121</td>
<td>Students taking at least one online course</td>
</tr>
<tr>
<td>31.6%</td>
<td>Percent of online higher education enrollments</td>
</tr>
<tr>
<td>650 million</td>
<td>People with a disability in the world</td>
</tr>
<tr>
<td>61 million</td>
<td>People with a disability in the US</td>
</tr>
<tr>
<td>19%</td>
<td>Percent of undergraduates report a disability</td>
</tr>
</tbody>
</table>
Benefits of Online Learning

- Less stressful
- More flexible pace
- Flexible location (personal needs)
- Academically inclusive
- Socially inclusive
- Privacy for self-disclosure

Rao & Tanners, 2011; Verdinelli & Kutner, 2016
Quality Matters and Accessibility

- Standard 7: Learner Support
- Standard 8: Accessibility and Usability
Universal Design for Learning (UDL)

- Proactive inclusive design
- Minimizes accommodations
- Reduces wait time

- Increases satisfaction
- Improves retention rates
- Benefits all students

McGowan, 2019; Tobin, 2014
## Course Development Practices

<table>
<thead>
<tr>
<th>Disability Type</th>
<th>Example Development Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual</td>
<td>Alternative text for screen reader accessibility</td>
</tr>
<tr>
<td>Hearing</td>
<td>Captioning for multimedia files</td>
</tr>
<tr>
<td>Motor</td>
<td>Document design for keyboard accessibility (headings and tags)</td>
</tr>
</tbody>
</table>
Tools for Creating Accessible Content

- Few benchmarking studies
- Frey & King (2010)
  - Tools
    - Microsoft Office, 85%
    - Adobe Acrobat Pro, 67%
  - Captioning Methods
    - Dragon Naturally Speaking, 24%
    - In-House staff, 58%
    - Faculty developers, 50%
    - Fee-based services, 56%
Significance of Present Research

- Replication to re-examine accessibility landscape a decade later
- Identify current course development practices and tools
- Recent updates to the QM rubric, 6th edition
- QM leadership in the field of accessibility of online courses
Methods
Research Goals

Determine the *course development practices* that guide accessibility in online courses.

Determine the *technology tools* used to create accessible online courses.
Procedure

• Participants identified through database of QM Coordinators
• Voluntarily completion of a brief survey
• Survey consisted for 30 qualitative and quantitative questions

<table>
<thead>
<tr>
<th>Category</th>
<th>Survey Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographics</td>
<td>Indicate the number of online/hybrid courses offered at your institution.</td>
</tr>
<tr>
<td>Technological Tools</td>
<td>Which technologies have you used to create accessible online course materials?</td>
</tr>
<tr>
<td>Course Development Practices</td>
<td>How frequently is online video closed captioned?</td>
</tr>
</tbody>
</table>
1,721 QM institutions were surveyed
16% response rate, 273 surveys
After data cleaning, 209 participants
Institutional Control

- Two-Year: 37.30%
- Four-Year: 56.50%
- Public: 45%
- Private Non-Profit: 17.70%
- Private For-Profit: 2.90%
- Technical: 4.80%
Data Analysis

Quantitative analysis with SPSS
  • Descriptive statistics
  • Chi-square tests

Qualitative analysis
  • Inductive and deductive coding
  • Two independent reviewers
  • Compared results
  • Identified themes
What *course development practices* are used by QM institutions to create accessible online courses for students with disabilities?
Transcript Usage

- Never: 2%
- Always: 10%
- Rarely: 17%
- Sometimes: 43%
- Often: 28%
Caption Usage

- Always: 14%
- Often: 47%
- Sometimes: 34%
- Rarely: 4%
- Never: 1%
Captioning Methods

- Captioning software: 61%
- Third-party fee-based: 48%
- Faculty: 40%
- Instructional designers: 34%
- Faculty developers: 29%
- Student workers: 27%
- Office of Disability Services: 20%
- Multimedia specialist: 14%
- Already captioned: 8%
Course Development Practices

- Alt text: 88%
- Color contrast: 85%
- Captions/transcripts: 83%
- Headings: 81%
- Readable PDFs: 80%
- Descriptive links: 80%
- Table design: 71%
- Consistent navigation: 69%
- Document design: 65%
- Plain language: 47%
- Key accessibility: 30%
# Effort Ratings

<table>
<thead>
<tr>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Descriptive links</td>
<td>Plain language</td>
<td>Alternative formats</td>
</tr>
<tr>
<td>Headings</td>
<td>Alt text</td>
<td>Captioning/transcripts</td>
</tr>
<tr>
<td>Consistent navigation</td>
<td>Readable PDFs</td>
<td></td>
</tr>
<tr>
<td>Colors/fonts/contrasts</td>
<td>Table design</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Document design</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Keyboard accessibility</td>
<td></td>
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</tbody>
</table>
What *technology tools* are used by QM institutions to ensure that online courses are accessible?
Technology Tools

**Creating**
- Microsoft Office
- Adobe
- LMS (Ally)
- YouTube

**Reviewing**
- Microsoft Office
- Adobe
- LMS (Ally)
- WebAim
Implications
## Take-Aways

<table>
<thead>
<tr>
<th>Administrators</th>
<th>Course Developers</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish recognition system</td>
<td>Implement train-the-trainer model</td>
<td>Self-assess areas for personal growth</td>
</tr>
<tr>
<td>Allocate fiscal &amp; human resources</td>
<td>Educate campus partners on specialized practices</td>
<td>Participate in peer reviews</td>
</tr>
<tr>
<td>Offer ongoing professional development</td>
<td></td>
<td>Mentor other colleagues in department</td>
</tr>
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Next Steps

What are the next steps at your institution?
Conclusion
Questions?

Please type your questions in the Q & A box.
References


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