BRIDGING THE GAP TO ACCESSIBLE EDUCATIONAL MATERIALS

This correspondence will outline a set of recommendations that will improve access to e-learning technologies, information technology, and course materials for all individuals within the Mason community, especially those with disabilities. Additionally, they provide guidance and solutions regarding matters that impact compliance with the Americans with Disabilities Act (ADA) and the Virginia Information Technology Accessibility Standards (VITA), which are based on Section 508 of the Rehabilitation Act of 1973. These laws address issues regarding public access, reasonable accommodations in the workplace, and information technology accessibility for individuals with disabilities.

Objectives

The central objective of this proposal is to improve access to educational materials and programming. Toward this end, we highlight the current issues, provide solutions for addressing these challenges, and establish minimum technical standards for accessible course design.

Definitions

- *Minimum Technical Standards for Accessible Course Design:* These standards identify the minimum necessary to ensure that students using assistive technologies will be able to independently access their educational materials. For details, please refer to **Recommendations** section.

- *Sensory Impairments:* A visual (i.e., blindness, low vision) and/or hearing impairments (i.e., deaf, hard of hearing).

- *Accessibility:* General term used to describe the degree to which a product (e.g., device, service, environment) is accessible by as many people as possible...often used to focus on people with disabilities and their right of access to entities, often through use of assistive technology.[1]

- *E-Learning:* Learning facilitated and supported through the use of information and communications technology.[2]

- *Web Accessibility:* Means that people with disabilities can perceive, understand, navigate, and interact with the Web, and that they can contribute to the Web. [3]

- *Audio Description:* Narration of all the visual elements (i.e., action, costumes, settings, images) of theater, television/film, museum exhibitions, and other events. [4]

Current Issues

The use of e-learning and information technology in Mason classrooms has exploded in recent years. We have also witnessed significant increases in the number of students with sensory impairments. While these kinds of changes are welcome on our campus, our infrastructure has not adapted to meet the growing accessibility needs of this population of students. As a consequence, many of these students have struggled to fully participate in their academic programs.

Below is an overview of the potential problem areas that have been identified and recent examples of where a student has been denied access. They are separated into two distinct categories, *Student Access* and *Structural Issues*:

STUDENT ACCESS

E-Learning Technology – The use of e-learning and information technologies has grown considerably in recent years. As faculty and staff attempt to incorporate newer technologies in their courses, students with sensory impairments are impacted the greatest because these technologies do not often incorporate accessibility features. Without evaluating these new tools prior to being purchased and implemented in a course or on a website, it is difficult to provide equivalent academic solutions for a student with a sensory impairment, impacting that individual's progression through their degree program.

Access Issue (E-Learning): Alternative learning management solutions like Pearson MyLabs and McGraw-Hill Connect are inaccessible to screen-reader users. The course sites cannot be effectively navigated using a keyboard, few of the videos are captioned, and PPT presentations, quizzes, and the gradebook feature are inaccessible as well. A number of our students with visual impairments have been negatively impacted as a result. Many of the eventual solutions took several weeks to be implemented, resulting in students dropping courses, delaying exams, and/or receiving course instruction several weeks after their non-disabled peers.

Non-inclusive Practices – For each student with a sensory impairment currently registered with the ODS, every good faith effort is made to contact the faculty member alerting them of the student's enrollment in their course and encouraging them to come in and meet with ODS and ATI staff to discuss the student's potential needs. Communication is typically initiated as soon as the student signs up for their courses. While more and more faculty members are attending these meetings prior to the start of the semester, there are still some that do not respond to communication attempts and/or do not follow through with the recommendations suggested for adapting their course materials. The standard practice has been to wait until a student with a disability shows up in a course and then to direct that individual to the ODS to address whatever issues that student

may have. Once a course has started, however, a quick fix is the only solution to employ. Oftentimes, these solutions are not appropriate or sufficient for the student's learning needs, resulting in faculty/student frustration, lost class time, missed/late assignments, missed/late exams, and even courses being dropped.

Access Issue (Non-Inclusive Practices): Some blind students, despite registering with the ODS and communicating with faculty members prior to the start of a course, have had to drop courses due to inaccessible course content and/or e-learning technology. In several instances, these materials cannot be adapted in a timely manner or in such a way that the student could participate fully in the course.

Distance Education (DE) – By the start of the Summer 2013 semester, Mason will have offered over 1100 DE sections since the inception of the Office of Distance Education (ODE). This will continue to grow. As such, there is a strong likelihood that more and more students with sensory impairments are going to opt to take classes online as opposed to face-2-face. There is no systematic way of determining if videos in DE courses have been captioned and that course documents (e.g., PPTs, PDFs, etc.) have been reviewed for accessibility. This is a significant issue as individuals that use screen-reading software and/or require captions for videos are unable to fully participate in an online course that uses inaccessible e-learning technology. While both the ATI and the ODE have worked closely to address many of these issues in a timely manner, the current growth rate of the program and Mason's emphasis on expanding future online educational offerings necessitates that we implement a more comprehensive solution to address accessibility concerns.

Access Issue (DE): On several occasions, both the ATI and ODS have had to pay additional costs to provide captioning services for recorded lectures. Last minute requests translate into increased costs. Similarly, inaccessible e-learning technology has resulted in students accessing course content several weeks after their classmates and/or having to drop courses well past drop deadlines.

STRUCTURAL CHALLENGES

Web Accessibility – Websites have become the face of Mason. They are the first place that people visit to get information. If we aren't ensuring that our websites and the material included on these sites, such as documents and videos, are accessible, we are denying many individuals with equivalent access to information about Mason's programs and services.

Awareness – Many students, staff, and faculty are unaware of the need to incorporate accessibility into their courses, programs, or services. As mentioned previously, challenges are often addressed onsite and not planned for. Despite efforts to

educate faculty, staff, and departments about providing equivalent access, more support is required from administration to ensure that each individual at Mason understands their role and responsibility toward providing a welcoming and inclusive academic environment.

Procurement – The Architectural Standards Committee (ASC) is in place to ensure that any new technology purchased by units and academic departments is reviewed to ensure that it meets, among other things (e.g., security), certain accessibility standards. These purchases will include all requests for new development, installation, and/or the integration of applications at George Mason University. This includes activities from internal ITU, Mason University offices, mobile apps developed by University faculty and staff, and all software produced by 3rd party vendors and consultants including pilot projects. Many faculty and staff members with purchasing authority are not aware of the need to follow this procedure. Additionally, a major loophole remains in that upgrades, bug fixes, and incremental improvements to existing programs is not reviewed by the ASC. Many of these technologies have a significant impact on accessibility and equivalent access to Mason programs and services.

Access Issue (Procurement): Despite the denial of Pearson MyLabs by the ASC, faculty members in certain academic departments were still able to implement it in their courses this past semester. Access to the software was included as a part of a package that included the student's required textbook and other course materials. Since all of the students in the course were required to purchase the textbook, the faculty member could then implement the MyLab supplements as the learning management solution for the course. As detailed earlier in this report, a few of the blind students taking those courses had an extremely difficult time accessing the course content.

Budget – While additional staff, training, and changes in standard practice can address many of Mason's accessibility challenges, others are more efficiently managed with enterprise-wide solutions. Though costly in some cases, these solutions can effectively streamline the delivery of IT services, including accessibility, from both an academic and administrative standpoint.

Access Issue (Budget) #1: Oftentimes, faculty, staff, and/or academic units lack the time and/or staff to address many of the accessibility issues that are brought to their attention. For example, in order for a student who is blind to access images in a PPT, those images have to be manually labeled. It is recommended that the faculty member do this since they are the subject matter experts. Since faculty lack the time or staff support to manage this task, the ODS and/or ATI to often asked to intercede. With limited staff, time, and resources as well, the ATI and ODS are often scrambling to find alternative solutions.

Access Issue (Budget) #2: As it relates to the ITU, comprehensive changes in the current video management infrastructure would make it much easier to manage some of our accessibility concerns. For example, an enterprise-wide video management solution like Echo360 or Kaltura would simplify the process for requesting and delivering captioned media by streamlining the video formats that faculty and staff are using and the location where that content is housed. At the present date, the ATI must meet with individual faculty members and/or departments to find out what video delivery applications those units are using (e.g., YouTube, Bb Collaborate, Camtasia, etc.). The lack of a standardized solution increases the risk that some individual departments and/or units will choose to use non-compliant solutions. An enterprise-wide solution that incorporates accessibility from the outset would eliminate many of the individual challenges that we are currently struggling to identify and fix.

Recommendations For Addressing Accessibility Challenges

The attached addendums (***Suggested Timeline For Implementation*** and ***High Impact/High Priority Recommendations)*** detail the recommendations and establish a suggested timeline that faculty, staff, units, and academic departments should follow with respect to improving student access in the classroom, improving access to e-learning and information technology, and increasing efforts to raise awareness about general accessibility issues on Mason campuses.

Below is a more detailed breakdown of the technical requirements necessary to ensure the accessibility of course materials and additional information with respect to strategic planning and budget. These solutions (i.e., those identified below, as well as in the addendums) should enable Mason to improve access to programs and services for individuals with disabilities, particular those that utilize assistive technologies to access a computer system.

They are as follows:

- **Improving access to E-Learning and Information Technology**
    - The **minimum standards for accessible course materials** (this applies to all courses, face-2-face and online, regardless of whether there is an individual with a disability enrolled in them) and documents/media added to the web should be as follows:
        - **Accessible Documents**
            - *Label Objects* – All images, chart, graphs, etc. embedded in Microsoft Office documents (i.e., PPT, Word, Etc.), PDF documents, or on websites should include an alternative text description.

- *Format Tables* – Use simple tables in course documents, labeling column and/or row headers, when applicable. Avoid using nested tables.

- *Use Proper Document Structure* – All documents should incorporate relevant headings and document structure for easier navigation, using styles (MS Office 2010 or later) when possible.

▪ **Videos**

- *Caption All Videos* – For rush jobs (less than 4 business days), costs above standard processing costs should be billed to the faculty member's department.

- *Provide Audio Description (AD) when necessary* – AD requests should be provided on case-by-case basis. For rush jobs (less than 15 business days), costs above standard processing costs should be billed to the faculty member's department.

- *Use Accessible Video Playback Tools* – Faculty members should make every effort to use accessible video playback applications (i.e., YouTube, QuickTime, Windows Media Player, JW Player, Captivate)

- **Encourage Inclusive Design Practices amongst academic departments, faculty, and staff**

- **Incorporate Accessibility into DE Course Development Processes**

- **Increase Awareness about Accessibility Issues**

- **Incorporate Accessibility into Procurement process**

- **Strategic Budget Management**

Many of the recommendations written within this report (see **attached addendums**) require very little in terms of cost. They are focused more on coordinated efforts from the ATI, ODS, faculty members, academic departments, ITU, and the administration. In this section, we will highlight those items that would require additional funding beyond current budgets.

o **Accessible Media (i.e., Captioning and Audio Description)** – In order to ensure that videos for all online courses and those face-2-face courses that have a student with a sensory impairment currently enrolled in them are accessible, there would need to be a significant increase in the budget set aside for this service. In Spring 2013, over 200 videos were processed for captioning. That semester alone was more than the total number of videos processed in all of FY12 (147). This summer, over 350 videos were processed for captioning. This is more than the total number of videos

processed in all of FY13 (318) and there are still two additional semesters to go in FY14. It is anticipated that the number of requests will continue to grow as more and more faculty learn about the need to caption their videos and as Mason's online course offerings continue to expand.

- ***Suggested Recommendation:***

  1. *Improve Technology Infrastructure* – Implement an accessible, enterprise-wide video platform (e.g., Kaltura, Echo360) that supports lecture capture and the delivery of video content in all Mason courses.

  2. *Centralize Costs* – Develop funding model that enables ATI budget to grow in relation to the increasing number of accessible media requests.

- **Accessible Documents & Presentations** –

  Many faculty forgo accessible e-learning and information technology tools because the inaccessible solutions are often less expensive. While the costs may be reduced for purchasing the technology on the front end, they are transferred into man-hour costs on the back end, as it is often necessary to retrofit more accessible solutions. For example, Captivate is a more accessible lecture capture solution than Camtasia. However, Camtasia is the preferred choice on Mason campuses because it is much cheaper to access and somewhat simpler to use.

  - ***Suggested Recommendation***: Provide additional funding to the Academic Departments and ITU to purchase more accessible e-learning solutions.

  The ATI provides access to *CommonLook Office* (through the VCL) for faculty to test their documents and presentations for accessibility. However, several faculty members have found this method of access inefficient, as the VCL has not been reliable, the solution does not work on Mac OS X, and/or they are not comfortable converting their own course materials into an accessible format.

  - ***Suggested Recommendation***: Provide additional funding to Academic Departments and units to hire graduate students that would review course materials and make them accessible for faculty. The ATI would provide accessibility training and support to these students, as well as access to accessibility software and testing strategies. This would establish a more comprehensive network of individuals that are properly trained in how to create accessible course materials. Additionally, this provides a more effective and efficient strategy for ensuring that subject matter experts for each respective area are in place to review and adapt course materials.

EXPECTED BENEFITS

1. *Compliance* – In recent years, many institutions (e.g., Florida State University, Daytona State College, Penn State University, South Carolina Technical College System, Creighton

University, University of Montana, Louisiana Tech University) have faced litigation and/or programmatic reviews by the Department of Justice (DOJ) and/or the U.S. Department of Education's Office of Civil Rights (OCR) for failing to ensure equivalent access to websites, information technology, and other e-learning technologies for individuals with sensory impairments at higher education institutions.

2. *Fulfill Mason's Mission and Core Values* – The recommendations outlined in this report will not only ensure that Mason remains in compliance with its legal obligations, but also moves this institution one-step closer to fulfilling Mason's core values of placing our students first and highlighting the strength that comes from a diverse, accessible, and inclusive academic community.

3. *Universal Access* – Many of the recommendations in this report take into account the varied backgrounds and learning styles of individuals within the Mason community, particularly the students. Captions benefit non-traditional learners and students taking a class with an instructor that has a strong accent, as much as they do an individual with a hearing impairment. Labeling images within MS Office documents and websites benefit screen-reader users while minimally impacting the overall look and flow of the document or website. These strategies would enable virtually anyone in the Mason community to better achieve excellence through the access to technology.

4. *Greater Departmental Participation* – Mason is committed to providing an "enriched work environment." Faculty members are often surprised and overwhelmed when attempting to support a student with a sensory disability in their courses. It is imperative that the commitment and support is demonstrated from the top-down, encouraging all within the Mason community to accept their role in creating a more inclusive academic environment.

5. *Cost Efficiencies* – Accessibility and innovation do not have to be mutually exclusive. Mason has a reputation for reaching out to and supporting students with disabilities. It also has a reputation for supporting technological innovation. As discussed throughout this report, there are opportunities to improve access to Mason programs and services while both streamlining the delivery of certain IT services (i.e., video management) and better supporting faculty in how they meet the needs of our students with disabilities.

Equity IT Accessibility Working Group

Steve Nodine - *Manager, Instructional Design/Sr. Instruct Designer, DoIT - Learning Support Services*
Tina Adams - *Distance Education Librarian, Access Services, Library*
Kim Shriver - *Senior Web Designer/Programmer, Creative Services*
Michael Galvin - *Director, Office of Tech Integration & UL at Loudoun, University Life*
Linn Jorgenson- *Assistant Dean of Students/Director, Office of Disability Services*
Jane Bennett - *Associate Director, Office of Disability Services*
Ann Gentry - *Associate University Counsel, Office of University Counsel*
Joe Balducci - *Manager, Online Learning Resources, DoIT - Learning Support Services*
Ying Zhou – *Director, Distance Education, Provost Office*
Cathy Evans - *Director, Special Projects & Summer Term, Provost Office*
Josh Eyler - *Associate Director, Center for Teaching and Faculty Excellence*
Daniel Garrison - *Faculty - Director, Online Education, Applied Information Technology*
Ruth Townsend - *Associate Director/ADA Coordinator, Equity and Diversity Services*
Korey Singleton - *Manager, Assistive Technology Initiative, Equity and Diversity Services*
Kara Zirkle - *IT Accessibility Coord, Assistive Tech Initiative, Equity and Diversity Services*

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