

Optimizing Accessibility Training in Online Higher Education

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Background and Rationale

In our academic unit, we assist faculty members in designing and delivering online and blended courses, including Massive Open Online Courses (MOOCs), and we train them to become effective online instructors. The authors also serve as the accessibility liaisons in our unit by assisting instructors, eLearning professionals, and other stakeholders, in creating instructional materials designed according to Universal Design principles and in keeping with Universal Design for Instruction--i.e., inclusive instructional materials that benefit a wide range of students, including students with disabilities (Scott, McGuire, & Foley, 2003). We deliver accessibility and universal design training workshops to faculty members and eLearning professionals in a wide range of disciplines, from Veterinary Medicine to Computer Science, within and outside our campus. Our workshops have two components:

- A theoretical component, in which participants are introduced to WCAG 2.0 and Section 508 standards and best practices

- A practical component, in which participants are exposed to assistive technologies and learn how to remediate non-accessible instructional materials across learning management systems, such as Moodle, Blackboard, and Coursera, and in a range of formats, such as HTML, Word, PDF, PowerPoint, Excel, and multimedia.

The demand for accessibility training workshops has been steadily increasing, a pattern that suggests that faculty members and other eLearning stakeholders are becoming more vested in creating accessible learning materials for their course, MOOC, or degree program.

There have been a number of efforts to investigate the effectiveness of training in universal design in various workplace and education settings. Burgstahler and Cory (2015) offer an extensive overview of the accessibility landscape in post-secondary education, exploring several topics, from applying UD principles to first year college classrooms, to addressing students with cognitive disabilities, to incorporating UD in administration courses, and using case studies to illustrate these issues.

Despite studies like Burgstahler and Cory's, there is a dearth of information on the impact of delivering training to different audiences and stakeholders in higher education and online education, including MOOCs, and the challenges in tailoring training to different needs. Most studies appear to be aimed at one target audience only, such as undergraduate classroom teachers (Spooner, Baker & Harris, 2007), or high school English teachers (Lopes-Murphy, 2012). Gay, Djafarova, and Zefi (2017) investigated the challenges of teaching web accessibility, with a focus on MOOC environments, but their study targeted web developers only and the

purpose of the study was very specific, i.e., to better integrate accessibility education into the computer science curriculum.

Given the gaps in the literature on training in online and MOOC-based environments, and the growing demand for accessibility training among an increasingly diverse pool of higher education and eLearning professionals, we sought to investigate the effectiveness of our own training. The purpose of our study was to identify how to improve our services, to better tailor them to the specific needs of different professionals working in eLearning and MOOC-based environments. While the overall goal of this study is to enable faculty members and eLearning professionals to create instructional materials that are accessible to all students, we hope the results of our study will provide other higher education stakeholders with strategies for making their accessibility training more effective for specific target audiences.

Methods

Our study is ongoing, and we expect to recruit approximately 30 participants, consisting of people who attended our accessibility and universal design training workshops. The target group comes from:

- 1) A range of discipline areas, such as business, veterinary medicine, and computer science, and
- 2) A range of roles, such as instructors (junior and experienced), instructional designers, graphic designers, and other eLearning professionals involved in creating and development of educational materials, including MOOCs.

The post-training services we offer to instructors who attend our training also differ. Some instructors are fully supported by our instructional design team in the creation and development of their courses; other instructors receive only targeted support (e.g., assistance in the revision of a course module); others are do-it-yourself instructors, who attend our workshops but receive no additional post-training assistance in the development of their course.

Data is collected via a web-based survey, administered to workshop participants who voluntarily agree to take part in the study. The purpose of the survey is to collect data about 1) participants' demographics; 2) what aspects participants found most useful about the accessibility training, 3) what aspects participants found less useful and why, and 4) feedback on how our services can be improved and better targeted to participants' needs. The data is analyzed using a combination of quantitative determinants (participants' demographic information such as role, subject discipline, and previous experience with accessibility) and qualitative techniques (thematic analysis about participants' experience with the workshop).

Preliminary Observations

Preliminary results from the data collected via our survey and post-training follow up questions suggest that instructors find our workshop beneficial in increasing their awareness of the diverse needs of students, including those with disabilities, and in helping them to create and deliver more accessible content. Following attendance to

our accessibility workshop, and after further conversations on how to target their needs, one particular team of eLearning professionals working in the Business Department of our campus created their own instruction manual on creating accessible educational materials. Junior instructors in the department and new hires in the eLearning office will have access to this manual, to learn basic knowledge and skills in rendering instructional materials more accessible.

Thus far, challenges we have identified to making our workshops useful for specific audiences are technological, discipline-specific, and time-related. For example, we discovered one workshop we delivered to a majority of humanities instructors should have been more focused on making Word and PowerPoint documents more accessible, as opposed to spending more time on accessible HTML, which most instructors were not familiar with or had never used in their role. By contrast, computer science instructors reported they enjoyed the session on creating accessible math using a math editor in Blackboard and wished the session were longer. Some of the instructors also noted lack of time in remediating their content. These findings support some of the challenges noted in the literature. Linder and colleagues (2015) argue that many instructor today are more aware of accessibility issues but often do not have the technical expertise or time to remediate their content.

Future Work

These preliminary results have already provided us with some insights we hope to address in the near future. Thus far, we have targeted the needs of our audience by soliciting information from the head of department who requested the training, or from other stakeholders overseeing the group of workshop attendees. Given the challenges regarding technology and discipline-specific needs, we are currently working on designing a pre-training survey, to distribute to all prospective workshop attendees. The purpose of the pre-training survey will be to collect detailed information that will help us target our workshop to the specific needs of that audience, such as attendee's role, comfort level with technology, experience with accessibility. We are also soliciting role-specific samples of educational materials and access to sample courses prior to the workshop.

Further work also involves creating a set of data-driven guidelines to guide other accessibility professionals in delivering effective accessibility and universal design training to different groups in higher education and eLearning settings.

Future research will also entail investigating the eventual impact on students' learning experiences, by interviewing students who took courses taught by instructors who attended our workshops. Another area that merits further exploration is the connection between attendees' motivation in making their materials accessible and the different

levels of post-training support we provide--e.g., do-it-yourself faculty vs. faculty receiving full course development support from our unit.

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