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Professional Development for Digital Accessibility: A Needs Assessment

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RECOMMENDED ACTION PLAN

⊘ Administrators can address common barriers to participation in digital accessibility training by incentivizing faculty and staff attendance with stipends or workload reduction.

⊘ Course developers can focus key training priorities on creating accessible tables, using plain language, drafting alternative text, establishing consistent navigation menus, applying heading styles, and creating alternative formats for content presentation.

⊘ Faculty can contribute to a meaningful accessibility training curriculum by sharing their needs and priorities with campus partners, such as the Disability Services Office or the Teaching and Learning Center.

Table of Contents

Abstract

This final white paper in the digital accessibility series summarizes the results of a needs assessment of Quality Matters (QM) institutions that focuses on professional development. The growth of online courses as a learning platform for students with disabilities calls for educators to be prepared to author accessible instructional materials. Therefore, it is necessary to explore the landscape of professional development opportunities available to foster competency in digital accessibility among QM members. Results from the needs assessment indicated that most QM institutions currently offer some type of training on digital accessibility. Training initiatives focus on faculty, faculty developers, and instructional designers as the target audience. Popular delivery formats include internal courses and workshops, online resources, and webinars. QM-responding institutions expressed a need for professional development in creating accessible table design, plain language, alternative text, consistent navigation menus, headings, and alternative formats. Ranked lowest was a need for training on QM General Standard 8 and keyboard accessibility.

Introduction

Over the past decade online learning has become a sustainable educational model for institutions of higher education (Horizon Report, 2020). The expansion of online programming has been embraced by a diversified student population, including students with disabilities (Arpaci, 2015). Although the online learning environment has been perceived as an equalizing medium among students with disabilities (Guilbaud, 2019), these same students' academic achievement is largely mediated by the digital accessibility of course materials. Online faculty and course developers play a crucial role in assuring the accessibility of course content and often require specialized training on inclusive course development practices. Therefore, professional development initiatives that equip faculty and course developers with digital accessibility knowledge and skills are of paramount importance.

While all stakeholders contribute to the institutional culture of accessibility, "faculty are ultimately responsible for ensuring that their online courses adequately meet the learning needs and requirements of all students" (Guilbaud, 2019, p. 47). Faculty members may lack sufficient knowledge about the challenges of students with disabilities in the online medium, as well as the skills in accessible course design and development (Betts, Cohen, Veit, Broadus, & Allen, 2013; Wynants & Dennis, 2017). Importantly, faculty members' beliefs, pedagogical choices, and knowledge of accessibility are deeply intertwined with the learning outcomes of students with disabilities (Cook, 2009). Positive faculty attitudes toward students with disabilities and their willingness to embrace inclusive instructional practices have been associated with enhanced course retention and student success (Park, Roberts, & Stodden, 2012). Thus, an adequate foundation of digital accessibility principles is requisite for eliminating barriers to inaccessible online content (Alamri & Tyler-Wood, 2017; Lederman, 2017).

Accessibility training can increase the inclusivity of online courses by making faculty more aware of students with disabilities; yet, at many institutions, professional development opportunities are limited (Lombardi & Adam, 2017; Vitelli, 2015). While scholarship has documented faculty attitudes, knowledge, and skills for designing accessible residential, face-to-face courses, "there is limited research on the knowledge, practices, and supports faculty need to support students with disabilities online" (Guilbaud, 2019, p. 53; see Lombardi & Adam, 2017; Lombardi & Murray, 2011; Zhang, Landmark, Reber, Hsu, Kwok & Benz, 2010). To address the gap in research on digital accessibility training, this study explores the professional development landscape of Quality Matters member institutions, with a focus on their current offerings, target audiences, formats, and future needs.

Overview of Professional Development for Accessibility

Over 15 years ago, Burgstahler and Doe (2006) issued a call for digital accessibility training specifically designed for faculty teaching online. Yet "there has not been a detailed analysis, however, of whether and how the accessibility community has responded to this call" (Seale, 2014, p. 164). An appropriate response for studying the knowledge, abilities, interests, and attitudes of online faculty and course developers striving to create accessible materials is a needs assessment. When thoughtfully performed, a needs assessment yields valuable insight into existing programs and gaps in training, plus effective educational approaches and demand for future initiatives (McCawley, 2009).

Early efforts to explore digital accessibility professional development needs across QM institutions are reflected in Frey and King's (2011) benchmarking study. At the time, 75% of responding QM institutions did not offer digital accessibility training. The few institutions that did offer training coordinated internal programs through their teaching and learning centers. Later, in 2017, the WICHE Cooperative for Educational Technologies (WCET) and the Online Learning Consortium (OLC) surveyed their member institutions regarding accessibility training. Sixty-five percent of respondents reported training was available at their institutions, indicating significant progress in attempts to prepare practitioners over the past decade. Nonetheless, the topics, format, audience, and impact of these training initiatives were not explored, underscoring the relevance of a needs assessment.

Despite the documented need for digital accessibility training, faculty often face attitudinal barriers that preclude their participation in professional development opportunities. For example, some faculty are unaware of their responsibility in making online courses accessible (Huss & Eastep, 2016), harboring an attitude that compliance is the responsibility of other institutional stakeholders, specifically, the Disability Services Office. In other cases, faculty may place the onus of responsibility on the student to report barriers and seek necessary accommodations (Oswal & Meloncon, 2014). Training has been shown to positively impact participant attitudes towards students with disabilities and faculty's sense of responsibility in making instructional accommodations (Hsiao, Burgstahler, Johnson, Nuss, & Doherty, 2019; Lombardi, Murray, & Gerdes, 2011; Marquis, Jung, Fudge Schormans, Lukmanji, Wilton, & Baptiste, 2016).

Other impediments to faculty enrollment and participation in accessibility training include time constraints, workload demands, scheduling conflicts, and lack of incentives. Most faculty (70%) who participated in a national survey of postsecondary institutions stated that a lack of time was the primary barrier preventing their participation in accessibility training (Raue & Lewis, 2011). Faculty typically have limited time to attend workshops due to their multifaceted workload consisting of teaching, research, and service responsibilities (Lombardi & Adam, 2017). Moreover, mastering digital accessibility skills is not typically reflected in the tenure and promotion schedule that drives faculty career paths, in turn deterring their participation (Guilbaud, 2019). Proposed strategies for enhancing faculty participation in professional development on digital accessibility entail offering flexible delivery formats for convenient access, balancing workload demands (i.e., course releases), and providing recognition and awards (Lombardi & Adam, 2017; Reder, Mooney, Holmgren, & Kuerbis, 2009).

Some institutions have tailored their professional development delivery formats to accommodate the busy faculty workload. Training programs can vary in length (i.e., number of hours or days), frequency (i.e., individual workshop or series), delivery modality (i.e., face-to-face, online synchronous, online asynchronous), and pedagogy (i.e., theory-based, experiential, collaborative) (Hsiao et al., 2019). Faculty tend to prefer training options that are less time intensive and more portable, including short, self-paced online modules incorporating videos

that can be viewed at convenient times or locations (Seale, 2014; Swafford, 2020). Another convenient training approach entails the provision of just-in-time resources that serve as quick refreshers or answer specific questions (NCDAE, n.d.). For example, institutions may host an online help chat for just-in-time questions that arise during online course development (Guilbaud, 2019). Faculty who teach online can also benefit from participating in a community of practice (CoP), where they can easily share information about digital accessibility best practices, tips, and techniques for creating accessible online courses (Oswal & Meloncon, 2014). Ultimately, institutional budgets drive the professional development experiences offered to faculty. In most cases these programs are internal, low-cost initiatives hosted by departments (Oswal & Meloncon, 2014).

The curricula for digital accessibility programs differ across institutions, based on faculty needs. Accessibility training focuses on topics such as disability law, accessibility awareness, guidelines and standards (i.e., Web Content Accessibility Guidelines or WCAG), design approaches (i.e., Universal Design for Learning or UDL), pedagogical strategies, and knowledge of assistive technologies (Seale, 2014). Disability legislation (i.e., the Americans with Disabilities Act) can provide the foundation for accessibility training by demonstrating the ethical and legal responsibility of all institutional stakeholders in serving students with disabilities. Workshops may orient faculty to university policies, internal services (i.e., Disability Services Office, Teaching and Learning Center), and procedures for requesting accommodations (Marquis et al., 2016). Moreover, professional development on digital accessibility can expose faculty to common standards for creating inclusive courses, including the Quality Matters Rubric and UDL framework (Swafford, 2020). Training initiatives help introduce faculty to technologies for authoring and reviewing documents and websites for accessibility compliance. For instance, Guilbaud (2019) provided training modules on Ally, Microsoft Word document accessibility, PowerPoint accessibility, PDF accessibility, and video accessibility. Given the limited literature

on accessibility training formats, content, and technologies, "an ideal method for translating knowledge into action has yet to be found" (Marquis et al., 2016, p. 338).

Methodology

QM institutions represent a broad spectrum of institutions of higher education around the world. Data for the current study were drawn from a larger QM-sponsored research project on digital accessibility. This data subset focused on course development practices and technology tools that support the digital accessibility of online courses within institutions of higher education.

Research Question

The following research question was explored using a mixed-methods survey design:

1. What are *the professional development needs* (if any) of QM institutions related to the accessibility of hybrid and online courses?

Procedure

Survey participants were identified through a database of active QM Coordinators. The survey instrument consisted of 30 qualitative and quantitative questions targeting five areas of digital accessibility: institutional policies, administrative processes, technology tools, course development practices, and professional development needs. It was administered via Qualtrics, a web-based dissemination tool and took approximately 10-15 minutes to complete. Regular reminder emails were sent through the listserv to encourage participation. Participation was entirely voluntary; participants could enter a drawing for one of 10 gift cards.

Participants

Survey participants were Quality Matters (QM) Coordinators, representing their institutions. The electronic survey was disseminated to 1,721

subscribing colleges and universities who were contacted through the QM database, yielding a response rate of 16%, or 273 respondents (one survey per institution). After removing incomplete surveys, there were a total of 209 participants, most of whom were administrators and instructional designers. Faculty comprised a small group of respondents in addition to faculty developers, instructional technologists, disability specialists, and digital accessibility specialists (Figure 1).

Figure 1
Breakdown by Participant Role

Legend:
- Faculty (9%)
- Administrators (40%)
- Instructional Designers (36%)
- Instructional Technologists (6%)
- Faculty Developers (5%)
- Disability Services Specialists (2%)
- Digital Accessibility Specialists (1%)
- Other (1%)
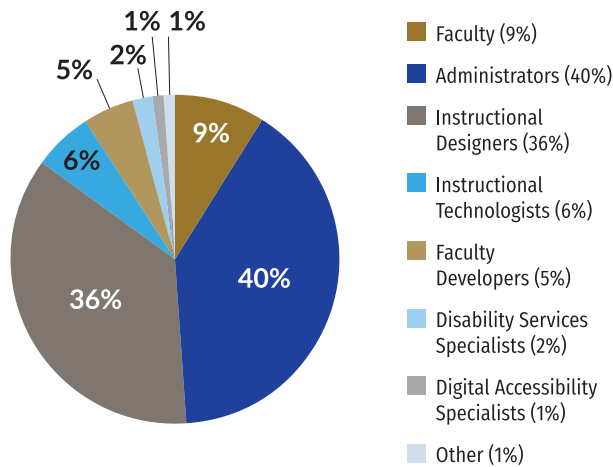
The sample categorized institutions in various ways, by control, degree level, total enrollment, online enrollment, and number of online offerings. Two-year and four-year institutions were well represented, and nearly half of participating institutions were public, followed by private non-profit. Unfortunately, few trade or technical institutions and few private for-profit institutions responded to the survey (Figure 2).

Figure 2
Breakdown by Institutional Control

Bar chart values: Two-Year 37%, Four-Year 56%, Public 45%, Private Non-Profit 18%, Private For-Profit 3%, Technical 5%
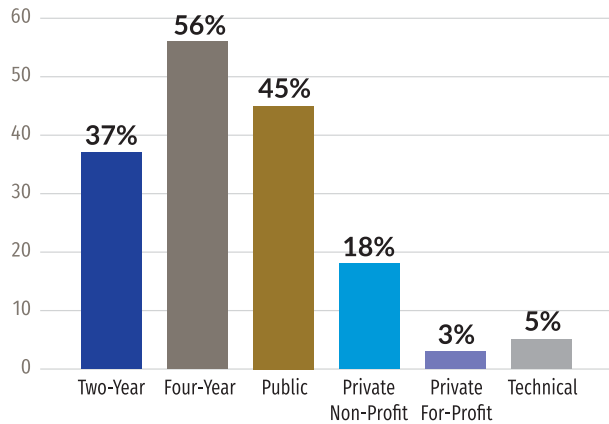
Responding institutions ranged in size from small colleges to large universities. Institutional enrollments were generally under 20,000 students. Most respondents were from institutions with fewer than 5,000 total students, followed by institutions with 10,000-20,000 students. Extremely large institutions were less common (Figure 3).

Figure 3
Breakdown by Institutional Size

Legend:
- Under 5,000 (36%)
- 5–10,000 (18%)
- 10–20,000 (22%)
- 20–30,000 (9%)
- 30–40,000 (6%)
- Over 40,000 (9%)
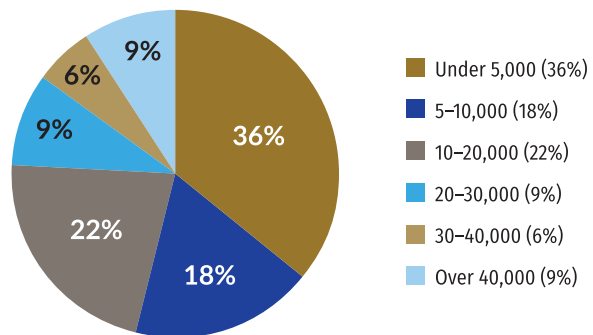
Slightly over half of the responding institutions had less than 3,000 online students, while only 10% indicated more than 11,000 online enrollments. In addition, most institutions (62%) offered less than 400 online courses, while few institutions (9%) offered more than 800 online courses.

Data Analysis

Deidentified survey data was exported from Qualtrics into SPSS statistical analysis software (version 26). All incomplete surveys were removed from the dataset. Questions with multiple select options were recoded using dummy codes (UCLA Institute for Digital Research and Education, n.d.). Afterward, frequency distributions and descriptive statistics were calculated for all quantitative questions, and visualizations were generated. When appropriate, Chi-square analyses (Onchiri, 2013) with cross-tabulations were performed to examine relationships among institutional demographics and participant responses.

Qualitative, text-based questions were coded using a combination of inductive (open) and deductive (pre-structured) techniques (Jansen, 2010). Both researchers coded the data independently and then compared their results to reconcile discrepancies and generate a final codebook.

Results & Discussion

What are *the professional development needs* (if any) of QM institutions related to the accessibility of hybrid and online courses?

Most responding institutions provided training on digital accessibility as noted in Figure 4. Regardless of institution type or number of online course enrollments, the majority reported offering training (76%), while few reported offering no training (21%). Compared to Frey & King's (2011) initial benchmarking study, there has been significant growth in training opportunities on accessibility practices. A Chi-Square analysis indicated that present-day QM institutions are far more likely to facilitate training than they were a decade ago, $\chi^2(1) = .884$ p=.021. Between the WCET and OLC survey administered in 2017 and the QM benchmarking survey administered in 2019, there was also a notable increase in training opportunities on accessibility practices. This could be due to a heightened awareness of digital accessibility as a legal and ethical responsibility within higher education.
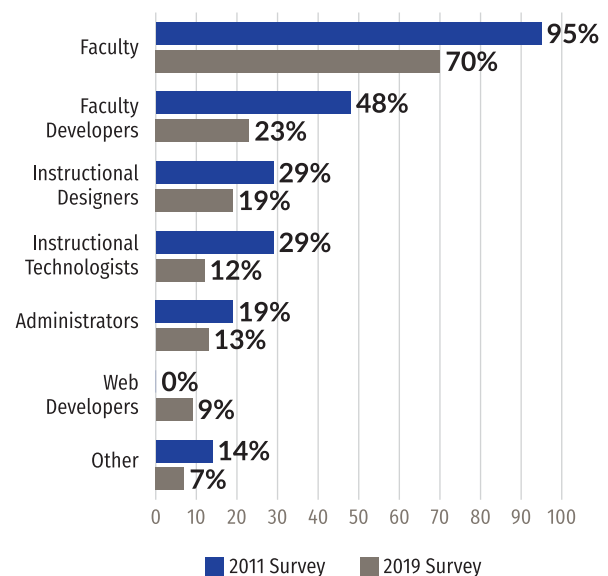
Figure 4
Accessibility Training Offered Across Reporting QM Institutions
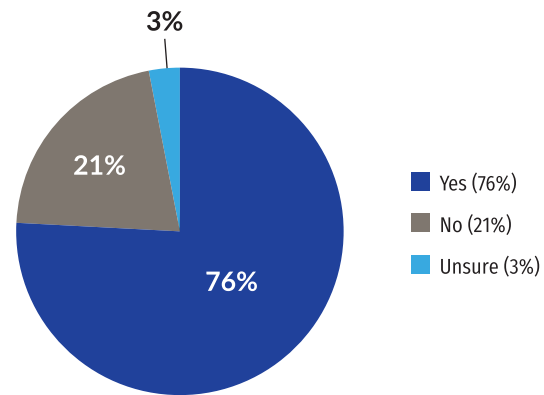
Despite the increase in institutional training on accessibility, the data revealed a notable shift in the target audience over time, with faculty continuing to be the most prominent group (70%), followed by faculty developers (23%), instructional designers (19%), instructional technologists (12%), and administrators (13%). While web developers were not represented in Frey and King's (2011) initial benchmarking survey, they comprised 9% of the training audience in the current QM study (Figure 5). Nearly all roles showed a marked decrease in being the targeted audience for training, suggesting that accessibility training may be less focused on specific target groups and more general in nature.
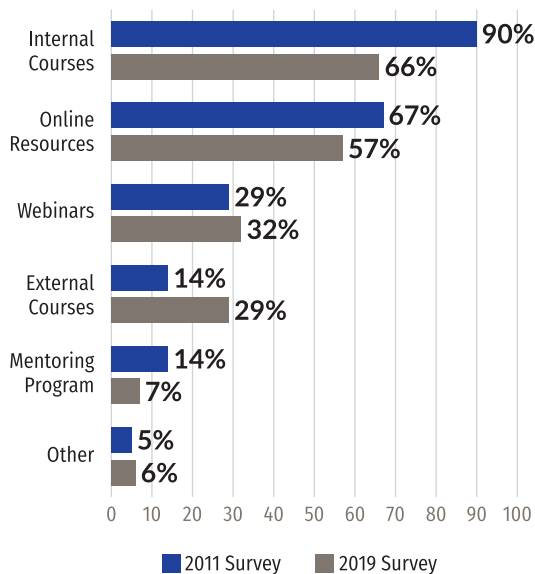
Figure 5
Comparison of Target Audience for Training: 2011 to 2019

Data revealed that the two most popular training formats selected by two-thirds of participants were internal courses or workshops (66%) and online resources (57%), followed by webinars (32%) and external courses (29%) (Figure 6). Mentoring programs were infrequent (7%). Compared to Frey and King's (2011) survey, training preferences in the current survey are more balanced, with significantly less reliance on internal courses, which were previously 95% of all training provided. Nonetheless, the continued popularity of internal courses is somewhat expected given institutional budget limitations and the need to leverage internal experts from Teaching and Learning Centers or Disability Services Offices (Oswal & Meloncon, 2014). A similar pattern is noted in the use of webinars, which also provide cost-efficient and on-demand professional development, sensitive to institutional budgets. The frequent use of online resources supports the need for just-in-time learning opportunities for course developers and faculty members (Seale, 2014; Swafford, 2020). Finally, use of external training offered through online leaders such as Quality Matters (QM), the Online Learning Consortium (OLC), and WebAIM has expanded over time from 14% in 2011 to 29% in 2019. These external courses may allow participants to take part in a Community of Practice (CoP) exploring accessibility best practices alongside other institutions.

Figure 6
Comparison of Training Formats: 2011 to 2019

Participants prioritized their need for training in common pedagogical practices related to accessibility (See Figure 7). This list of needs could be converted to a valuable digital accessibility training curriculum. Table design and plain language (the use of familiar language), active voice, and concise sentence structure, were ranked as the top training needs across participants. The next priorities included alternative text, consistent navigation menus, headings, and alternative formats. Survey participants assigned a mid-level importance to training on creating readable PDFs, descriptive hyperlinks, and captioning and transcription. Few participants reported training needs in the areas of document design and color contrasts. Finally, designing for keyboard accessibility and additional training on QM General Standard 8 were ranked as the lowest priorities for training purposes. This finding related to QM General Standard 8 may suggest that QM has effectively disseminated information regarding best practices to member institutions.

Interestingly, training priorities did not necessarily align with participants' perceived effort to implement accessible course design practices (see Paper 2 Course Design for Digital Accessibility: Best Practices and Tools). For example, both plain language and table design were ranked as significantly high training priorities; however, respondents ranked these same practices as requiring only medium effort. Similarly, captioning was ranked as a mid-range training priority, yet was considered a high-effort practice among respondents. These results may indicate that respondents already possess the requisite knowledge or pedagogical skills or are not the responsible party for applying the practice at their institution (i.e., outsourced captioning requests).

Figure 7
Rank Order of Training Needs
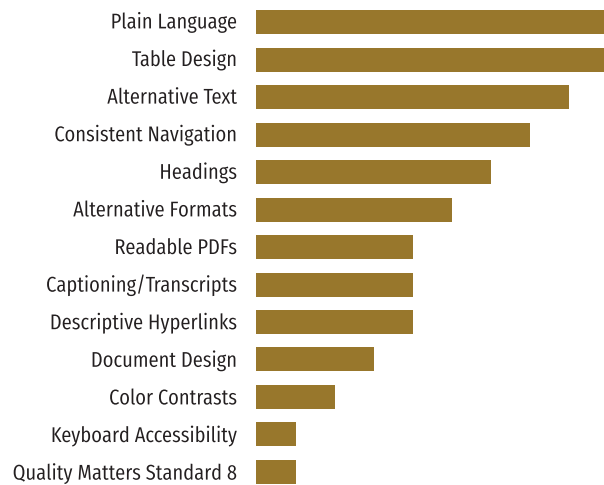
Nearly half of the respondents provided suggestions regarding how QM can continue to support subscribers in authoring accessible online course materials. Responses were organized into four major categories: (1) training, (2) resources, (3) QM Rubric, and (4) awareness.

Although QM provides numerous workshops, webinars, materials, and has a dedicated Accessibility and Usability Resource Site (AURS), some respondents emphasized the need to offer additional training and resources. This request is congruent with the results of the Frey and King (2011) survey, suggesting that resources and professional development are ongoing needs. The training initiatives might be designed to focus on specific institutional stakeholders' course development needs, such as instructional designers, faculty, or administrators. Others suggested modifying the training format for faculty who have limited time, knowledge, or technology skills related to accessibility. Just-in-time resources recommended by respondents included examples, videos, articles, guidelines, and tip sheets.

Regarding the QM Rubric, there was an interesting split between respondents who considered General Standard 8 "overwhelming" and others who found it "not rigorous enough." For example, one participant suggested incorporating additional specific review standards, while another suggested removing

General Standard 8 from the Rubric and creating a secondary rubric specifically for accessibility. This feedback underscores the important role QM plays in promoting awareness of accessibility via newsletters, articles, and research (Schaffhausen, 2017).

Conclusion

In this 2020 study, QM member institutions participated in a needs assessment to identify gaps in their professional development related to digital accessibility in online courses. Findings indicated that three-quarters of responding QM institutions (n = 273) offered accessibility training initiatives geared towards faculty (70%), faculty developers (23%), instructional designers (19%), instructional technologists (12%), and administrators (13%). Over half of the respondents preferred training to be delivered in the form of internal courses or workshops (66%) and online resources (57%). Primary training needs ranked by order of importance were accessible table design, plain language, alternative text, consistent navigation menus, headings, and alternative formats. Participants indicated sufficient preparedness in knowledge and skills of QM General Standard 8 and keyboard accessibility. This research informs the curriculum for digital accessibility training across institutions and applies to the daily work of all stakeholders.

As institutional leaders, *administrators* play a key role in promoting digital accessibility training for faculty and staff. They can address common barriers to participation in professional development opportunities by incentivizing faculty and staff attendance with fiscal stipends or workload reduction (i.e., course release time). Alternatively, accessibility standards could be introduced during new employee onboarding and reinforced through ongoing in-service programs. This could further entail forging partnerships between multiple campus offices, such as Human Resources, the Disability Services Office, and the Teaching and Learning Center to establish a unified training curriculum.

Course developers, as internal experts in online pedagogy, instructional technology, and digital accessibility, are well-positioned to develop and facilitate learning programs for campus stakeholders. Study results indicated a reliance on internal expertise for facilitating courses and workshops on digital accessibility topics, making them central to disseminating accessibility best practices. Based on the training needs expressed in this survey, sessions may emphasize creating accessible tables, using plain language, drafting alternative text, establishing consistent navigation menus, applying heading styles, and creating alternative formats for content presentation. In addition, course developers play a key role in developing on-demand online resources for faculty consumption.

As the primary recipients of professional development on digital accessibility, *faculty members* participate in lifelong learning opportunities that promote continuous self-improvement. While barriers to participation exist, such as time and teaching responsibilities, ongoing professional development should remain a priority as a professional and ethical goal for all educators. Faculty may help tailor a meaningful training curriculum by sharing their needs and priorities with campus partners, such as the Disability Services Office or the Teaching and Learning Center.

As digital accessibility research and practice continue to evolve, there are multiple lines of inquiry to explore. Future QM research might examine the impact of training on faculty's development of accessible online courses. A pre- and post-survey could be administered to assess baseline levels of knowledge or skills related to digital accessibility and the transfer of learning (Kirkpatrick & Kirkpatrick, 2006). In addition, accessibility checkers (i.e., Ally or UDOIT) provide credible data for quantitative analysis of the application of training content. Qualitative studies, such as observations and peer reviews, may also be used to investigate the impact of training on the development of accessible course materials. Finally, it would be beneficial to query these topics across institution types (i.e., public, private), taking into consideration factors such as size, number of online enrollments, or portfolio of online programs.

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