

Breaking Barriers: Designing a Learning Environment for Higher Education Instructors on Accessibility

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Introduction

The function of a Learning Management System (LMS) is to offer digital learning materials and modules to improve the educational experience. It is critical to choose the most suitable platform that satisfies the specific requirements of educators and learners, as higher education institutions increasingly depend on LMS for distributing course materials. Decision-makers and administrators are motivated to adopt platforms that include accessibility features that address social justice, legal compliance, and technological advancements, potentially benefiting students, educators, and institutions. A highlight of my capstone project was the impact of the California Community College (CCC) Online Education Initiative (OEI) on advancing accessibility through the creation of a common course management system (CCMS) system (Falcone, 2018). Data revealed that while distance education enrollment increased in the CCC, disabled student enrollment and retention slightly declined in distance learning (California, n.d.). One implication for further research may be the role of the instructor in creating accessible online courses using Canvas as defined in the OEI.

In higher education environments, instructors play a critical role in creating an inclusive curriculum and content. The teacher-student relationship is the most valuable aspect of the classroom and learning (Schank, 2016). According to data from California (n.d.), the average age of tenured track and adjunct professors is 50.3 years old. A study by Web Accessibility In Mind (WebAIM), a non-profit organization that offers solutions for web accessibility, surveyed web accessibility practitioners and found that only 18% of the organizations were related to education, and only 2% of the practitioners identified themselves as educators (WebAIM: Survey of Web Accessibility Practitioners Results, 2014). This could be why California was ranked 30th out of 58 in a recent report on web accessibility errors in higher education LMS, conducted by Pope Tech and Canvas (State Rankings - Higher Ed in 4k, n.d.). To

enhance LMS accessibility and improve California's ranking for errors, there is a requirement for distinct tools and training. This learning environment design proposal seeks to create a program of training and support for higher education instructors in the CCC system using Canvas.

Learning Environment Components

Lombardo (2015) highlights the significance of creating a learning atmosphere that promotes successful learning using six elements: 1) resources, 2) people, 3) training and education, 4) development practices, 5) experiential learning practices, and 6) learner motivation and self-direction. This learning design proposal integrates all six components into the program. By following a learning environment blueprint, one can design a program to successfully onboard new adjunct instructors to create more accessible learning experiences for all students.

Background

Administrators of a local community college want to curate resources for new adjunct hires. The instructional design team (ID) creates an onboarding blended learning hub on Canvas that automatically enrolls new hires and requires completion before instructors can release new courses on Canvas for their respective classes.

Purpose

The purpose of the total completion of all content sections of the blended learning hub is to reduce accessibility errors detected in course content pages of the LMS either by reviewing the Pope Tech dashboard in Canvas or using internet browsers provided by WebAIM. The organizational goal is to increase state rankings in future national web accessibility reviews, supporting enrollment and retention of disabled students.

Context

- Deliver more accessibility tools and support to adjunct faculty.
- Motivate faculty to employ accessibility tools.

- Reduce accessibility errors in LMS in deep-linked pages.
- Increase interactive features in the LMS, including multimedia.
- Increase enrollment and retention of all students by increasing content quality on the LMS.

Learner Characteristics

- New adjuncts hired for subject matter expertise may be over the mean age of 50.3 and need technology support to create engaging content.
- New adjunct hires may be required to fill increased distance learning courses.
- New adjunct hires may not be familiar with Canvas, Pope Tech, or accessibility tools.
- New adjunct hires may not be familiar with the accessibility legal requirements.

Topic and Scope

- Design coursework to teach Section 508 legal requirements and WCAG guidelines.
- Design coursework to teach how to implement accessibility features in Canvas.
- Design coursework to teach how to use Pope Tech Dashboard and web browser plug-ins.
- Open a community of practice for adjunct faculty to continue professional development.
- Provide technology channels to enable coaching by the ID team.

Components

Resources

- Outline coursework and materials in an orientation webinar using Zoom
- Design a blended learning hub on Canvas with the following modules:
 - WCAG 2 Overview (Initiative, n.d.)
 - Revised 508 Standards (*U.S. Access Board*, n.d.)
 - Canvas LMS Accessibility featuring the Guide and the Dashboard (*Pope Tech | Canvas LMS Integration*, n.d.)

- Multimedia content creation best practices, including close captioning enablement.

Incorporating multimedia is crucial for successful online learning as it enhances student engagement and makes learning accessible to a broader audience, particularly when used in conjunction with text-heavy resources (McCallum, 2021).

- Breakdown of self-reported disabilities and tools that may be used by students with cognitive disorders, including sticky keys, mouse enhancements, and adaptive devices and related features available in Canvas.
- Information about including Universal Design for Learning strategies for students with Autism and unspecified learning disorders.

People

As Lave and Wenger share, “Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly” (infed.org, 2013, para. 7). People will be an essential component in the success of the training and development of new adjunct faculty.

- Assign ID mentor to a cohort of new adjunct faculty.
- Assign adjunct faculty who have completed the program and have minimal accessibility errors as buddies for new hires.
- Open and admit new adjunct faculty members to a Discord channel, creating a community of practice.
- Coordinate quarterly in-person meet-ups to engage adjunct faculty in active social learning using the constructivist theory, enabling learners to make meaning from peer-to-peer teaching.

Training and Education

In collaboration with the community colleges, Canvas and Pope Tech launched enhanced accessibility checking tools in the form of web browsers, Pope Tech training videos, and a licensed

dashboard in 2018(("AUCD - New Tools From the CPD Allow Site-wide Web Accessibility Evaluation (UT UCEDD/LEND)," 2018; *Pope Tech | Canvas LMS Integration*, n.d.).

- Adjunct faculty provided with access to Canvas resources.
- ID team designs job aids for adjunct faculty based on resources.
- Adjunct faculty completes all internal CCC content courses designed in resources.
- Adjunct faculty provided a list and a budget for access to additional external resources and certifications on demand: LinkedIn Learning, Udemy, EdX, W3.org, etc.

Development Practices

- Adjunct faculty meet with mentors and buddies to ask and answer questions.
- SlideShare demonstrations of Canvas coursework designed by new adjunct faculty displayed to facilitate feedback at quarterly meetups through peer-to-peer teaching and learning.
- Schedule meetings with Disabled Students Programs and Services (DSPS) on campus to enable DSPS user testing and feedback.
- The ID team recommends books and periodicals.
- Group Wiki maintained to share new technology updates concerning adaptive devices and new accessibility features available in Canvas.

Experiential Learning Practices

- ID team observes the content and performance of the adjunct professor's learning modules.
- ID team performs accessibility checks on deep-linked pages of new LMS content.
- Provide end-user surveys relating to content engagement post-course for adjunct faculty for all students and accessibility survey for DSPS students.
- Provide a website platform for instructors and DSPS students to report accessibility bugs to the CCC information technology team.

Learner Motivation and Self-Direction

According to Schank (2016), online learning centers on video lectures must include other crucial aspects such as student motivation, connection, and significance. As adjunct faculty are encouraged to forge community using Canvas and UDL framework, the environmental design program must include the opportunity for a sense of belonging.

- Adjunct faculty should be incentivized to complete and master professional development through compensation.
- Adjunct faculty should be provided with a sense of accomplishment through the positive testimonials of DSPS students.
- Adjunct faculty should be rewarded organizationally for completing additional external certifications and training by a system of badging recognition in the LMS system and on the CCC website, thus gamifying the experience.

Cultivation Plan

The program will be pilot tested for the 2023-2024 academic year. Upon completion, administration and ID team managers will review the accessibility check data for all new courses by adjunct faculty in the program, enrollment, and retention for all distance learning courses with a special report on DSPS enrollment and retention in online courses. Additionally, a report will be compiled to review survey and feedback data collected schoolwide and from disabled students.

Conclusion

In conclusion, the Learning Management System (LMS) is essential for distributing course materials in higher education institutions. Still, it is critical to select a platform with accessibility features that address social justice, legal compliance, and technological advancements. Instructors play a crucial role in creating an inclusive curriculum and content, and they require training and support to create more accessible learning experiences for all students. This paper proposed a learning environment

design that integrates six components: resources, people, training and education, development practices, experiential learning practices, and learner motivation and self-direction.

The design proposal seeks to create a training and support program for higher education instructors using Canvas in the California Community College (CCC) system to enhance LMS accessibility and improve the state's error ranking. By creating a blended learning hub on Canvas with modules that teach Section 508 legal requirements and WCAG guidelines and how to implement accessibility features and multimedia content creation best practices, new adjunct hires can reduce accessibility errors in LMS and improve enrollment and retention of all students. The program also includes a community of practice for adjunct faculty to continue professional development and the provision of technology channels for coaching by the instructional design team. The learning environment design proposal aims to break barriers, promote successful learning and create an accessible, inclusive, and engaging learning environment for all students.

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