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

Victoria Heric

Pepperdine University
Graduate School of Education & Psychology

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The Need

- The California Community College (CCC) Online Education Initiative (OEI) created the 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.).
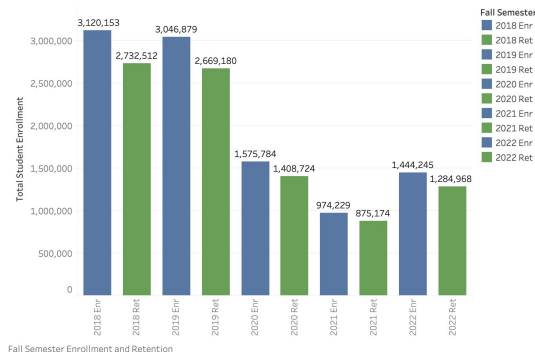
Comparing Statewide Enrollment & Retention
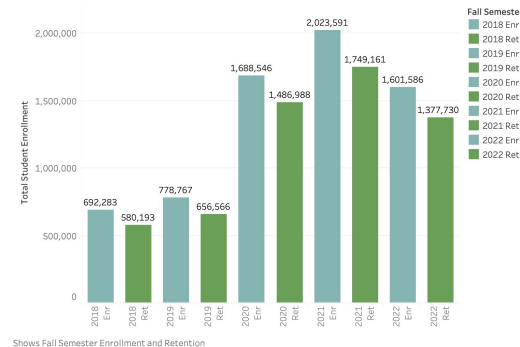

Statewide Enrollment & Retention - Fall Semester
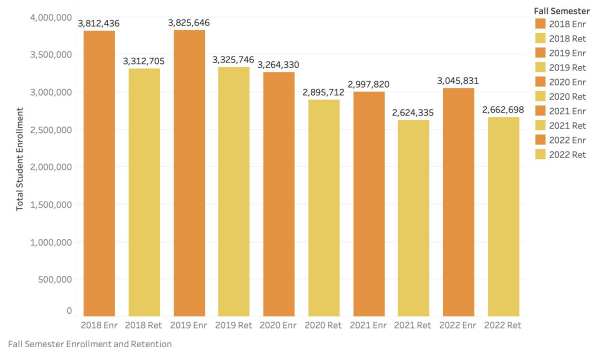
All Enrollment

Statewide In-Person Enrollment & Retention - Fall Semester
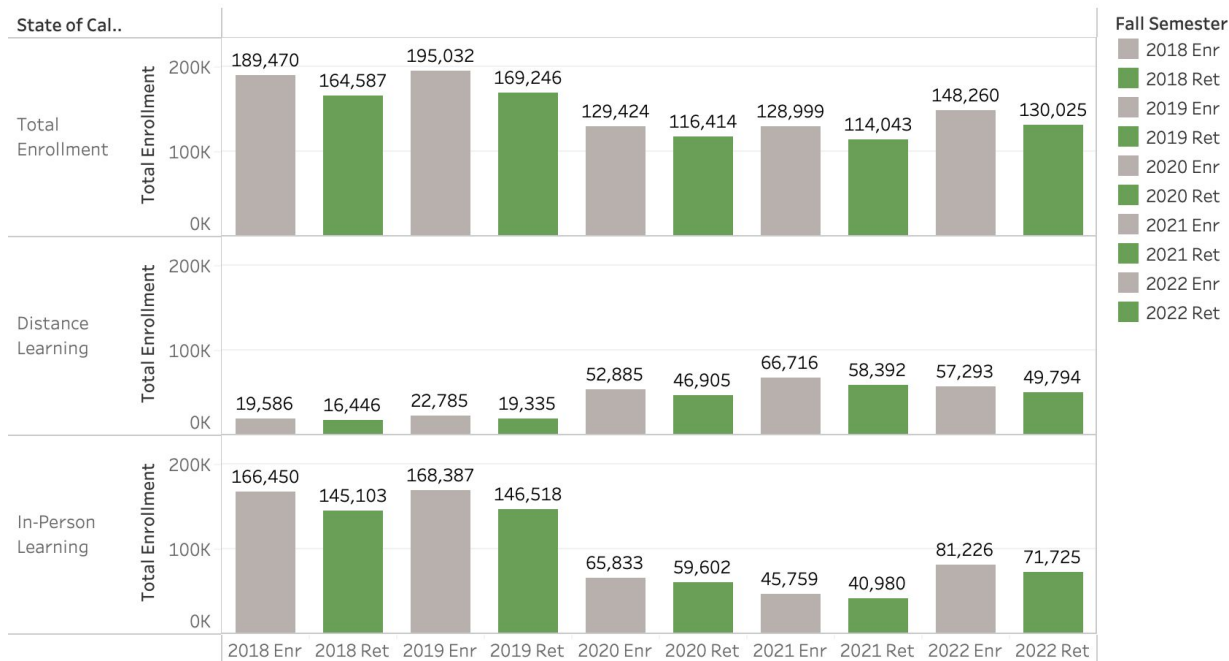
In-Person Enrollment

Statewide Distance Learning Enrollment - Fall Semester

Distance Enrollment

DSPS Enrollment & Retention

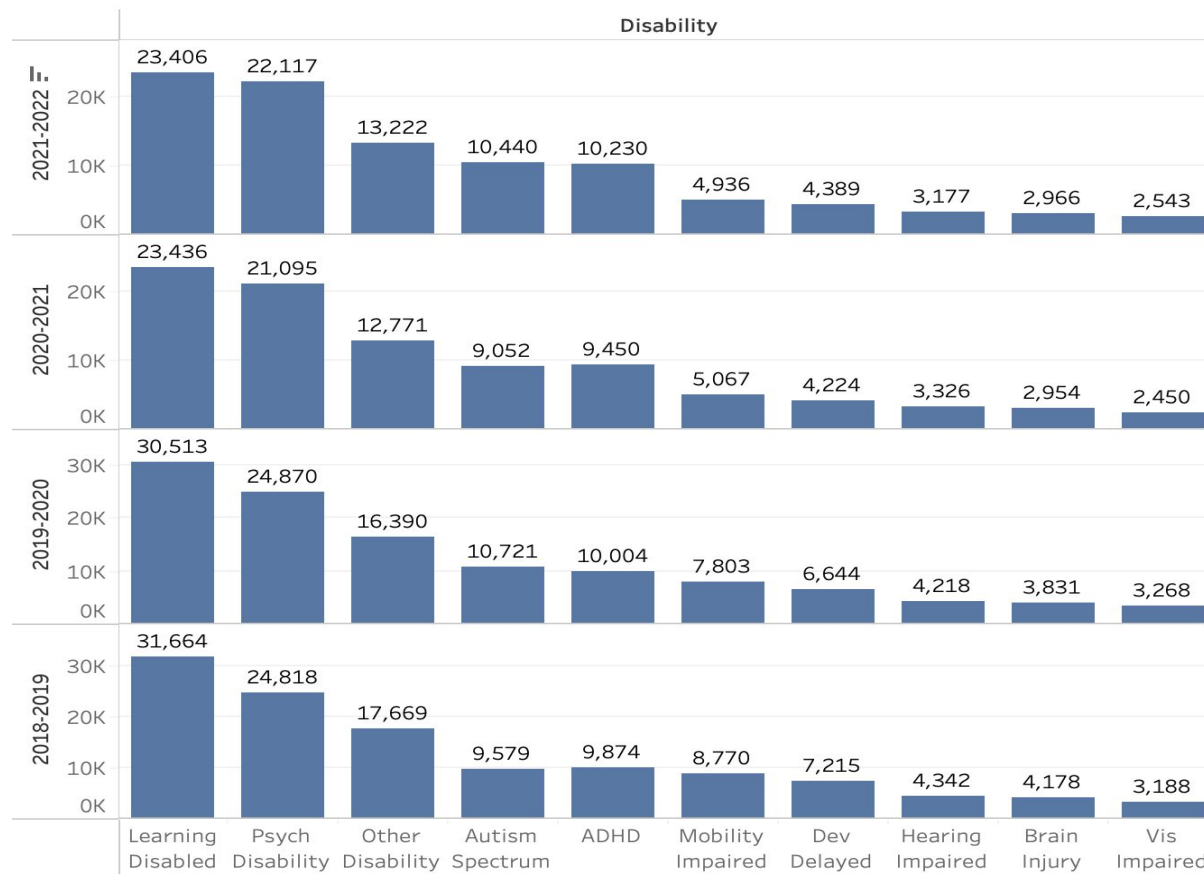## Disabled Students Total Enrollment & Retention - Fall Semester

Fall Enrollment and Retention of DSPS Students

Fall Semester
2018 Enr
2018 Ret
2019 Enr
2019 Ret
2020 Enr
2020 Ret
2021 Enr
2021 Ret
2022 Enr
2022 Ret

State of Cal..

Total Enrollment
- 2018 Enr: 189,470
- 2018 Ret: 164,587
- 2019 Enr: 195,032
- 2019 Ret: 169,246
- 2020 Enr: 129,424
- 2020 Ret: 116,414
- 2021 Enr: 128,999
- 2021 Ret: 114,043
- 2022 Enr: 148,260
- 2022 Ret: 130,025

Distance Learning
- 2018 Enr: 19,586
- 2018 Ret: 16,446
- 2019 Enr: 22,785
- 2019 Ret: 19,335
- 2020 Enr: 52,885
- 2020 Ret: 46,905
- 2021 Enr: 66,716
- 2021 Ret: 58,392
- 2022 Enr: 57,293
- 2022 Ret: 49,794

In-Person Learning
- 2018 Enr: 166,450
- 2018 Ret: 145,103
- 2019 Enr: 168,387
- 2019 Ret: 146,518
- 2020 Enr: 65,833
- 2020 Ret: 59,602
- 2021 Enr: 45,759
- 2021 Ret: 40,980
- 2022 Enr: 81,226
- 2022 Ret: 71,725

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DSPS Self Reported Disabilities

What accounts for the lag in enrollment for DSPS Students?

Disability Student Population by Year

Disability

Year	Learning Disabled	Psych Disability	Other Disability	Autism Spectrum	ADHD	Mobility Impaired	Dev Delayed	Hearing Impaired	Brain Injury	Vis Impaired
2021-2022	23,406	22,117	13,222	10,440	10,230	4,936	4,389	3,177	2,966	2,543
2020-2021	23,436	21,095	12,771	9,052	9,450	5,067	4,224	3,326	2,954	2,450
2019-2020	30,513	24,870	16,390	10,721	10,004	7,803	6,644	4,218	3,831	3,268
2018-2019	31,664	24,818	17,669	9,579	9,874	8,770	7,215	4,342	4,178	3,188

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The Solution

- Further research may be the role of the instructor in creating accessible online courses using Canvas as defined in the OEI.

- The teacher-student relationship is the most valuable aspect of the classroom and learning (Schank, 2016).

- The average age of tenured track and adjunct professors is 50.3 years old.

- 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).

- California was ranked 30th out of 58 in a recent report on web accessibility errors in higher education LMS (State Rankings - Higher Ed in 4k, n.d.)

The Learning Environment Design

The 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

- 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).
- 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 closed captioning enablement.
- 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

- Assign ID mentor to a cohort of new adjunct faculty.
- Assign adjunct faculty who have successfully 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

- 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 with a list and a budget for access to additional external resources and certifications on demand: Linkedin Learning, Udemy, EdX, W3.org, etc.

The Pope Tech Dashboard in Canvas
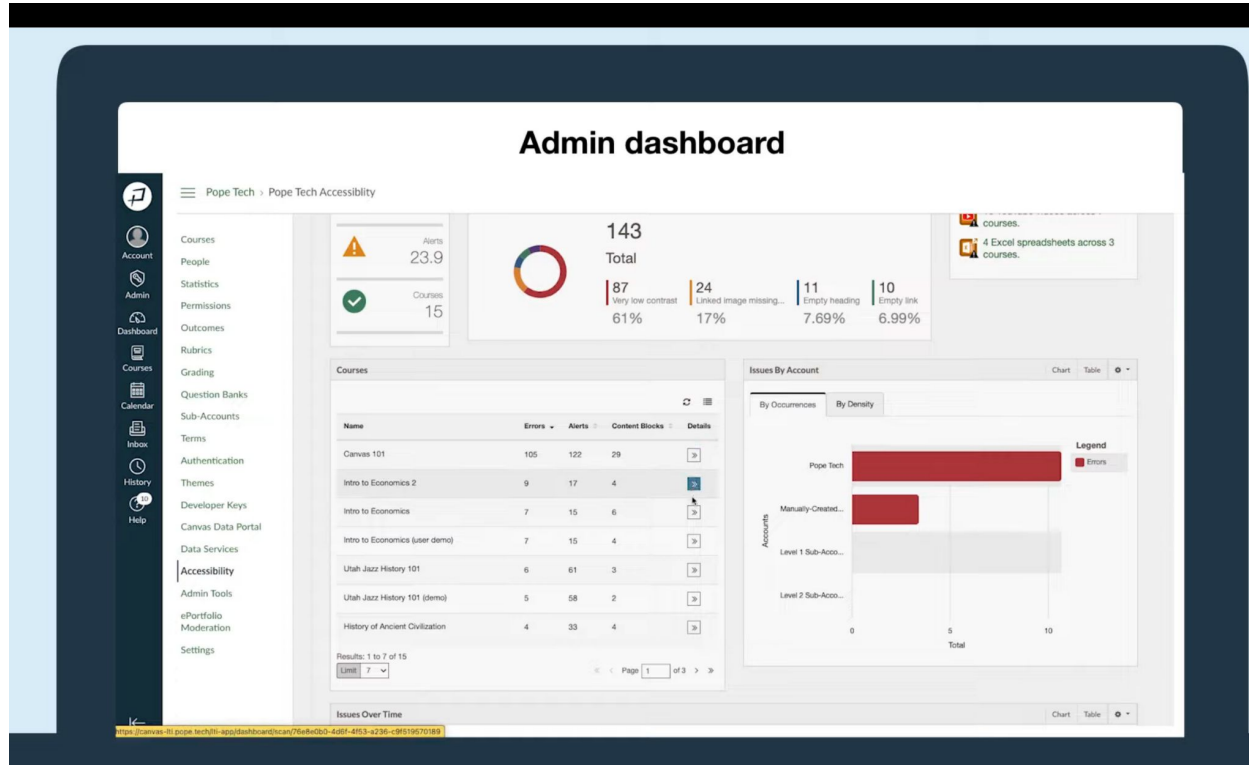
Development Practices

- 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 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

- Create a special report on DSPS enrollment and retention in online courses

- A report will be compiled to review survey and feedback data collected schoolwide and from disabled students.

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