

Embracing Neurodiversity: A Partnership for Faculty Development Centering Accessibility and Universal Design

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Background and Program

Research Questions:

- What are the specific challenges that neurodiverse students face in higher education classrooms?
- What is the level of awareness and understanding among faculty regarding neurodiversity, accessibility, and Universal Design for Learning (UDL)?
- How can faculty be effectively engaged and motivated to participate in initiatives aimed at creating inclusive classrooms for neurodiverse students?

Background:

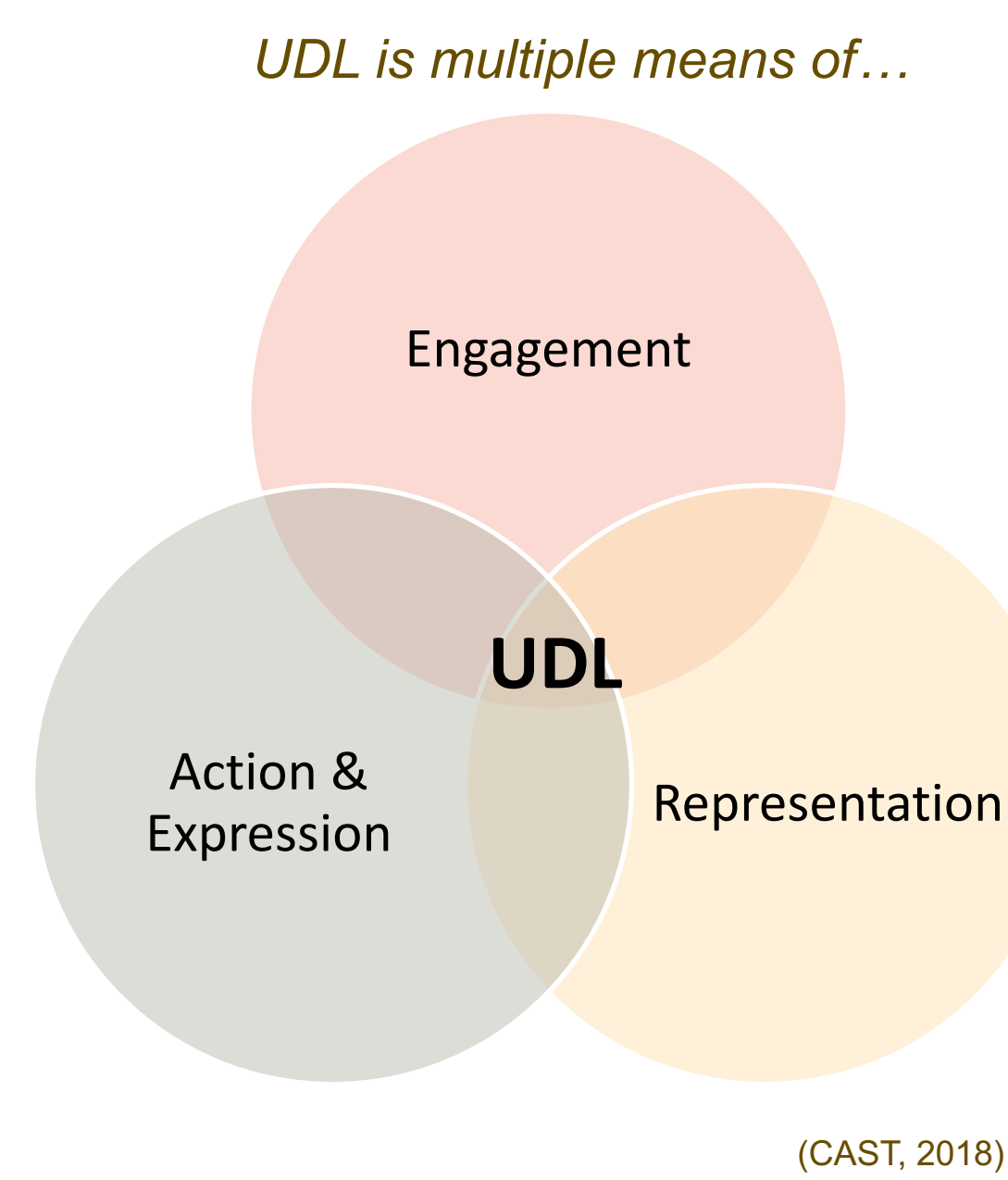
- Approximately 1 in 5 undergraduate students at the University of Denver (DU) have accommodations through Student Disability Services (SDS).
- The Learning Effectiveness Program (LEP) is one of the few programs across the country dedicated to supporting neurodiverse students in higher education.
- Internal 2021 surveys indicated delivering accommodations and supporting neurodiverse students was a gap for faculty.
- A two-day institute was developed in partnership with the Learning Effectiveness Program, the Office of the Vice Provost of Faculty Affairs, and the Office of Teaching and Learning.

Purpose

The purpose of the institute is to bring awareness to neurodiversity, accessibility, and the importance of UDL, empowering faculty to skillfully utilize technology and teaching practices to proactively reduce access barriers to course content and class activities for neurodiverse students.

Learning Outcomes

- 1) Faculty will be able to explain the following terms to a fellow colleague: Accessibility, Neurodiversity, Universal Design for Learning (UDL).
- 2) Faculty will be able to apply UDL principles to course experiences and design responsive structures to support and collaborate with students.
- 3) Faculty will be able to advocate for student needs regarding neurodiversity in their home department/program.



Participants

- August 2023
13 administrator participants from 8 colleges and programs
- December 2022
18 faculty participants from 6 colleges and programs
- August 2022
22 faculty participants from 7 colleges and programs
- August 2021
16 faculty participants from 9 colleges and programs



Administrators participate in a concentric circle (August 2023). Cross-campus partners join the institute for a panel discussion (December 2022). Writing Faculty, Brad Benz, presents on UDL strategies (December 2022).



Engineering and Computer Science Faculty, Michael Caston, presents on UDL strategies (August 2022). Faculty participated in a Gallery Walk, where they reflected on strengths, difficulties, and questions about neurodiversity (December 2022).

Materials and Methods

Programming for the institute includes sessions facilitated by staff from the Office of Teaching and Learning (OTL) and the Learning Effectiveness Program (LEP), a keynote address from a faculty in the psychology department aimed at debunking common neuromyths, and a deliverables assignment (described in the next section) designed to stimulate long-term commitment to department culture change regarding UDL practices. Materials for faculty include a Neurodiversity Institute note guide along with ongoing access to the slides, readings, and videos used throughout the institute. We created videos of past participants and students to center the voices of community members engaged in this work. We survey the faculty at the end of both days.

Prompts for the Deliverable Assignment:

- Reflective Growth ("Design a plan that includes at least two hours of research or engaged learning on the topics from this Institute.")
- Engage Your Department ("Design a plan that includes facilitation of a department activity to engage and motivate your colleagues.")
- Strategic Plan for Change ("Write up your plan to be an agent for change in your department. You will describe how you will role model this work by implementing UDL in your course, and how you will advance a culture of UDL in your department. How will you make this work transparent and public?")

Results

Knowledge of Key Terms:

A total of 36 attendees in institutes 2 and 3 responded to the vocabulary knowledge questions at the three data collection points. We focus on changes from time 1 (pre-institute) to time 3 (end of day 2). Three paired samples t-tests were conducted to determine changes in self-reported understanding of these key terms from the pre-institute to the end of the institute. All three t-tests yielded significance. On average, participants self-rated their knowledge of "neurodiversity" before the institute at 67.22 (out of a possible 100; SD=18.88) and 90.16 (SD=9.02) at the end of day two, which was significantly higher $t(36)=7.14, p<.001, d=1.175$. Significant self-reported knowledge increases were also seen for "Universal Design for Learning", increasing from 60.39 (SD= 24.84) to 89.03 (SD=9.64), $t(35)=7.42, p<.001, d=1.238$. And, for "accessibility", increasing from 68.59 (SD=18.04) to 86.70 (SD=10.36), $t(36)=5.24, p<.001, d=.863$.

See Figure 1 for a comparison of pre-and post-institute means.

Follow-up Survey and Interviews:

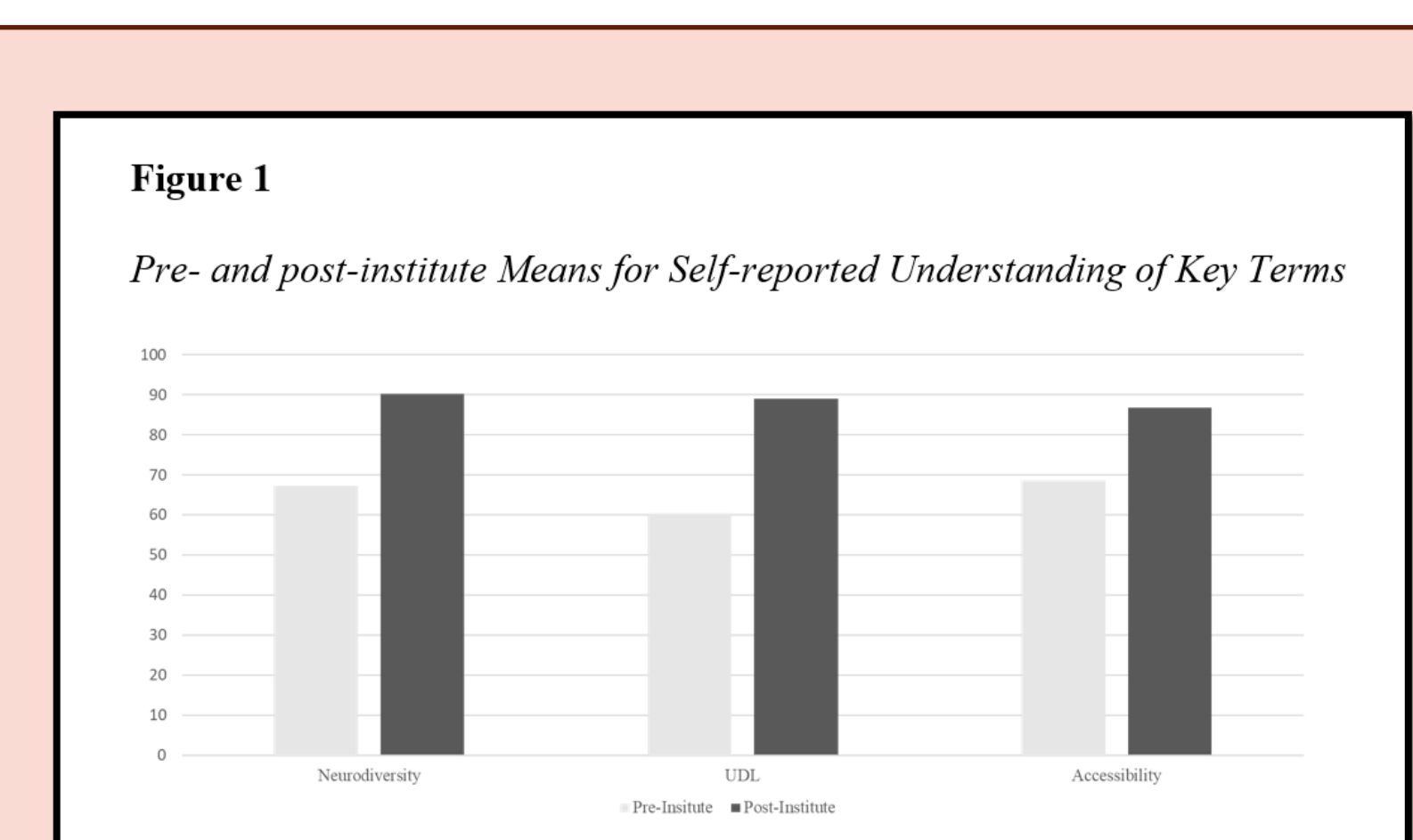
A total of 35 attendees responded to the post-institute survey, which included 5 "self-efficacy" questions. Participants were asked to self-report from 1-strongly disagree to 5-strongly agree their responses to questions asking how they are impacted by the institute and their intentions for future engagement. Responses were overwhelmingly positive.

See Table 1 for a summary of the questions and mean responses.

Additionally, participants were asked to identify ways in which they made progress to institute deliverables including

- 1) reflective growth,
- 2) engaging with their department,
- 3) efforts aimed at strategic, systemic, and sustainable change.

See Table 2 for a summary of exemplar responses.



Items	Mean Responses
The Neurodiversity Institute continues to influence me to reflect on my own ways of engaging as a learner.	4.49
I have found myself adjusting my pedagogical approach and syllabi to support neurodiverse learners.	4.2
I have the support and resources I need to adjust my pedagogy and syllabi to support neurodiverse learners.	4.6
I will continue to educate myself on the issues facing [University] and higher education in relation to Neurodiversity, Universal Design for Learning, and student success.	4.6
I will continue to connect with the [student support program], [CTL] and/or the Vice Provost for Faculty Affairs to help facilitate my growth and understanding of UDL.	4.6

Institute Goal/Deliverable	Examples reported by participants
Reflective growth	Additional readings on disability justice and ableism Course review with accessibility and UDL expert Changes to course design & syllabus Informal peer discussions of readings Professional development [CTL] workshops Surveys to determine best approaches to trainings
Department engagement	Working group to address curriculum Presentations with accessible practices built-in as role model Guidance documents on accessibility and UDL Department-specific workshops on accessibility and UDL Ongoing community of practice
Strategic change	"One new change" initiative to address accessible content Graduate student training Student-led panels on supporting neurodiverse students Student-faculty partnership program focused on UDL practice Inclusion of UDL in course proposals Adding inclusivity and accessibility to program mission

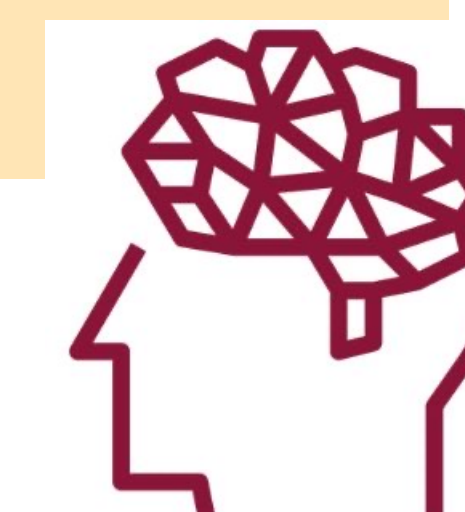
Open-ended responses indicated mindset changes and increased awareness of barriers that neurodiverse students encounter.

"The Neurodiversity Institute was my first exposure to Universal Design. I had never before considered how course re-design can, at the same time, benefit neurodiverse students and neurotypical students. Also, from the professor's perspective, lowers the burden of making special accommodations. If the point of teaching is to educate rather than gate-keep, the UDL principles clearly serve that goal."

- Biology Faculty Participant

"I've been really struggling with accessibility with PDFs and will definitely be learning more about the process to get them accessible. I learned so much at the institute about neuromyths and that helped me to think more about the complexities of learning. I appreciated the approach to thinking beyond visual, auditory, and kinesthetic learning styles too."

- Sociology Faculty Participant



Conclusion

Our programming was clearly effective in educating faculty on key terminology and increasing self-reported knowledge regarding UDL teaching practices, creating accessible content and seeking appropriate resources. The deliverables assignment indicated long term commitment by some faculty to sustainable departmental change. Anecdotally, we also saw an increase in registration and engagement in our teaching and learning center's accessibility and UDL programming during the academic year that followed. Additionally, our commitment to keeping the focus on UDL teaching practices rather than addressing common academic accommodations appeared to shift faculty perspective from a deficit mindset about disabled students to a determined focus on reducing access barriers for all students.

Future Directions

Enhancing the effects of this institute involves expanding the commitment to these topics by academic and campus-wide leaders. The next iteration of the Neurodiversity Institute has been adapted to support academic leaders and administrators exclusively. We hope that they will catalyze change in their areas of influence and support the work being done by faculty in their academic units. In the coming year, we plan to track UDL practices campus-wide, using surveys, audits of the learning management system, offering a community of practice for past participants, and partnerships with dedicated accessibility staff in various units. We are also creating videos with neurodiverse students from the [student support program] to continue building a sense of student voice in the institute. We hope that other institutions will adopt a similar approach, with a commitment to cross-campus collaborations and a focus on the social model of disability/asset-based framework, to powerfully reduce access barriers and improve the learning environment.

Interactive Section!

Visit the QR Code to add to our growing ideas about how to incorporate UDL into your teaching to enhance accessibility for ALL students! If you use UDL strategies in your classroom, please add them for your colleagues to learn from. If you don't use UDL strategies, consider checking out what some of your colleagues are doing in their classrooms. Let's make this a collection of ideas for incorporating UDL in higher ed.



bit.ly/UDLHED

Digital Access and References

Use the QR Code or the short link to access a digital version of this poster as well as the poster references.



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