

Supporting Neurodiversity: A Partnership for Faculty Development Centering Universal Design for Learning (Practice Brief)

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Abstract

A collaboration between campus partners including the center for teaching and learning and a fee-based student learning support program set out to engage faculty in an educational campaign aimed at designing inclusive classrooms for neurodiverse students. The Neurodiversity Institute, a two-day interactive experience, provides faculty with tools to support neurodiverse students in the classroom, while cultivating sustained change beyond their participation in the Institute. Participants are tasked with developing deliverables aimed at self-reflection and growth, departmental engagement, and strategic planning for more systemic changes to practice. Findings indicated that faculty who engage with this program report a better understanding of key terms including accessibility, neurodiversity, and Universal Design for Learning (UDL). Moreover, the requirement that participants engage their department and plan strategically resulted in innovative approaches to serving neurodiverse students at the department level. This article discusses the goals of the program, findings from post-institute surveys, and recommendations for other institutions striving to change the culture and improve the educational experience for neurodiverse students.

Keywords: accessibility, campus partners, culture change, faculty development, neurodiversity, universal design for learning

Summary of Relevant Literature

As universities have continued to grapple with fallout from the global pandemic while striving to embrace an increasingly diverse student body, serving neurodiverse students and meeting the needs for accommodations in the classroom is a critical growing edge. Approximately 19% of undergraduate students report having a disability (Institute of Education Sciences, 2019) but only about one-third of these students inform their college (Institute of Education Sciences, 2022). While technologies that allowed educational institutions to continue operating during pandemic-era shutdowns provided a level of access some students had never known, the rapid change to online teaching and learning created barriers for others. Access to learning was an inequity that existed prior to the pandemic but was both illuminated and exacerbated by changes to course delivery (Hsaio et al., 2019; Lazar, 2022).

Nationally (Clarke & Lhamon, 2023) and locally (HB 22-1255, 2022) there have been calls to action for increased accessibility on college campuses. Additionally, as part of their college selection process, disabled students are actively researching what institutions are doing to dismantle barriers to their success (Dolmage, 2017). Faculty play a critical role in proactively fostering inclusive and accessible learning environments for postsecondary disabled students, including those with learning differences or who identify as neurodivergent. Neurodiversity is a term used to acknowledge the natural differences in brain function and behavioral traits among humans (Fung et al., 2022). Individuals who identify as neurodiverse may have a diagnosis of autism spectrum disorder (ASD), attention deficit hyperactivity disorder (ADHD), dyslexia, or other learning differences (Clouder et al., 2020).

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Despite the importance of faculty creating inclusive classroom environments, few faculty receive pedagogical or andragogical instruction as part of their graduate studies. Thus, faculty development opportunities that promote the design of accessible learning environments are a promising practice that may ultimately minimize the need for individual student accommodations and improve access to the learning experience for all (Burgstahler, 2020; Hsaio et al., 2019). Utilizing inclusive frameworks such as the Universal Design for Learning (UDL) principles can encourage faculty to consider multiple ways of promoting student engagement, representation, and action and expression throughout their course experiences (CAST, 2018). Promoting accessibility in the learning environment means proactively starting the course design process with accessibility in mind rather than waiting for an individual student accommodation need (LaGrow, 2017). By taking a proactive approach to creating an accessible classroom experience for all students, faculty can be prepared to address neurodiverse student needs, regardless of accommodation status, and be more prepared to address individual accommodations. Faculty who actively engage in planning and implementing inclusive instructional practices, such as UDL, reduce barriers to academic access for disabled students and help support their overall success in higher education (Meyer et al., 2014; Park et al., 2012).

Setting

The University of Denver is a mid-sized, private institution in the Western United States. There are approximately 800 full-time faculty and 1,300 adjuncts serving approximately 10,000 students, half of whom are undergraduates. Our center for teaching and learning (CTL), called the Office of Teaching and Learning (OTL), has existed on campus for over 25 years, supporting faculty at all career stages, and providing pedagogical and educational technology support, among other services.

Teaching and learning centers support classroom-level change but also serve as critical levers for mid-level and university-wide change (Beeton et al., 2022; Grupp & Little, 2019). Beyond a commitment to teaching and learning support for faculty, the University of Denver has implemented a student-facing program specifically designed to support neurodiverse students, the Learning Effectiveness Program (LEP), which has existed on campus for over 40 years. This program is noteworthy due to its rarity among higher education institutions. The LEP is managed by a team of staff members from student affairs and offers 1:1 advising, social experiences, and a wide range of

tutoring services to students with neurodiverse needs and learning differences.

Depiction of the Problem

In higher education, a disconnect can exist between student support services and faculty preparation. While many neurodiverse students are electing to attend based on the institution's commitment to embracing and supporting neurodiversity, the faculty who receive those students are often underprepared to support neurodiverse students in the classroom. Thus, there is a heightened need to prioritize faculty development for supporting the range of neurodiverse students across the classroom and program experiences (Pryal, 2023). At the University of Denver, internal survey data indicated that faculty felt uncertainty, frustration, and exhaustion concerning navigating accessibility needs in the classroom, particularly during the height of the COVID-19 pandemic. To address this emergent need, a partnership between the OTL, Vice Provost for Faculty Affairs, and the LEP, with support from Student Disability Services (SDS), resulted in the creation of a two-day Neurodiversity Institute.

Description of Practice

The purpose of the Institute is to bring awareness to accessibility, neurodiversity, and the importance of UDL, empowering faculty to skillfully use technology and teaching practices to proactively reduce access barriers to course content and class activities for neurodiverse students. The institute was designed with the following faculty learning outcomes:

- Faculty can explain the following terms to a fellow colleague: accessibility, neurodiversity, and Universal Design for Learning.
- Faculty will apply UDL principles to course and departmental experiences and design responsive structures to support and collaborate with students.
- Faculty will advocate for student needs regarding neurodiversity in their home department/program.

The programming features sessions led by staff from the OTL and the LEP, along with a keynote address by a faculty from the psychology department aimed at dispelling common neuromyths. Additionally, participants engage in a deliverables assignment, outlined in the following section, designed to stimulate long-term commitment to department culture change regarding UDL practices.

By centering UDL principles in the Institute programming, faculty are encouraged to proactively revise their courses before interacting with students in the classroom. This approach aims to enhance support for all students, but particularly those who are neurodiverse. These changes are not intended to replace the formal academic accommodations process, but they help to create a flexible and inclusive learning environment and may significantly reduce the number of requests for adjustments or accommodations needed during the course. Disabled students can then participate in the learning process without having to reveal aspects of their identity that they may wish to keep private. To keep faculty focused on this proactive approach, there is no programming directly focused on addressing academic accommodations. However, because they are a critical partner in this work, the director of SDS participates in a panel with other administrators to answer questions. Also, the accommodation specialists assist with facilitating the classroom scenarios used in the institute.

Participant recruitment has focused on soliciting recommendations from academic leaders including deans and associate deans as well as academic advisors from the LEP student support program, asking them to nominate potential champions of this work as well as faculty for whom these topics are a learning edge. This work is incentivized through a stipend of which the first half is distributed to faculty after completing both days of the Institute. To receive the second half of the stipend, faculty respond to an exit survey and a post-Institute survey, sent out three months later, asking them to report on their plans for taking concrete actions in three areas. The prompts for the deliverables assignment are:

- *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 classroom and department. You will describe how you will role model this work by implementing UDL in your course, and how you will advance the culture of UDL in your department. How will you make this work transparent and public?”

Evaluation of Observed Outcomes

A total of 91 faculty and administrators have participated in five Institutes since summer 2021. Faculty and administrator participants represented all 11 colleges on our campus, with the majority of faculty participants joining from the College of Arts, Humanities, and Social Sciences, Natural Sciences and Mathematics, and the Writing Program. In this report, we include findings from the Institute as of December 2022, when a total of 56 faculty and administrators from 8 of the 11 colleges across campus participated. Responses reported include the pre-Institute, exit, and post-Institute surveys. Participants self-reported attainment of Institute goals and their progress toward completion of their deliverables aimed at creating more inclusive classrooms for neurodiverse students as well as changes in their departments regarding accessibility and UDL practices.

Surveys

Following nomination, prospective participants received an online accessibility survey that they completed before the Institute. Questions focused on their ability to attend each session, access needs, and an optional question about their experience, whether personal or professional, with neurodiversity. This survey was adapted for the second Institute to include the opportunity to self-report (on a scale of 0-no knowledge to 100-extensive knowledge) their understanding of the terms “accessibility,” “neurodiversity,” and “Universal Design for Learning.” These three vocabulary knowledge questions were repeated at the end of day one and day two of the Institute as exit surveys.

Three months after the Institute, participants were invited to respond to a post-Institute follow-up survey during which they reported on the Institute deliverables and responded to questions focused on the enduring impact of the Institute on their practice. Of the 56 participants, 35 (63%) completed the entire follow-up survey.

Knowledge of Key Terms

A total of 36 attendees in Institutes two and three responded to the vocabulary knowledge questions at the three data collection points. We focus on changes from time one (pre-Institute) to time three (end of day two). 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 ($SD = 10.36$), $t(36) = 5.24$, $p < .001$, $d = .863$. Refer to Figure 1 for a comparison of pre-and post-Institute means.

Follow-up Survey and Interviews

A total of 35 attendees responded to the entire post-Institute survey, which included five self-efficacy questions. Participants were asked to self-report their responses from 1 (strongly disagree) to 5 (strongly agree) to questions asking how they have been impacted by the Institute and their intentions for future engagement. Responses were overwhelmingly positive. Refer to 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, sustainable change.

Refer to Table 2 for a summary of exemplar responses.

Open-ended responses indicated mindset changes and increased awareness of barriers that neurodiverse students encounter. A Biology faculty participant shared a compelling example, as follows.

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.

In spring 2023, four Institute participants were nominated for teaching awards by neurodiverse students working with the LEP. The students were asked by their program leaders to nominate faculty who were responsive to the needs of students with learning disabilities, or faculty who consistently use UDL practices within their classroom. These faculty participants were informally interviewed by the research

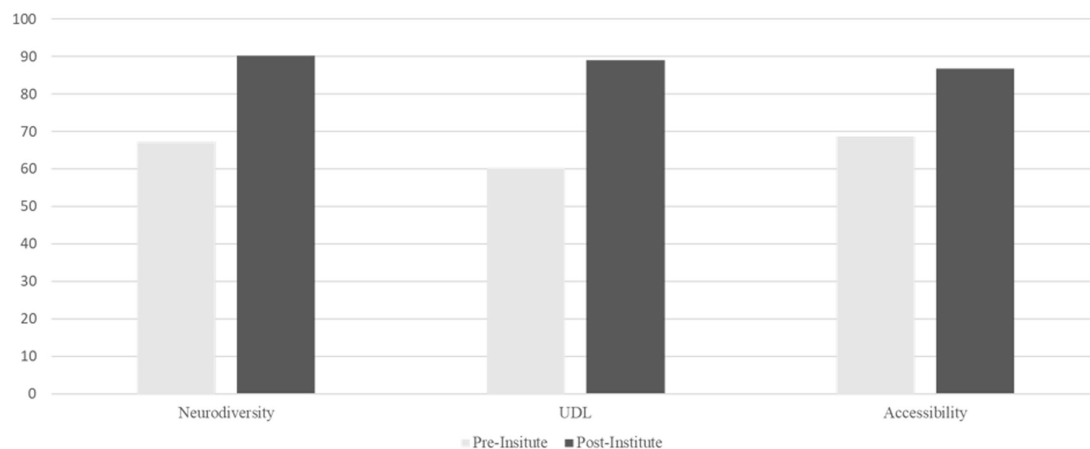
team to determine what classroom changes had been made to stimulate positive student impact. Each participant spoke about making their content accessible (e.g., via PDFs, videos), taking the time to connect with each student who had accommodations to build trusted relationships with them, and investigating the structure of their classroom activities with neurodiverse needs in mind. Three of the faculty indicated that they are experiencing less anxiety about meeting student needs in the classroom given their proactive approach. Their advice to other faculty included taking it slow and implementing strategies one at a time. Example comments from interviewed faculty include: “You can’t do it all at once. Take a deep breath and figure out what you can do”; “Inclusive and accessible teaching is good teaching, and it benefits all students in the class”; and “Don’t be afraid of it! It’s a whole lot easier than you think it is.”

Implications and Transferability

The data compiled from faculty feedback about the Institute demonstrate that our programming was 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 the OTL’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.

The nomination of faculty awards by neurodiverse students is a rare indicator of the direct impact faculty development programming has on students. Several of the faculty who were nominated participated in the Institute as a large group from one academic department, demonstrating the power of communal engagement. The department’s director attended the Institute as well and, as a direct result, worked with the faculty to embed accessibility and inclusivity principles in the department’s mission.

While there are indicators of success, there are limitations to our findings. Key limitations involve the self-report nature of the surveys. For example, participants self-reported increases in knowledge of key terminology; however, we did not confirm accurate responses to the prompts. Additionally, while

Figure 1*Pre- and Post-Institute Means for Self-reported Understanding of Key Terms***Table 1***Follow-up Survey Items and Response Means*

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.	4.49
I have the support and resources I need to adjust my pedagogy and syllabi to support neurodiverse learners.	4.2
I will continue to educate myself on the issues facing University of Denver and higher education about 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

Table 2

Institute Deliverables and Examples of Ways Participants Self-reported Meeting These Goals Three Months Following Their Participation

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 & and syllabus Informal peer discussions of readings Professional development [CTL] workshops
Department engagement	Surveys to determine the best approach to training Working group to address curriculum Presentations with accessible practices built-in as a 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

participants reported that they made changes, or intend to make changes, to their pedagogical approach, we have not formally followed up with syllabus or course reviews that would confirm changes to practice. This is an action that should be taken in the future.

We would also like to highlight challenges and recommendations for institutions interested in replicating this work. One challenge that often occurs with faculty development is disengagement with the topic once the programming is complete. Ongoing incentives including the dissemination of the second half of the stipend upon submission of deliverables, cultivates sustained engagement. We encourage institutions that are considering embarking on a similar initiative to consider ways in which they can incentivize ongoing participation and commit resources to follow up with participants. Adequate human and financial resources for programming, including faculty stipends and staff and campus partners with appropriate expertise, are key to success.

Seeking broad representation, while also challenging, is an important element of success. Centers for teaching and learning experience the “frequent flyer” phenomenon in which the same small group of faculty are regular program attendees. Having academic leaders involved and nominating attendees was crucial to weaving the Institute into the fabric of the

University’s values. Because being nominated by an academic leader was viewed as positive recognition, it quickly became a desirable invitation that created some publicity for the Institute.

Relatedly, while continued engagement and broad campus participation can both be challenges, sustained change requires both breadth and depth. Such change might include asking faculty and departments to continue the work beyond the discrete event that could result in a “train the trainer” model. As part of their participation, attendees are asked to continue to grow and disseminate information they learned at the Neurodiversity Institute as part of furthering their individual and departmental knowledge. Anecdotally, this approach has yielded additional interest in the Institute with peers of an attendee being nominated for future Institutes, resulting in a critical mass from a particular academic department or program. This exposure allows for both changes to classroom practice on the individual faculty level and deeper departmental engagement through an examination of policy and practice.

Cross-campus collaborations are a truly unique feature of this faculty development opportunity. While our CTL is staffed by experts in faculty development, teaching and learning, course design, and UDL, our partners with expertise in disability, accommoda-

tions, and the student experience created a richness in Institute content that could not have been achieved with one department taking the lead on this campaign. Therefore, we recommend that other institutions consider both financial and human resources that could be dedicated to such an opportunity, imagine creative ways to achieve broad campus participation through thoughtful recruitment and outreach, require meaningful ongoing commitments beyond a singular event, and partner generously with campus experts.

Enhancing the effects of this institute involves expanding the commitment to these topics by academic and campus-wide leaders. The most recent iteration of the Neurodiversity Institute was 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. Currently, we are tracking UDL practices campus-wide, using surveys and audits of the learning management system. Additionally, we plan to offer a community of practice for past participants and continue our partnerships with dedicated disability and accessibility staff in various units across campus. We have also created videos with neurodiverse students from the LEP to continue building a sense of student voice in the Neurodiversity 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 using an asset-based framework, to powerfully reduce access barriers and improve the learning environment for all.

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