University of Denver
Office of Teaching and Learning

*Ripple Effects Mapping: Capturing Impact of the Neurodiversity Institute (NDI)*

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Overview of the Neurodiversity Institute (NDI)

In 2021 DU received a request from an anonymous donor to “open hearts and minds” to the unique needs of neurodiverse students in the classroom. In response, the Vice Provost for Faculty Affairs, Learning Effectiveness Program, and the Office of Teaching and Learning partnered to develop a faculty development program aimed at increased awareness of Universal Design for Learning (UDL) and accessibility. The result, a two-day Neurodiversity Institute (NDI), has been offered a total of five times as of the writing of this report, with 91 faculty and administrator participants. The institute learning outcomes are: 1) Faculty will be able to explain the following terms to a fellow colleague: Accessibility, Neurodiversity, Universal Design for Learning, 2) Faculty will be able to apply UDL principles to course experiences and design responsive structures to support and collaborate with students, and 3) Faculty will be able to advocate for student needs regarding neurodiversity in home department/program.

Approach

On February 21, 2024, Butler Institute facilitators conducted an in-person Ripple Effects Mapping (REM) session with participants to capture their experiences and stories of impact since participating in NDI. REM participants were those who attended NDI from August 2021 to August 2023 and represented over ten departments and units across the university.

REM is a participatory and strength-based interactive approach that aims to illuminate diverse perspectives and reveal both anticipated and unanticipated outcomes of an initiative.¹ REM celebrates accomplishments through a process that combines elements of Appreciative Inquiry, mind mapping, group interviewing, and qualitative data analysis to gather stories of impact. Participants’ stories and reflections are mapped in real-time to demonstrate connections and relationships. The REM session consists of three components (see Figure 1):

The following are the **Appreciative Inquiry** questions used during the REM session.

- What does NDI do exceptionally well?
- What are you most proud of doing or accomplishing since attending NDI?
- What have been some highlights for you in efforts related to neurodiversity (e.g., supporting students with learning differences) since NDI?
- What are short or long-term outcomes of NDI-related work that stand out to you?
NDI REM Participants
Analysis

Following the in-person REM session, the Butler team used XMind software to create a digital Xmind Ripple Map from the hand-drawn map created during the session. The Butler team then sent the updated digital XMind map to the REM participants so they could review and confirm that the map accurately reflected their group’s conversation and make any necessary revisions.

The Butler team then identified themes from the XMind map by grouping the impacts/ripples and stories participants identified into broad, meaningful categories.

**NDI REM Session Hand-drawn Map of Participants’ Stories**

(The digital version of the map above can be found in Appendix A.)

**Resulting REM Session Themes**

The key themes from the NDI REM session, the full thematic map, and individual-themed branches are provided below.
Key Themes from NDI REM Session

- **Neurodiversity Institute**
  - **Applying NDI Practices**
    - Participating in NDI opened up participants’ thinking about holistic ways to apply neurodiversity practices in the classroom and beyond.
  - **Impact on Participants Personally and Professionally**
    - Participating in NDI increased participants’ knowledge and confidence around neurodiversity.
  - **Creating Foundational Knowledge Across DU**
    - NDI helped develop foundational knowledge and a common language around accessibility and neurodiversity across campus.
  - **Spaces of Support and Community**
    - Participants emphasized how NDI is a space of support and community where they can go to access neurodiversity resources for students. NDI is also a space of support and community for faculty with neurodiversity.
  - **Student Learning and Advocacy**
    - Participants described ways they were able to impact student experiences through talking with them about neurodiversity issues, implementing curricular changes, and incorporating neurodiversity practices in the classroom.
Full Thematic Map from NDI REM Session

February 21, 2018
CITL Neurodiversity Institute (NDI) Bipolar Effects Mapping (REM) Session

Impact on Participants
Personality and Professionally

Applying NDI Practices

Increased Knowledge and Confidence

Appropriability

Foundation Knowledge

Conversational Language

NDI Supports

Spacious of Support and Community

Support Network and Community

Students Learning and Advocacy

NDI's work is to increase the accessibility and awareness of neurodiversity issues and to improve the相应内容...

Participants shared about how they regionalize their experiences and advocated for access to more accessible curricula.

Students learned from NDI about accessibility and awareness resources available to them.

NDI participants talking about how they made a difference in students' lives by providing accommodations and making important issues more accessible online.

Neutralizing the Impact of Neurodiversity

Participants shared about how they regionalize their experiences and advocated for access to more accessible curricula.

Students learned from NDI about accessibility and awareness resources available to them.

NDI's work is to increase the accessibility and awareness of neurodiversity issues and to improve the...
Subtheme: Applying NDI Practices

- Participants shared how they applied neurodiversity practices to make events more accessible for faculty and to model these practices for their work with students.
- Participants collaborated with colleagues and their unit to apply neurodiversity practices.

Collaboration

Teaching Practice

- Example: Collaborated to create course design training to apply neurodiversity practices for existing and new courses.
- Participants co-designed courses with other faculty members, modeling what it is like to prioritize neurodiversity and accessibility when developing courses.
- Through NDI, participants learned about neurodiversity practices and were able to implement these approaches to their teaching.

- One example was developing a completely asynchronous summer course that prioritized neurodiversity and accessibility. The aim was for students to have access to course materials at anytime.
- Increases accessibility for students and also allowed participants to post videos when they are unable to teach.

- Other participants have really embraced recording classes and have incorporated this practice into their teaching approach so that others have ongoing access to course content via recordings.

- "NDI helped me move along that continuum to be more competent in teaching principles."

- After attending NDI, participants shared how they changed approaches to teaching and developing courses to increase accessibility.

Assessing Students’ Needs

- Examples of this included consideration for use of technology supports in the classroom (e.g., calculations, dimming lights during class, providing quiet test-taking environments, and extra test-taking time).

- "I am always open to learning who my students are and what they need."

Further Applications

- Participant is working on a grant proposal on this topic.
- Participant is connecting with other institutions/systems to identify and address neurodiversity needs in their discipline/profession.

- Software was purchased to make it easier and faster to increase accessibility of course content.

- "This led to a decrease in remediation requests and an increase in reuse of previously remediated materials."

- Faculty and TAs were given resources to become self-sufficient regarding making course documents more accessible.

- "Work study students learned about accessibility and mobilized to advance accessibility regarding key neurodivergent topics, e.g., adding titles and captions to pictures."

- There were projects that involved creating a more streamlined process for increasing the accessibility of course content and documents for students.
Subtheme: Student Learning and Advocacy

Faculty are able to dive deeper into content and have deeper conversations with students about accessibility and neurodiversity.

“Students have access to course materials in advance and in a way that works for them - videos with subtitles, PowerPoints with pictures.”

“Students feel included.”

Learning about these services and resources supported students to advocate for themselves and their peers for more inclusive learning environments.

By implementing curricular changes and incorporating neurodiversity practices in the classroom, students face fewer issues and questions due to more accessible course content.

With participants talking openly about neurodiversity issues, students are more willing to ask for accommodations (e.g., having a service dog in class, requesting a calculator, or adjusting the lighting).

Students learn from faculty about accessibility and neurodiversity services/resources available to them.
Subtheme: Impact on Participants Personally and Professionally

- **Increased Knowledge and Confidence**
  - Participating in the NDI increased participants' knowledge and confidence about addressing students' neurodiversity needs.
  - Participants feel greater confidence in building courses and redesigning curriculum that are more accessible to all students.
  - "It helped me to explain why these strategies are helpful to neurodivergent students, specifically through a 'common language.'"
  - Participants had greater understanding of other offices and their roles in increasing accessibility for students, especially students with neurodiversity.
  - "I was able to support students to navigate and guide themselves through their educational journey, to be their own advocates."

- **Approachability**
  - By sharing about what they learned through NDI, participants became more accessible to other faculty and students due to increased knowledge and awareness of neurodiversity issues.
  - Because faculty openly talked about neurodiversity, students felt comfortable sharing with faculty their neurodiversity experiences.
  - "Studying accessibility has made me more accessible as a person."
  - Faculty share their neurodiversity with other faculty, students, and staff.
  - "Colleagues shared stories with each other, became more accessible to each other."
Subtheme: Creating Foundational Knowledge Across DU

NDI’s efforts have increased DU community's understand on biases and assumptions related to neurodiversity. NDI also helped participants to be able to explain why “these judgments” are harmful and provided strategies and practices that help increase accessibility for individuals with neurodiversity.

“Faculty, adjunct faculty, and TAs [teaching assistants] have foundational knowledge to make sure everyone in the room is on a leveled playing field regarding foundational knowledge, what neurodiversity is, myth-busting, etc., to implement in their courses and teaching.”

“NDI revealed the importance of neurodiversity issues and inclusivity, how these should be included in teaching evaluations. Accessibility is related to student success which is related to teaching ability.”

NDI created a common language for participants to use in their discussion about neurodiversity issues and learn about this with colleagues from other departments. NDI helped bring the “needs of neurodiversity to front of mind” and raise awareness that neurodiversity issues are already occurring.
Subtheme: Spaces of Support and Community

NDI Supports
- Having the Faculty Developer staff (Ellen Hogan) was helpful as this staff helped share about NDI and neurodiversity across DU.
- Ellen spoke to Academic Directors across the University/Colleges to ensure they all have foundational knowledge about neurodiversity and accessibility.

NDI hosted a Student Panel on neurodiversity at DU, which helped to provide new perspectives and knowledge on accessibility and neurodiversity needs among students.
- “We all love Ellen.”

NDI is practicing what they preach - their content is accessible and are using best practices.
- “Everyone feels included.”

Support Network and Community
- Participating in the NDI organically created a support network and community of participants to address key neurodiversity topics.
- Faculty co-design courses with other faculty
- Faculty shared knowledge with other faculty within and outside of their departments.

“Academic Directors also manage adjunct professors, so the knowledge ripples out to them as well; Academic Directors can act as resources to adjuncts.”