DYNA STEM OUTCOMES REPORT

The purpose of this INCLUDES Planning Grant, **Developing a Collaborative Infrastructure for Educating STEM Undergraduate Students who are Neurodiverse Learners**, was to develop recommendations for addressing the broadening participation challenge of increasing the representation of neurodiversity in STEM fields. The planning process involved partners from Northern Arizona University, Ohio State University, the University of Missouri-Kansas City, Auburn University, and the University of Hawaii. Early in the planning process, the planning team gave the project the working title of DYNA STEM (Discover Your Neurodiverse Advantage in STEM). This title was helpful for gathering and framing stakeholder input throughout the planning process.

Stakeholder input was gathered through 41 interviews with students, STEM faculty, disability resource providers, academic advisors, research librarians, and STEM/disability researchers. More than half of the interviews were with neurodiverse undergraduate students. The results of the interviews were synthesized to yield recommendations for improving the STEM undergraduate ecosystem. The synthesized results were compiled into a strategic plan that outlines course-level, academic support and services-level, and system-level recommendations mapped onto four key tenets of access: universal design for learning (UDL), adult learning principles, trauma-informed teaching and learning, and intersectionality.

* Universal Design for Learning: Acknowledge differences in the ways neurodiverse undergraduate students perceive, approach, and interact with new information and skills.
* Adult Learning Principles: Acknowledge neurodiverse undergraduate students as adult learners who bring diverse learning histories to the classroom.
* Trauma-informed Teaching and Learning: Acknowledge that learning histories for neurodiverse undergraduate students may be positive, negative, or indifferent.
* Intersectionality: Acknowledge the intersectionality of cultural backgrounds, identities, and personal histories that neurodiverse undergraduate students bring to their pursuit of a STEM degree.

The interviews occurred as education was shifting from COVID-19 lockdown to hybrid, and in some cases, the resumption of in-person instruction. At this important transition time and given the unprecedented experiences of COVID-19, gathering the voices of lived experiences was important. The importance of flexibility, transparency, and providing ongoing opportunities for valuing student voices was highlighted. COVID-19 forced education systems to be flexible and responsive in ways beyond what had typically been provided and provides a valuable lesson learned for continuing to support neurodiverse students.

The collaborative partnerships cultivated through the planning grant processes and the insights learned through the interviews led to the development of three grant proposals and the delivery of nine professional presentations. These dissemination efforts provided opportunities to gather feedback and additional perspectives on the recommendations resulting from the interviews. Additionally, through the interviews, planning grant partners expanded on existing professional relationships which has had an impact on ongoing campus efforts to improve undergraduate education for neurodiverse students.