STEM Program For Students With Disabilities Ends

JoLynne Lyon

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Participant Adelynn Shirts, IDRPP Executive Director Matthew Wappett, Mentor Autumn Cuellar

Participants offer advice to fellow students with disabilities

Adelynn Shirts and Autmn Cuellar are graduate students on the USU campus. Adelyn is on the university's figure skating team. When Autumn earned her bachelor's degree, she graduated with honors and continues to earn a grade point average above 3.9.

They are also both students with disabilities in STEM fields, which brought them to the TAPDINTO-STEM program at Utah State University. TAPDINTO-STEM (The Alliance of Students with Disabilities for Inclusion, Networking, and Transition Opportunities in Science, Technology, Engineering, and Mathematics) was a project at the Institute for Disability Research, Policy & Practice at USU, and it was led by Matthew Wappett, the Institute's executive director.

Funding for the project was ended May 2. TAPDINTO-STEM grew from the National Science Foundation's Includes Initiative, which focused on getting marginalized populations into the STEM fields. In the years it operated at USU, it brought students with disabilities together and offered support, with the goal of boosting graduation rates for students with disabilities in STEM.

"There are a lot of students with disabilities at USU," Wappett said. The data collected at the university required students to self-identify, and the results showed 18 to 22 percent of USU students said they had a disability. In the general population, about 25 percent say they have a disability. Of those students who did self-identify, a lower percentage than typical enrolled in STEM fields, and when it came to graduation rates, those were also lower in comparison to their peers.

One hope of the program was to collect enough data to better understand the population and its reasons for graduating (or not). "We weren't able to actually dig in or track this long enough to know [why],"Wappett said.

Cuellar, who is currently working on her Ph.D in engineering education, was the program's main mentor. She and Shirts agreed that the community built by the program was its greatest strength. In addition to facilitating group meetings here on campus, it paid for conferences crafted especially for people with disabilities in STEM.

"I saw students open up, and chat, and be happy just to be in a place where they didn't have to hide who they truly were," Cuellar said. "Because everyone was the same and they could talk about … what academic need they needed, or what personal help they needed."

Cuellar's STEM journey grew from her own experience. "I got into engineering education because I want to make engineering programs more accessible for disabled students so they can pursue the careers they love regardless of their physical capabilities like me," she said.

"A big part of being in this program for me was building a community of people who had various disabilities," said Shirts, "whether that was an invisible disability or a physical disability that somebody could see."

Shirts's STEM experience began when she realized as a sociology and Asian studies graduate that it was challenging to find jobs in her field. She went back to work on a master's degree in statistics and mathematics. Her disability experience began in graduate school. After months of feeling ill, she was hospitalized with an autoimmune disease and found herself back in the hospital three more times that year. In addition to time away from school, she was dealing with brain fog, nutrition issues and extreme weight loss.

A teacher shared an email about a program offering stipends for students with disabilities. "I was like, 'Oh, I think that's me now," she said. She was attracted to the program's stipend offer, after being hit with so many medical expenses. She found real rewards in connecting with the program. "I really enjoyed the community aspect of it and the meeting with other students who also had a disability. … Being able to, I guess, have similar experiences in school was very healing."

"We as humans want that," Dr. Wappett said. "We don't want to be alone. … And so when these students come together and they recognize, 'Oh, there's other people struggling with these same issues, and this is a community

where I can bring my concerns … where I can problem-solve some of the issues that I'm dealing with,' it changes the way that people feel about school and their investment and engagement in their program."

Now that the program has ended, Shirts offered this advice to students with disabilities: Go to the Disability Resource Center. "They'll be able to advocate for you a little bit harder in classes with stronger backing than just you, telling your professors [what you need]," Shirts said.

"I would say, try and keep in touch with the connections you made. Try and meet up with those connections or even make a group, and just try to keep the communities that were very essential and helpful for everyone," Cuellar said.

"Create community," Wappett said. "Find your people. … It's a little bit easier when you have folks who are helping to coordinate that because creating community takes effort and it takes time, takes engagement, it takes risk.

"But you don't have to have a paid coordinator do that. I mean, we can all create community, we can all create informal or formal mentoring relationships."