Connecting the Dots for Assistive Speech

Mary Elizabeth McCulloch is a Penn State senior majoring in biomedical engineering. In 2010, prior to her freshman year at Penn State, Mary Elizabeth spent time as an exchange student in Ecuador, where she worked in an orphanage with special needs children. After returning to the States and beginning her college career, Mary Elizabeth decided to devote herself to improving the lives of the Ecuadorian children she had met. Utilizing her knowledge of engineering and science, she developed a concept for an assistive speech device that would allow children with nonverbal cerebral palsy to communicate more efficiently.

In January 2015 Mary Elizabeth was introduced to the Penn State Small Business Development Center (SBDC) through a connection in PennTAP. She was seeking help to find funding to take her expired provisional patent to a full patent. She also needed financing to refine her device by making it cordless and to find programming support. The SBDC connected her with the New Leaf Initiative, an entrepreneurial accelerator, and Lion LaunchPad, a student entrepreneurship-focused organization. She presented her project during the NL3 competition and won $500 to help her further her project. The SBDC then helped her connect with the Ben Franklin Technology Partners, accompanying Mary Elizabeth to a triage meeting where discussion centered on customer discovery and how to continue to move her project forward. She also continued to work with the SBDC in an effort to find additional funding to further develop her device. The SBDC completed market research to determine the size of her market, helped her identify key target markets that would benefit the most from the use of her product, and also assisted her with setting up an LLC in April 2015. In May 2015, Project Vive was one of six teams chosen to work with Penn State’s inaugural Summer Founders Program. With access to $10,000 through the program, Mary Elizabeth continued working throughout the summer to fine-tune her device. In June, she was invited to exhibit at PennTAP’s 50th Anniversary celebration in the Harrisburg Capitol Rotunda. Finally, the SBDC mentored Mary Elizabeth during the Inc. U. competition in the fall of 2015. She placed first in the competition and was awarded $17,000 to continue working on Project Vive.

Most recently, Mary Elizabeth was accepted into the Happy Valley LaunchBox, which is a no-cost accelerator program and co-working space for Centre County entrepreneurial teams. She plans further program development through connecting with professionals in the field. She graduates in May 2016 and plans to attend medical school. As a physician, her goal is to travel to Third World countries, where she will incorporate both her engineering and medical knowledge to improve the lives of those less fortunate.

"I’m grateful that the SBDC saw the value in my project and helped me connect the dots."

–Mary Elizabeth McCulloch

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Industry: Assistive Technology

Year Founded: 2014

SBDC Assistance: Market Research, Business Structuring, referrals as noted in narrative

Additional Partners: PennTAP, Ben Franklin Technology Partners and Penn State School of Engineering Design, Technology, and Professional Programs (SEDTAPP)

Total funding awarded through three competitions: $27,500