Updating Data Analysis to Bring STEM Education Resources to Underserved Students

Although there are estimated to be 1 million new STEM (Science, Technology, Engineering and Math) jobs created throughout the 2020s, women only make up 28% of the workforce in STEM, and students of color only represent 2.7% of STEM degrees earned overall.[1] To create more equity in STEM, Chicago-based nonprofit We All Code provides free coding classes to underserved youth in the Chicago area.

SITUATION

While We All Code had limited visualization capabilities in place, the CEO was looking for an easier way to use data to ensure advancement of the organization's mission and effectively identify opportunities to expand, grow and better serve the community. Previously, the organization leveraged a single survey that contained large amounts of unstandardized data, making analysis difficult. We All Code enlisted the expertise of a team from FTI Consulting's Data and Analytics practice in the Forensic & Litigation Consulting segment to better understand their existing data.

The FTI Consulting team, led by Senior Director Kyle Wetzold, aimed to transform the organization's data infrastructure and develop dynamic reporting dashboards accessible to We All Code stakeholders.

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OUR ROLE

The FTI Consulting team held interviews with board members and instructors to gain valuable insight into the data critical to student development, grant writing and strategic considerations. They leveraged findings from the interviews and analyzed existing data in an open-source database called PostgreSQL to develop and deploy a series of surveys (Intake survey, Participation and growth in STEM surveys and Alumni surveys) for students and alumni using an easy-to-use survey tool called Tripetto. Several workflow automation tools were integrated, allowing the survey data to automatically populate the organization's preexisting data and update dashboards that visualize the data in real-time as new data gets added.

Additionally, the team created a suite of demographic and performance monitoring dashboards for program leadership and instructors that provide detailed information about students and their long-term development, including demographic overview of both active and non-active students, school and geography breakdown, student attendance, student development overtime, and cohort development overtime. This work resulted in a final data documentation process which easily analyzes and visualizes key information for We All Code staff using the data from past and current surveys. These dynamic surveys created with FTI Consulting exponentially increased usable student data within days. The survey results helped our team deliver the greatest impact to We All Code.

"The dashboards produced with FTI Consulting were just jaw-droppingly amazing! [It's a] way for us to see who we are serving and [ask] are we doing that correctly. I could not be more thankful."

– Ali Karbassi, We All Code Founder & CEO

1. https://www.census.gov/library/stories/2021/01/women-making-gains-in-stem-occupations-but-still-underrepresented.html

OUR IMPACT

FTI Consulting spent more than 770 hours on the engagement, resulting in several key strategic recommendations to improve student attendance and retention, better tailor courses to a wider range of students and more effectively collaborate with Title One schools, or federally subsidized schools that serve students in low-income areas.

Identified how students develop and grow throughout their time at We All Code—inclusive of STEM experience, excitement and subject matter mastery.

Pinpointed demographic trends based on race, gender, socioeconomic status and school coding opportunities.

Incorporated third-party data from the Chicago Public School system to illustrate which students and schools may be underserved, and therefore in need of We All Code's assistance.

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