Curated Pathways to Innovation

The Challenge: Broadening participation in STEM-C

- By 2024, there will be nearly 1.4 million jobs in the computing field yet the nation is currently producing only 40,000 per year
- 70% of computer degrees in the U.S. are earned by white men
- The under representation of minorities and women in STEM persists, impacting U.S. competitiveness

13.5% of BS computing degrees were awarded to underrepresented minorities.

The Solution:

A personalized learning platform using culturally responsive STEM-C content to increase awareness, interest, and persistence for women and historically underrepresented minorities.

A game changing model that drives measurable impact

- Fully Inclusive Pathway: Real-time insights into effective activities and interventions combined with state-of-the-art collaborative filtering and intelligent analytics leads to a simplified and fully inclusive pathway for all students with a special focus on underrepresented minorities and women
- Cross Program Management: A longitudinal tracker provides cross program measurement tracking of students' outcomes from cradle to career and offers program providers feedback on the progress of their program participant

- Customizable Approach: A decision theory algorithm recommends activities to students based off of past outcomes while simultaneously proposing those that are pedagogically relevant for successful advancement towards STEM careers
- Increased Engagement: The design and use of creative gamification in combination with incentives is used as a motivational tool to increase engagement

- Expanded Exposure through Partnerships: Added benefit is created for non-profits, corporations, educational institutions and government involved in the CPI community by providing greater exposure, creating a networked effort and producing measurable results

For more information contact Phil Gonsalves: pgonsalves@yourywca.org
Results to Date

- **98.7%**: 98.7% of program participants advanced from STEM Awareness building activities into interest building activities and 84.6% move onto Preparation/skill building activities: coding, etc.
- **109,947**: 109,947 activities completed to date, including 39,667 badges, with participants demonstrating comprehension.
- **4,668**: Students Reached
  - 84% high socio-economic need
  - 74% Latino/Latina
  - 6th-10th Grade Participation
  - Across locations in 10 states

Achieving the Vision: National Scale Out

Research findings from University of Notre Dame

- Curated Pathways is increasing students’ motivation and aspiration in pursuit of computing and STEM.
- CPI is sustaining interest for girls in a statistically significant way.
- Underrepresented minority students tended to have a greater improvement in both their perceived knowledge and interest in computer programming through use of CPI.
- CPI is increasing self-efficacy in math and computing for underrepresented minorities, closing certain disparities.

Curated Pathways Funders and Partners

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