



## **Empowering Online STEM Education: A Journey of Inclusive Pedagogy**

Bakersfield College, led by Academic Technology, participated as a partner institution on two Humanizing grant projects. As a result of this project 34 faculty completed the 6-week Humanizing Online STEM Academy, which prepared them to design and teach more inclusive classes that center instructor-student relationships and foster belonging.

Bakersfield College's Office of Institutional Effectiveness recently examined student success rates in courses before and after faculty completed the academy. This analysis provides critical insights into the potential effectiveness of the Humanizing Online STEM Academy. The findings reveal a promising narrative of educational improvement and increased equity.

Overall, the study demonstrated a statistically significant increase in student success rates<sup>1</sup>, rising from 64% pre-training to 68% post-training. This suggests that the faculty's participation in the Humanizing Online STEM Academy equipped them with innovative pedagogical strategies that positively influenced student outcomes.

When examining success rates through the lens of student demographics, nuanced and compelling patterns emerged. Several demographic groups experienced notable changes. For example, Pacific Islander students saw a substantial improvement, with success rates increasing from 67% to 75%. Similarly, students who identify as Two or More Races experienced a jump from 61% to 72%. Hispanic/Latino students also showed meaningful growth, advancing from 61% to 68%. African American students experienced one of the most notable improvements, with success rates climbing from 57% to 66%.

Some groups showed more modest changes. Asian students maintained consistently high success rates, moving slightly from 81% to 83%. American Indian students saw a small increase from 58% to 60%. Interestingly, Filipino and White student success rates experienced slight declines though this could be attributed to a small sample size.

The statistical analysis revealed that success rate increases were statistically significant for two specific demographic groups: females and Hispanic students. This suggests that the Humanizing Online STEM Academy's training may have been especially effective in creating more supportive and inclusive learning environments for these populations.

These findings underscore the importance of ongoing faculty development and intentional pedagogical approaches in creating equitable educational experiences. By focusing on humanizing teaching practices, we can begin to address systemic barriers and create more inclusive learning environments that support student success across diverse backgrounds.

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<sup>1</sup> A course success rate is the percentage of students who complete a course with an A, B, or C.



Moving forward, we recommend continued investment in faculty professional development, further research to understand the nuanced impacts of humanizing pedagogies, and targeted support strategies for student groups with lower success rates.

Our Humanizing Online STEM Academy represents more than a training program—it's a commitment to educational equity, student empowerment, and continuous improvement in online STEM education.

### Overall Success Rates

| <i>Pre-training</i> | <i>Post-training</i> |
|---------------------|----------------------|
| 64%                 | 68%*                 |

*\*Increase in success rates were statistically significant*

### Disaggregated Success Rates

| <i>Ethnicity</i>         | <i>Pre-training</i> | <i>Post-training</i> |
|--------------------------|---------------------|----------------------|
| <b>African American</b>  | 57%                 | 66%                  |
| <b>American Indian</b>   | 58%                 | 60%                  |
| <b>Asian</b>             | 81%                 | 83%                  |
| <b>Filipino</b>          | 77%                 | 74%                  |
| <b>Hispanic/Latino</b>   | 61%                 | 68%*                 |
| <b>Pacific Islander</b>  | 67%                 | 75%                  |
| <b>Two or more Races</b> | 61%                 | 72%                  |
| <b>Unknown</b>           | 25%                 | 25%                  |
| <b>White</b>             | 69%                 | 65%                  |
| <b>Female</b>            | 63%                 | 69%*                 |

*\*Increase in success rates were statistically significant*

Learn more about the [Humanizing Online STEM Academy](#). If you're interested in hearing first-hand experiences of the academy, check out these short videos from the [student](#) and [faculty](#) perspective.

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