



Interdisciplinary summer bridge programs to improve student outcomes



The University of Vermont

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Intro to program

The Biology Undergraduate Scholars Program (BUSP) at UC Davis provides additional academic support and advising for a small (<40 students) cohort in the biological sciences each year. Students come from historically underrepresented racial or ethnic groups, the educational opportunity program, or have a disability. More information about can be found at: <https://eeop.ucdavis.edu/busp-overview>

As part of BUSP, students participate in a two-week biology bridge (bootcamp) program to prepare them for introductory ecology and evolution (BIS2B). The bridge program involves active learning assignments and team-based learning with a focus on the connection between biology and mathematics.

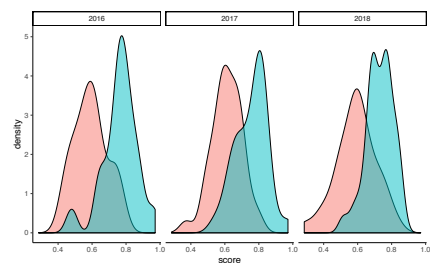


Fig. 1: Distribution of pre- and post-bridge program assessment scores (ecology and evolution knowledge) for three different cohorts.

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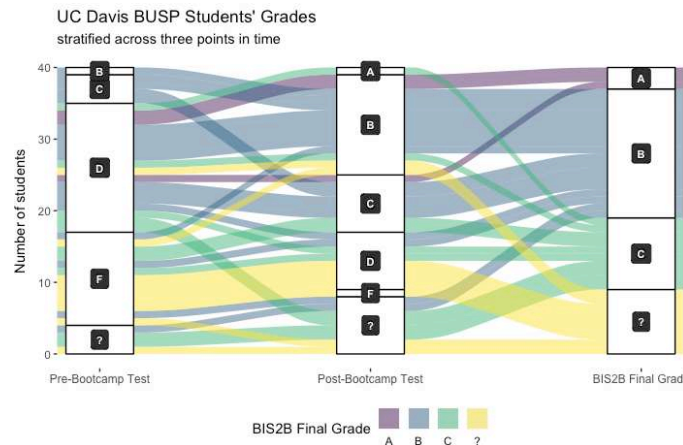


Fig. 2: Pre- and post-bootcamp program assessment scores as well as ultimate course grades (BIS2B).

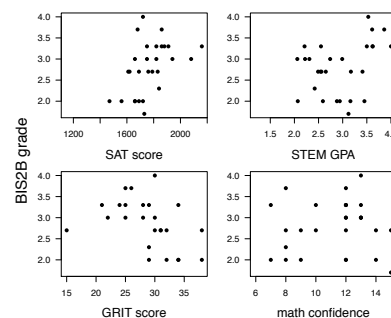


Fig. 3: Course grade correlated with SAT score, STEM GPA, Grit score, and math confidence. None of these variables were significant in a linear model.

Main findings

- BUSP participants improved their biology knowledge through the summer bridge program
- Math confidence, SAT scores, Grit measures, and performance in the bridge program were not predictive of success in their biology course
- BUSP students were more likely to remain in a Life Science major and graduate

BUSP and Non-BUSP UCD Life Science Entrants 2002-13

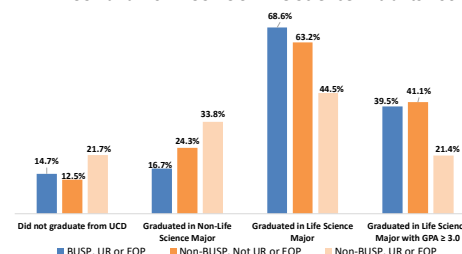


Fig. 4: Final degree and graduation rates for BUSP students compared to other student populations on campus.

Next steps

- Complete randomized trial with program
- Compare preparatory bridge program model to co-class
- Determine cost effectiveness of different student support programs

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