Collaborative Research: PROfessional Development and Uptake through Collaborative Teams (PRODUCT) Supporting Inquiry Based Learning in Undergraduate Mathematics

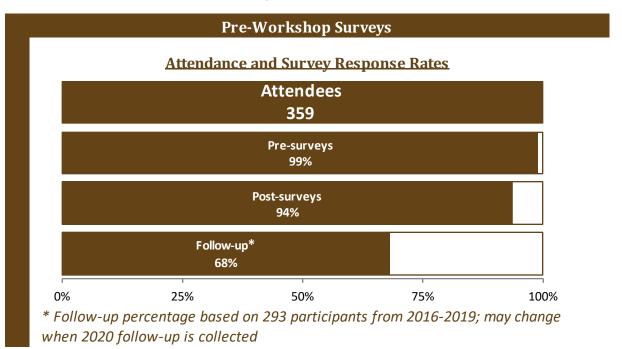
Cumulative Evaluation Report: 2016 - 2020 July 2021

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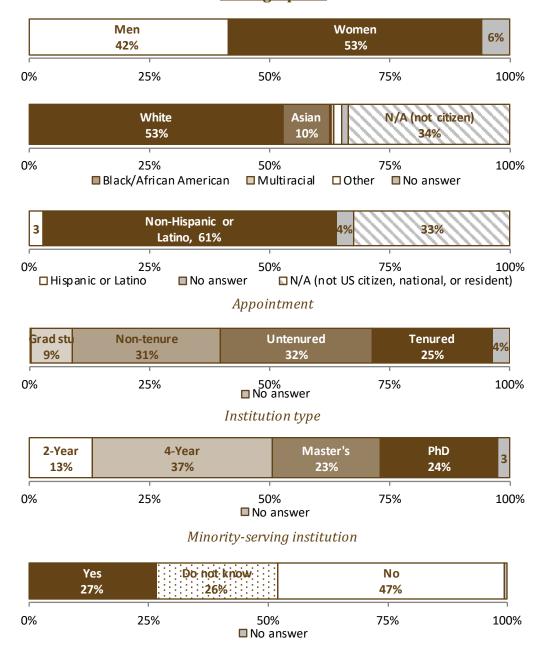
This evaluation report covers data from pre-, post-, and follow-up workshop surveys from all PRODUCT workshops from 2016 through 2020, with the exception of follow-up data for the 2020 workshops. This final set of follow-up data will be collected in the Fall of 2021. For a full description of data collection and analysis methods, please see the "ProDUCT Project Methods" document (available from the authors.)

Context

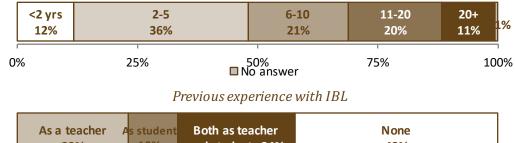
This report serves as a cumulative record for demographics from the 2016 through 2020 PRODUCT workshops and outcomes from the 2016 through 2019 PRODUCT workshops. It does not include outcome measures from the 2020 workshops that were offered online.

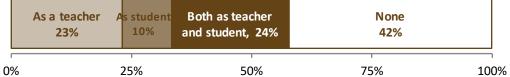


Demographics



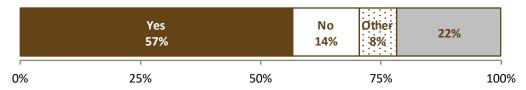
Years of teaching experience





Initial Teaching Practices for Target Course

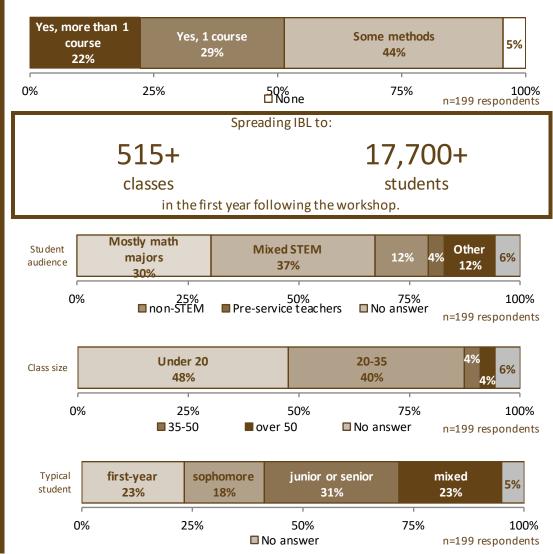
Taught class before? ('No' responses skip frequency & duration on pgs 5&6)



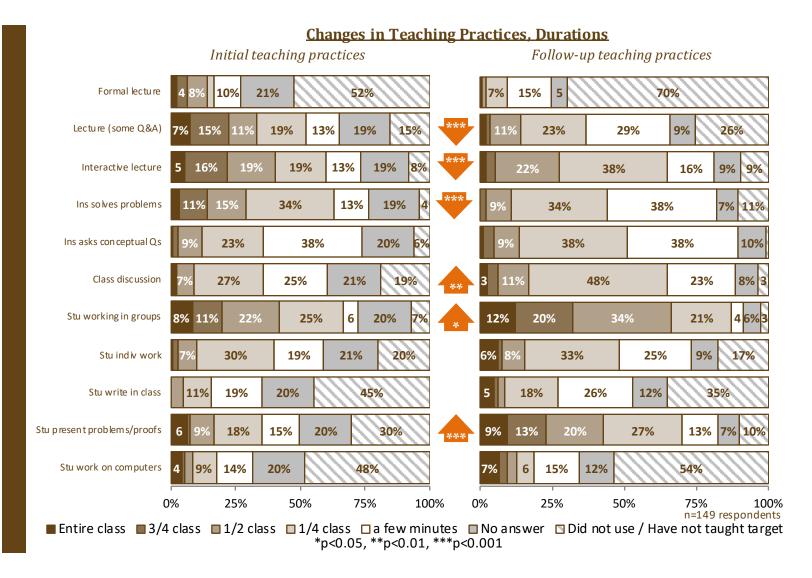
Follow-up Surveys Outcomes

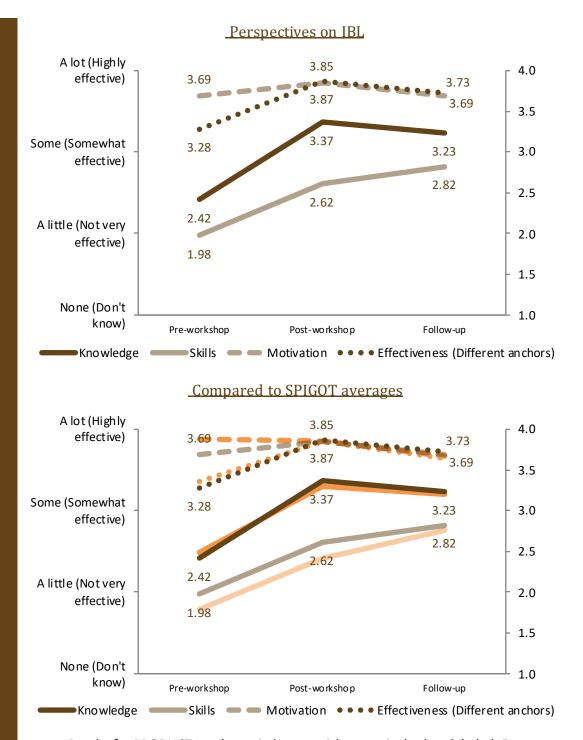
Results shared throughout this report are only for the follow-up survey respondents (199 of 293, 68%), except where noted. Implementation rates for <u>all</u> participants may differ from those values presented here, as we do not know if survey non-respondents implemented in the same ways that survey respondents did.

<u>Implementation</u>

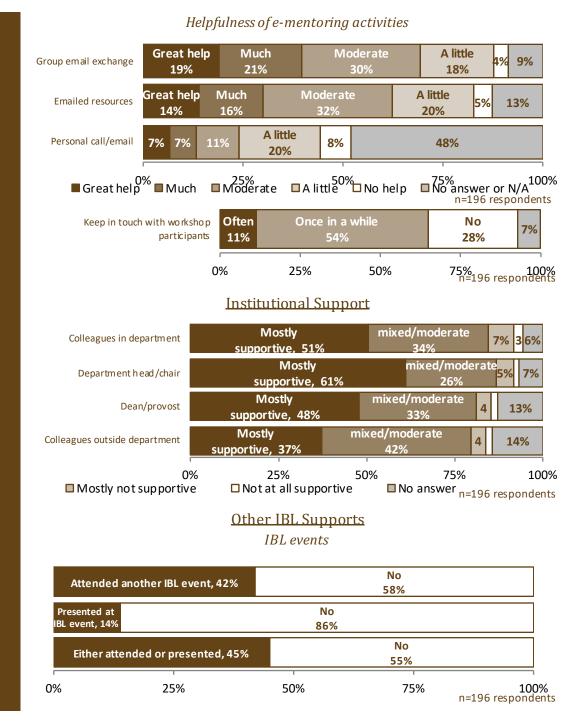


Changes in Teaching Practices. Frequencies Follow-up teaching practices *Initial teaching practices* 12% Formal lecture 70% **52%** 20% 6 12% 5 8% 11% 8% 15% 19% 26% Lecture (some Q&A) 15% 17% 15% 19% 16% 9% 5 9% 8% 14% 13% 10% 19% 14% 17% Interactive lecture 19% 21% 18% 28% 21% 19% 11% 15% 21% 11% 11% 15% 11% Ins solves problems 5 5 6 21% 13% 5 4 6 Ins asks conceptual Qs 17% 19% 21% 19% 11% 6 14% 18% 6 7% 39% 20% 19% Class discussion 11% 7% 13% 19% 19% 8% 15% 14% 7% 9% 7% 18% 51% 21% Stu working in groups 26% 11% 6 13% 5 5 5 9% 8% Stu indiv work 11% 10% 15% 20% 20% 17% 17% 17% 5 Stu write in class 7% 4 7% 5 7% 7% 8% 18% 7% 9% 10% 45% 21% 35% 7% 10% 5 13% Stu present problems/proofs 7% 9% 7% 7% 9% 30% 33% 17% 17% 18% Stu work on computers 4 9% 6 4 12% 5 48% 19% 4 4 10% 54% 75% 100% n=149 respondents □ Never □ No answer 0% 25% 50% 75% 100% 0% 25% 50% ■ Every class ■ More than once a week ■ Weekly ■Twice a month On ce a month ■ On ce or twice during semester *p<0.05, **p<0.01, ***p<0.001





Results for PRODUCT are shown in brown with numerical values labeled. For comparative purposes, cumulative SPIGOT averages are shown in orange with no



References

Hayward, C. & Laursen, S. (2013). Collaborative research: Supporting pedagogical innovation for a generation of transformation via inquiry-based learning in mathematics (SPIGOT) evaluation report: Workshop 1 at California Polytechnic State University, San Luis Obispo, June 24-27, 2013. Ethnography & Evaluation Research. Center to Advance Research and Teaching in the Social Sciences. University of Colorado Boulder.