

Supplemental File 2: Mean Baseline Scores by Year and Major

To account for baseline differences by student major and course year, we calculated mean scores for each focal construct for 2019 (when students had a single required citizen science assignment) vs. 2020 (when students were offered a choice of assignments) and for “majors” (students with majors in the College of Agriculture and Life Sciences and College of Natural Resources, whose major courses of study aligned most closely with the course curriculum) vs. “non-majors” (students in all other colleges). We then compared students’ baseline scores using separate analyses of variance (ANOVAs) for each construct with pre-scores as the outcome variable and year (2019 vs. 2020), major category (major vs. non-major), and an interaction term (year*major) as predictors.

Results of ANOVAs revealed that baseline scores varied significantly by major for all four constructs, with majors scoring higher than non-majors [interest in nature: $F(1, 191): 35.885, p < 0.001$; self-efficacy for environmental action: $F(1, 191): 9.428, p = 0.002$; interest in science: $F(1, 191): 11.680, p < 0.001$; self-efficacy for learning and doing science: $F(1, 191) = 4.605, p = 0.033$]. Likewise, baseline scores varied significantly by year for all four constructs, with students in 2020 scoring higher than students in 2019 [interest in nature: $F(1, 191): 23.683, p < 0.001$; self-efficacy for environmental action: $F(1, 191): 18.249, p < 0.001$; interest in science: $F(1, 191): 5.146, p = 0.024$; self-efficacy for learning and doing science: $F(1, 191) = 11.596, p < 0.001$]. There was no interaction between major and year observed for any construct. Mean baseline scores on all constructs were. Likewise, mean baseline scores were also significantly higher across all constructs in 2020 vs. 2019.

Table S2 Mean baseline scores by year and major category.

Variable	N	Interest in nature		Self-efficacy for environmental action		Interest in science		Self-efficacy for learning and doing science	
		<i>M</i> ^b	SD	<i>M</i> ^b	SD	<i>M</i> ^b	SD	<i>M</i> ^b	SD
Year*									
2019	131	3.67	0.786	4.03	0.569	3.12	0.753	3.51	0.555
2020	65	4.31	0.858	4.44	0.633	3.44	0.936	3.87	0.834
Major category*									
Major	69	4.33	0.660	4.34	0.569	3.49	0.746	3.77	0.625
Non-Major	126 ^a	3.65	0.868	4.07	0.628	3.08	0.843	3.56	0.701

Students' mean baseline (pre) interest in nature, self-efficacy for environmental action, interest in science, and self-efficacy for learning and doing science for each year (2019 vs. 2020) and major category (agriculture or natural resource majors vs. non-majors), (total n = 196). Mean baseline scores varied significantly between years and between major categories for all four constructs.

Note:

^a One student did not indicate their major.

^b All items rated on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree)