Department of Research and Evaluation

SCIENCE SUMMER CAMP SURVEY SUMMARY
Summer, 2013

What is AISD Summer Science Camp? Austin Independent School District Elementary Science Summer Camp provided an opportunity for students to make gains in their scientific learning and to achieve the district's and state's goal of science success in 5th grade. The focus of the Science Summer Camp was to support students' learning of science through engaging activities and educational materials. To be eligible to attend, students must have been 2012–2013 4th- grade students who did not meet the district's standard on the middle of the year (MOY) benchmark test in science and must have been recommended by their principal. The camp occurred for 13 days in June, 2013, at two elementary campuses: Pleasant Hill and Campbell. Additional information about the camp can be found by visiting the AISD website. Students were administered a brief survey about their attitudes toward science at the beginning of the summer camp and again at the end of the camp. The purpose of the survey was to learn whether students' participation in the camp had any influence on their attitudes toward science, although the primary purpose of the summer camp was to provide additional science instruction to allow their academic progress to continue to develop.

About the survey. Students completed an attitudinal survey about their perceptions of science at the beginning of Science Summer Camp, and completed the same survey at the end of Science Summer Camp. The survey consisted of 19 items rated on Likert scale from 1 (*really, really disagree*) to 5 (*really, really agree*). The survey was offered to students in English (n = 184) and in Spanish (n = 25). From the 351 pre-tests and 252 post-tests, only students who (a) completed both the pre-test and post-test and (b) had student identification numbers that matched in the AISD student data files were included in the final dataset used for analysis. The final dataset of 212 pre- and post-test pairs contained 104 students from Campbell and 104 students from Pleasant Hill. Three sets contained no camp location.

Students who participated in the summer camp came from 61 campuses across AISD. There were 121 females (57%) and 91 males (43%). The majority of participants were Hispanic (n = 176), while 21 were Black and 11 were White. There were 117 students with limited English proficiency, and 51 special education students. Nearly all students were economically disadvantaged (n = 189).

Student ratings across all items averaged just under 4 on a 5-point scale. For 18 items, there were no significantly different results to report. Only one survey item evidensed a significant change from the pretest to posttest rating. The item read "Science class activities are exciting." The average rating prior to Science Summer Camp was 4.78 on the pretest and the posttest average rating was 4.65, evidensing a significant decrease after attending Science Summer Camp [$t(199) = 2.41, p < .01$]. No significant differences were found for gender or survey language (e.g., Spanish or English). The ratings pre- and post-camp may not have increased significantly because they were already positive from the outset. An encouraging sign for science eduation was the lack of significant differences between male and female students' responses. However, to be eligible to attend the camp, students did not meet the district's standard on the middle of the year (MOY) benchmark test in science, and the majority of campers were female. Therefore, while this summer camp survey may not reflect gender differences in attidudes toward science, they appear to exist in students' ability to meet the MOY science benchmark passing standard.

All survey items and their mean ratings are available in Appendix A.

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APPENDIX A. SURVEY ITEM MEANS, STANDARD DEVIATIONS, T-TEST STATISTICS, AND LEVEL OF SIGNIFICANCE

Pair	Survey Item	Mean	SD	T-test (df)	Sig. level
1	Pre: I think being a scientist would be exciting.	4.44	0.87	1.13 (204)	.262
	Post: I think being a scientist would be exciting.	4.36	0.92		
2	Pre: I would rather listen to someone talk about science than read a science book.	4.06	1.24	-1.12 (208)	.265
	Post: I would rather listen to someone talk about science than read a science book.	4.18	1.21		
3	Pre: I like to watch TV shows about science.	3.76	1.37	1.01 (208)	.313
	Post: I like to watch TV shows about science.	3.63	1.41		
4	Pre: I think science is important only at school.	2.85	1.57	-.511 (204)	.610
	Post: I think science is important only at school.	2.92	1.60		
5	Pre: I would rather use computers to learn about science than read a science book.	4.17	1.25	-.175 (202)	.861
	Post: I would rather use computers to learn about science than read a science book.	4.20	1.19		
6	Pre: Science tests are easier than other tests.	3.42	1.42	1.15 (204)	.250
	Post: Science tests are easier than other tests.	3.27	1.42		
7	Pre: I learn more from doing experiments than from listening to the teacher's explanations.	3.96	1.35	.484 (206)	.629
	Post: I learn more from doing experiments than from listening to the teacher's explanations.	3.90	1.41		
8	Pre: Science is fun.	4.68	0.74	.581 (205)	.562
	Post: Science is fun.	4.64	0.82		
9	Pre: I like to use science equipment to study science better than reading science books.	4.29	1.05	-.324 (208)	.746
	Post: I like to use science equipment to study science better than reading science books.	4.32	1.01		
10	Pre: I usually try my best in science class.	4.57	0.75	1.01 (205)	.314
	Post: I usually try my best in science class.	4.50	0.88		
11	Pre: If I don't understand something about science, I read more about it.	4.08	1.18	.787 (205)	.432
	Post: If I don't understand something about science, I read more about it.	4.00	1.23		
12	Pre: I like to figure out something about science without the teacher telling me how to do it.	3.72	1.37	1.63 (207)	.106
	Post: I like to figure out something about science without the teacher telling me how to do it.	3.50	1.39		
13	Pre: Reading books is my favorite way to learn about science.	3.22	1.54	.950 (207)	.343
	Post: Reading books is my favorite way to learn about science.	3.09	1.54		
14	Pre: We learn about important things in science class.	4.71	0.64	.994 (202)	.321
	Post: We learn about important things in science class.	4.65	0.73		
15	*Pre: Science class activities are exciting.*	*4.78*	*0.51*	*2.405 (199)*	*.017**
	Post: Science class activities are exciting.	*4.65*	*0.71*		
16	Pre: I am interested in many scientific ideas that are not taught at school.	3.88	1.36	.418 (209)	.677

Pair	Survey Item	Mean	SD	T-test (df)	Sig. level
	Post: I am interested in many scientific ideas that are not taught at school.	3.82	1.35		
17	Pre: I know where to find answers about science questions.	3.94	1.25	.828 (202)	.408
	Post: I know where to find answers about science questions.	3.84	1.30		
18	Pre: I feel comfortable asking questions about science.	4.23	1.16	.921 (200)	.358
	Post: I feel comfortable asking questions about science.	4.12	1.19		
19	Pre: I know how to set up a scientific investigation.	3.66	1.43	.074 (205)	.941
	Post: I know how to set up a scientific investigation.	3.65	1.38		

Source. AISD Science Summer Camp Student Survey 2013
Note. SD = Standard deviation
Note. * = result is significant at p<.05 level

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