

Lincoln Foundation – Executive Summary 2013 Math & Science Summer Program

Program Description and Participants

“Lincoln Foundation’s Math & Science Program is a three-week summer program held at the University of Louisville. The program provides an educational enrichment experience for high school students in mathematics and science with technology integration. Its interdisciplinary, hands-on, inquiry-based curriculum engages students in laboratory and field-based learning. Students apply mathematics and science skills as they study the global issues of biodiversity, water quality, and energy in their community. The goal of the program is to prepare students for their next mathematics and science courses in school and for college readiness with a focus on research skills, critical thinking, problem-solving, project design and presenting sustainable solutions.” (Lincoln Foundation Website)

❖ There were 77 participants that completed the four-week program at the University of Louisville.

Evaluation Results

- ❖ **Attendance** - Of the 77 students there were 33 participants (43%) that were present 100% of the days. An additional 22% missed 2 days or less.
- ❖ **Knowledge Growth** - 59 participants completed both the pre- and post-tests. There was a statistically significant gain in math, science, and research. The average gain was approximately 8.4%. Ninety-seven percent (97%) of the participants made gains.

	<i>Math</i>	<i>Science</i>	<i>Research</i>
<i>Pre-Test Average</i>	52.6%	44.6%	43.3%
<i>Post-Test Average</i>	62.4%	49.1%	54.1%
<i>Average Difference</i>	9.8%	4.5%	10.7%
<i>Statistically Significant</i>	<i>p<.001</i>	<i>p<.01</i>	<i>p<.001</i>
<i>Percent of Students Making a Gain</i>			
<i>GOAL</i>	75%	75%	75%
<i>Actual (n=59)</i>	75%	53%	93%
	<i>Combined Gains 97%</i>		

- ❖ **Survey Feedback** – The statements that had the highest percentage of participants mark “agree” or “strongly agree” were: 1) I believe my participating in the Math & Science Program will help in my math classes this upcoming year (93%), 2) I believe my participating in the Math & Science Program will help in my science classes this upcoming year (93%), 3) I would recommend this program to other high school students (88%), 4) I feel a sense of belonging to my team (88%), and 5) The Math & Science Program helped me to learn problem solving & decision making skills (87%)

Summary

Primary Goal 1: Of all students who attend, at least 75% will indicate an increase on the post-test as compared to the pre-test.

Outcome 1: Of the 59 students that completed both the pre- and post-tests, 75% made a gain in Math, 53% made a gain in Science, and 93% made a gain in Research from the pre-test to the post-test. When combining the three areas into one score, 97% made an overall gain. This goal is met.

Primary Goal 2: 70% of students will indicate knowledge growth in math and science concepts as measured by a retrospective survey.

Outcome 2: 43% of the students indicated an average overall knowledge growth in math, 56% of the students indicated an average overall knowledge growth in science, and 47% indicated a growth in research. These results were consistent with 2012 results.

	Number*
<u>Gender</u>	
Female	39
Male	25
<u>Race/Ethnicity</u>	
African-American	52
White	5
Hispanic	6
2 or more	1
<u>Grade (2012-2013)</u>	
6 th	1
7 th	4
8 th	34
9 th	17
10 th	7
11 th	1

*13 non-JCPS students not included

Recommendations

- 1) Continue focusing on attendance. This year’s attendance was up similar to the previous year, which was up from prior years.
- 2) Science continues to be the area the students are showing the least progress on the assessment, although statistically significant, but where students are perceiving themselves as growing the most. This may be an area to examine to determine alignment with what is being taught and how it is assessed.
- 3) Continue separating out the Research assessment as its own assessment. This was valuable in determining where the program was making the largest impact.
- 4) Continue getting students from a cross section of schools. This year over half of the JCPS high schools and 2/3 of the middle schools had at least one participant. This is an area that continues to improve.