

Regional Mentoring Program

NorCal STEM Education Foundation: Report for Spring 2016

THE PROGRAM

The Regional Mentoring (RM) Program aims to encourage and empower students to explore their interests in scientific, technological, engineering, and mathematical (STEM) subjects through inquiry-based learning and exposure to real world issues.

The RM Program was installed during a school program organized by Improve Your Tomorrow (IYT), a college preparatory program for young men of color at Valley High School and Samuel Jackman Middle School in South Sacramento whose purpose and mission is to increase the number of young men of color who attend 4-year universities. The program was titled the NorCal STEM Education Foundation Regional Mentoring Program. The NorCal STEM Education Foundation partnered with IYT as a sponsor of the program and provided the Mentoring Program as part of the commitment. The Program ran from January 14 to March 31.

The RMP was held at Samuel Jackman Middle School in Sacramento. The overall program began with 19 eighth grade students and 1 mentor. The program ended serving 18 eighth grade students. The mentor who volunteered came from a telecommunications background and was able to mentor the students using his unique set of skills in this field. The mentor also hails from an underserved area and thus reported that he felt he could connect on a personal level with the students involved in the Program.

THE PURPOSE

The Regional Mentoring Program's overall purpose is to build a stronger, more prepared and diverse STEM workforce. Important objectives of the RM Program were to help students develop collaboration skills with peers and adults, and inspire students to pursue STEM degrees and careers. The RM Program aimed to accomplish this by supplementing STEM curriculum, using trained STEM professional mentors to guide teams of students and for those students to participate in a culminating rewarding event, such as a STEM fair or other showcase event.

THE OVERVIEW: Regional Mentoring Program with IYT

The Program was installed within the IYT organized school program for twelve 1-hour sessions. The RM Program delivered pre-evaluation surveys to the students during the first meeting in order to determine student interest and emotion towards STEM. At first review of the pre-evaluation surveys it is inferred that overall the participating students enjoy STEM and have an interest in STEM subjects; however, they are not overtly confident about taking classes, or producing projects on their own. For example, 74% of students reported that they know what STEM subjects are while only 68% feel prepared to take STEM subjects at school. Furthermore, only 21% have pursued taking elective STEM courses all the while many reported that they would like to some day have a career in areas like engineering, computer technology, and medicine. When this pre-evaluation survey is compared to their secondary evaluation, the benefits of the RM Program can be seen. Eighty-four (84) percent of the participants reported that they now "feel prepared to take STEM courses at school," as opposed to 68% at the outset of the program. Seventy-eight percent (78%) versus 53% report that they are "confident in developing a hypothesis and testing it in a scientific experiment." Finally, the overall

PROGRAM OVERVIEW

School:	Samuel Jackman Middle School
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Number of students:	18
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Total Mentoring Hours:	12
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Interest in STEM & Program:	Increased 14%
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Gender Split:	100% Male
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Asian/Pacific Islander	31.6%
African American	21%
Latino	47.4%
Caucasian	0%
Native American	0%
Other	0%

Students in program from Free/Reduced lunch:	52.6%
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I like learning new reactions that certain chemicals have when acted upon.
 - JOEL, GRADE 8



excitement in regards to STEM subjects also increased by 5% overall.

Thus, it can be interpreted that the students who once felt little confidence in pursuing STEM subjects through signing up for classes and who felt incapable of conducting experiments on their own were positively affected enough to develop a self-confidence and interest not only in STEM subject areas but also in their own learning and their power to drive it forward into STEM areas. The mentor in the program was successfully installed.

During the program, Students engaged in frequent hands-on activities and were able to connect the experiments to their own learning. Students were encouraged to participate in a culminating event - a STEM

showcase - where they could have presented their STEM projects to their parents and the public.

In this way, students had the ability to further apply tangible successes to their own experiments and developed a positive outlook towards their ability to produce hypotheses and data. However, only 1 student from the program went on to participate in a culminating event that the Foundation is aware of.

IMPACT

The RM Program provides quality opportunities and experiences to all students, particularly those in statistically underserved communities in STEM – mainly minorities and women, especially in low socioeconomic areas. Exposure to STEM opportunities will promote interest in areas the students may never have considered without participation in the RM Program. Student participation in the Program will increase the interest and pursuit of STEM-related higher education studies, eventually leading to a stronger, more diverse STEM workforce.

Self-confidence & Self-efficacy	Positive Peer Relationships
Interest in STEM & school	Meaningful Participation
Empathy & Social Skills	Exposure to real-world issues
Positive Adult Relationships	Positive Role Models, gender

THE FUTURE

The Foundation will continue to apply for grants and seek funding sources for the Program. The Foundation will also continue to partner with other programs throughout the upcoming school year to host the mentoring program within already established and funded programs.

Finally, the Foundation will seek out partnerships that will benefit the organizations mutually to include aspects such as free/reduced lunch programs, more diverse students and low income area students.