

Near-Peer Mentoring/Curriculum and Community Enterprise for Environmental Restoration Science

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Abstract : The BOP-CCERS (Billion Oyster Project- Curriculum and Community Enterprise for Restoration Science) Near-Peer Mentoring Program provides the long-term (five-year) support network to motivate and guide students toward restoration science-based CTE pathways. Students are selected from middle schools with actively participating BOP-CCERS teachers. Teachers will nominate students from grades 6-8 to join cohorts of between 10 and 15 students each. Cohorts are comprised primarily of students from the same school in order to facilitate mentors' travel logistics as well as to sustain connections with students and their families. Each cohort is matched with an exceptional undergraduate or graduate student, either a BOP research associate or STEM mentor recruited from collaborating City University of New York (CUNY) partner programs. In rare cases, an exceptional high school junior or senior may be matched with a cohort in addition to a research associate or graduate student. In no case is a high school student or minor be placed individually with a cohort. Mentors meet with students at least once per month and provide at least one offsite field visit per month, either to a local STEM Hub or research lab. Keeping with its five-year trajectory, the near-peer mentoring program will seek to retain students in the same cohort with the same mentor for the full duration of middle school and for at least two additional years of high school. Upon reaching the final quarter of 8th grade, the mentor will develop a meeting plan for each individual mentee. The mentee and the mentor will be required to meet individually or in small groups once per month. Once per quarter, individual meetings will be substituted for full cohort professional outings. The mentor will organize the entire cohort on a field visit or educational workshop with a museum or aquarium partner. In addition to the mentor-mentee relationship, each participating student will also be asked to conduct and present his or her own BOP field research. This research is ideally carried out with the support of the students' regular high school STEM subject teacher; however, in cases where the teacher or school does not permit independent study, the student will be asked to conduct the research on an extracurricular basis. Near-peer mentoring affects students' social identities and helps them to connect to role models from similar groups, ultimately giving them a sense of belonging. Qualitative and quantitative analytics were performed throughout the study. Interviews and focus groups also ensued. Additionally, an external evaluator was utilized to ensure project efficacy, efficiency, and effectiveness throughout the entire project. The BOP-CCERS Near Peer Mentoring program is a peer support network in which high school students with interest or experience in BOP (Billion Oyster Project) topics and activities (such as classroom oyster tanks, STEM Hubs, or digital platform research) provide mentorship and support for middle school or high school freshmen mentees. Peer mentoring not only empowers those students being taught but also increases the content knowledge and engagement of mentors. This support provides the necessary resources, structure, and tools to assist students in finding success.

Keywords : STEM education, environmental science, citizen science, near peer mentoring

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