

Berkeley Unified School District Gardening and Cooking Program

Spring Semester Report January-June 2015

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Where Gardens and Students Grow!

Background

The Berkeley Unified School District Gardening and Cooking Program engages all students in preschool through high school with hands-on instruction in science, language arts, environment, and nutrition education in 17 school gardens. As part of the 2020 Vision for Berkeley Children and Youth, the Program is woven into student life to help close the achievement gap by ensuring the academic, physical, emotional, and social development of all students.

This year, the District's School Board supplemented Program staff salaries and benefits, in addition to funding from grants and fundraising efforts, to provide a platform for a District-wide garden-based learning program. In June 2015, the School Board agreed to fund the Program with on-going funding of \$350,000, along with school site contributions of \$15 per student served. The City of Berkeley has also approved forward funding the Program with a grant from Measure D tax revenue, with guidance from the Panel of Experts, in the amount of \$250,000. In light of this additional and more sustainable funding, we have begun to develop a comprehensive Program with increased garden instruction across campuses and the ability to pilot new projects that serve our students' diverse needs in the garden.

Community Fundraising Events

We hosted three fundraising events this year, where we invited the Berkeley community and beyond to celebrate garden-based learning, local food systems, and community partnerships. Parents, students, community organizations, families, teachers, administrators, and more joined us over food, drink, music, and conversation. Our Fall Dine Out event partnered with local restaurants in Berkeley, who generously contributed a portion of sales on November 13, 2014. Our Valentines Wine Walk event partnered with the North Shattuck Association and businesses for wine and treats along the Gourmet Ghetto corridor on February 11, 2015. We ended the year with our Second Annual Gala, where we partnered with Whole Foods, Mendocino Wine Association, CaliCraft Brewery, and several local businesses and donors to showcase our unique Program, along with music from the Berkeley High School Jazz Ensemble and the debut of our Garden-Based Learning film produced by a group of Berkeley High School students with support from their teacher, Philip Halpern.



Second Annual Gala Fundraiser at the International House on May 1, 2015

These community-based events are not only fundraising opportunities that we rely on to help provide a rich learning opportunity to all of our students; it's also where we can share the value of a food systems education and build deeper partnerships with our community. We reported total donations, including proceeds from fundraising events, of \$17,924 in fall 2014. During spring 2015, we received \$31,784 in donations and fundraising efforts. With a total of \$49,708 for the entire school year, we were able to support our ten garden instructors and over 5,000 students with additional teacher collaboration time and curriculum development.

Garden-Based Learning Curriculum

In spring 2014, we worked with standards specialists, garden educators, teachers, and consultants from Edible Schoolyard, Berkeley to develop our first Garden-Based Learning Curriculum draft. We gleaned from existing lessons and research to synthesize our own pilot lessons that we implemented across the District in grades preschool through middle school this year, 2014-2015. The Curriculum is comprehensive and scales up content across grades for instructional scaffolding. Each lesson is designed as an interactive teaching tool to be co-taught to full classes with classroom teachers and garden instructors as leads. Our concise and easy to follow lessons are a packed 45 minutes for preschool through fifth grade with activities that support student education in health and wellbeing, with connections to State Standards: Next Generation Science, Common Core, Physical Education, and Environmental and Health Education.

Curriculum Assessment

We used two correlative assessment tools, a teacher survey and an observation form, to better understand how we were implementing our pilot Curriculum. We also incorporated informal comments from teachers, principals, parents, and garden instructors, to make continual improvements to the Curriculum and to provide professional development for garden instructors. We partnered with the Center for Weight and Health at UC Berkeley, with support from a Small Planet Fund grant, to assist us with the development and assessment of the following research questions:

1. To what extent is the Garden-Based Learning Curriculum being implemented according to the design?
2. To what extent do classroom and science release teachers believe this Curriculum complements and/or augments core curricula in Science and English Language Arts?
3. What challenges have key stakeholders encountered with the Curriculum and implementation process?
4. What recommendations do key stakeholders have for improving this Curriculum?



Jefferson Elementary School

We learned several lessons from our first fall 2014 semester of implementation, which were summarized in the Fall Semester Report. These lessons provided information to amend the

assessment tools, as described below, for our spring 2015 assessments, which began in January 2015 and continued through June 2015.

Observations: A total of twenty observations were completed in spring 2015 at all 11 elementary schools. We focused on elementary schools, because our pilot Curriculum was most consistent within these grades and the majority of our lessons are planned for kindergarten through fifth grade. Observations were conducted using a structured observation form that assessed the following:

1. Extent to which the Curriculum was followed;
2. Changes teachers and garden instructors made to the Curriculum;
3. Degree to which lesson objectives were met;
4. Perceived garden and classroom teacher comfort levels with the material;
5. Communications and collaboration between garden instructors and classroom teachers;
6. Student engagement during the class; and
7. Encouragement of student sharing to reinforce lesson objectives.

We used a sliding scale to analyze results from one to six, with one being “not at all” and six being “completely.” Key findings from the structured observations include the following:

- Lesson objectives and activities were clearly communicated to students almost all of the time.
- Lesson objectives were met most of the time.
- Students were engaged in the activities almost all of the time.
- Lesson plans were followed consistently throughout the class.
- Garden instructor’s classroom management improved by the end of the year.
- Classroom teachers seemed more comfortable with the materials compared to findings from observations conducted during the fall 2014.
- All scores improved from the fall to the spring semesters.

Additional Comments: We asked teachers and instructors what worked and what didn’t work after each lesson, when possible. The following are some key suggestions for what didn’t work and how it could work better that we considered when rewriting the Curriculum for publication:

- Reading/vocab materials are needed to provide for follow-up in the classroom.
- Lessons taught to full classes as a single group moving through activities works best with limited materials, space, and class management.
- There are too many transitions between activities.
- Lessons need to be focused on seasonality.
- Some lessons could begin in the classroom and then transition into the garden.
- More garden activities for preschool.

Teacher Survey: We invited all preschool through middle school teachers that have co-taught in the garden with garden instructors to participate in an online survey at the end of each semester, where we asked how the Curriculum was supporting their teaching and student learning and how it could better support them and their students in the future. The survey assessed attitudes regarding a range of issues, including:

1. Curriculum alignment with science and English Language Arts (ELA) standards;
2. Degree to which the Curriculum supported teaching science and ELA;
3. Perceived impacts on academic performance;
4. Ease of following the Curriculum;
5. Communications with garden instructors;
6. Perceptions of teacher training to implement the Curriculum;

7. Perceptions regarding the amount of time allotted for teaching the Curriculum;
8. Recommendations for improving the Curriculum; and
9. Whether or not implementation of the Curriculum had improved since the beginning of the year.

We offered incentives for teacher's participation and worked with principals and secretaries to encourage all teachers to take the survey. A total of 79 teachers completed the full survey in spring, compared to 113 in fall 2014. The Center for Weight and Health advised and assisted with data analysis throughout the year.

The majority of respondents overall "agreed" with most of the statements. The change in the percent "agreeing" between the fall and spring semesters increased for some questions and decreased for others. Since we did not survey the same exact people both times, we cannot say whether the differences are a function of changes in people's perceptions from the fall to spring semesters or a function of a different set of respondents. Nonetheless, none of the changes are very large and none are statistically significant. Therefore, our summary focuses on the percent agreeing/disagreeing with each statement, and less on the changes from fall to spring.

- Respondents perceive the Curriculum better for science than English Language Arts (ELA).
- 80% of respondents agreed that the Curriculum is well-aligned with academic standards in science; with 75% noting that it augmented or complimented their teaching of science. This compares to the fall 2014 report of 84% agreeing that the Curriculum augmented or complimented their teaching of science.
- 56% of respondents agreed that the Curriculum helps improve student academic performance in science. This compares to the fall 2014 report of 57% agreeing that the Curriculum helps improve student academic performance in science.
- 50% of responses said that the Curriculum is well-aligned with academic standards in ELA and that it supports their teaching; with half noting that it enhanced, augmented, or complimented their teaching, and 41% agreeing that it has improved student academic performance in ELA. This is less than the fall 2014 report of 72% agreeing that the Curriculum is well aligned with ELA.
- Most of respondents said that the Curriculum lessons were easy to follow; stating that roles and responsibilities for co-teaching each lesson were clear.
- Many respondents felt comfortable co-teaching with the garden instructor.
- More than half think that 45 minutes for each lesson is sufficient time for covering the lesson.

Additional Comments: Most comments were reiterative of each other and reflect common themes. A repeated concern expressed by many teachers and garden instructors is that they prefer small student groups, rather than full classes out in the garden. Prior to our loss of major federal funding in 2013, instructors used to take only half classes into the garden for a lesson, leaving the other half with the teacher to focus on tutoring or interventions. Many stated that this structure allowed for more one-on-one time with classroom teachers and students, however, it is state law that certificated teachers be with students during classroom minutes. Garden instructors are not certificated teachers and, therefore, they need to be teaching in the garden with teachers during the school day. We will continue to work with instructors and teachers to make this transition more workable as we move forward with these requirements. Comments from the teacher survey are summarized below with illustrative quotes:

- "I love having the school garden; it enhances so many areas in the curriculum. The children enjoy planting, watching the plants grow, and then eating them."

- “It is beneficial to the students and it builds upon past years of learning.”
- “I find that when we’re able to talk in person about what’s coming up in the lessons, the lessons are more engaging and effective.”
- “The Curriculum needs to be flexible and adapted to individual classroom lesson plans.”
- “I love having gardening classes, but teachers are pressured with spending more time on academic demands. It’s hard to put more into the day for additional gardening time.”
- “I always learn something about gardening or the students. This is a unique experience to make connections with students outside of the four walls of the classroom.”
- “I prefer more gardening time and less core content time.”
- “The content is terrific and supports my teaching perfectly.”

District Sustainability and Green Team Efforts

Green Teams are groups of parent and teacher volunteers at individual school sites that lead projects to promote sustainability with student participation. This year, in partnership with Green Schools Initiative (GSI), a local nonprofit working to improve sustainability, we received \$20,000 from the Altamont Education Advisory Board to promote waste reduction practices across the District. Building upon the work of GSI, the City of Berkeley Recycling Program, and individual Green Teams, we worked to institutionalize processes and procedures to meet the District’s goals of reducing the amount of recyclable and compostable materials sent to the landfill to less than 10% by 2020 (BUSD School Board Resolution 13-070), as well as incorporating the natural connection between sustainability education and garden-based learning. This year, we collaborated with custodians, garden instructors, teaches, principals, and Green Teams to implement the following:

1. Incorporated sustainability practices into our Garden-Based Learning Curriculum with at least two lessons per grade that focus on the 4Rs (reduce, reuse, recycle and rot), water conservation, and land use sustainability.
2. Purchased necessary materials and supplies, including composting and recycling bins and signs.
3. Assessed refuse services and supported proper sorting.
4. Organized two Green Team workshops in the fall and spring to share best practices.



4R Relay Races at Jefferson Elementary School

We have been awarded another \$20,000 from the Altamont Education Advisory Board to continue and build upon this work next year, 2015-2016.

Reflections

We have rewritten our Garden-Based Learning Curriculum to best fit our needs with both an academic and health focus that can be accessed by all of our students. We listened to suggestions made about how to improve the Curriculum and have restructured the lessons to be taught to full classes with options for splitting classes into groups. We have included

vocabulary and more teaching guides throughout the lesson. We worked closely with an English language coach to build in sentence stems and questions for each lesson that enhances the ELA content.

With support from our community partners and educators, we are able to publish the final, first of its kind, Garden-Based Learning Curriculum for preschool through fifth grade in September 2015. All teachers and garden instructors will receive a copy upon the beginning of the new school year. We will also make copies available to the public for purchase in print and download on our website.

We would like to thank all of our partners, donors, volunteers, and Program supporters for making this pivotal year possible. An unprecedented commitment from the School Board demonstrated thoughtful leadership and a continued dedication to educating the whole child. Astute direction from the Panel of Experts advising Measure D grant-making and Berkeley City Council provided us with the necessary funding and commitment needed to fill in the gaps and build a cohesive Garden-Based Learning Program for years to come. These synergetic community-driven efforts mark a shift in education history as we institutionalize a comprehensive District-wide Garden-Based Learning Program.

We look forward to continuing this work with our community partners and exploring new ways to better support our students, teachers, and families. Please follow us on Facebook @Berkeley Unified School District Gardening and Cooking Program, Twitter @BerkeleyDineOut, and learn more about our work on our website @ <http://www.berkeleyschools.net/gcp/>, where you can also watch our Berkeley Unified School District Garden-Based Learning video.