

2011 Life Lab California School Garden Survey Analysis

Life Lab, in collaboration with the California School Garden Network, conducted a survey of gardens in primary and secondary schools in the state of California. The survey was conducted online, using surveymonkey.com, from December 15, 2010, through March 23, 2011, and was advertised via email blasts and e-newsletters. It was the intention of this organization to gather information from this survey in order to help those that are creating and supporting school garden projects across the state of California, and the United States as a whole. At the close of the survey we received 599 responses, with 92.4% (545) of those respondents answering ‘yes’ to the question of whether or not they had a school garden or garden program. Respondents were asked to answer questions for the 2009-2010 academic school year when applicable.

To the best of our knowledge, there have only been two other surveys that have looked into gathering conclusive data about school gardens in California in the past decade. The first, a survey finished in 2002 by the California Department of Education, and published in 2005 by Heather Graham et al. in the *Journal of Nutrition Education and Behavior*, was sent only to California school principals, unlike our survey, which was meant for the most knowledgeable person involved with the school garden. Of the 9805 principals that were sent the 2002 survey, 4194 responded, giving the CDE a response rate of 43%, with 57% of those respondents having answered ‘yes’ to the question of whether or not they had a garden.

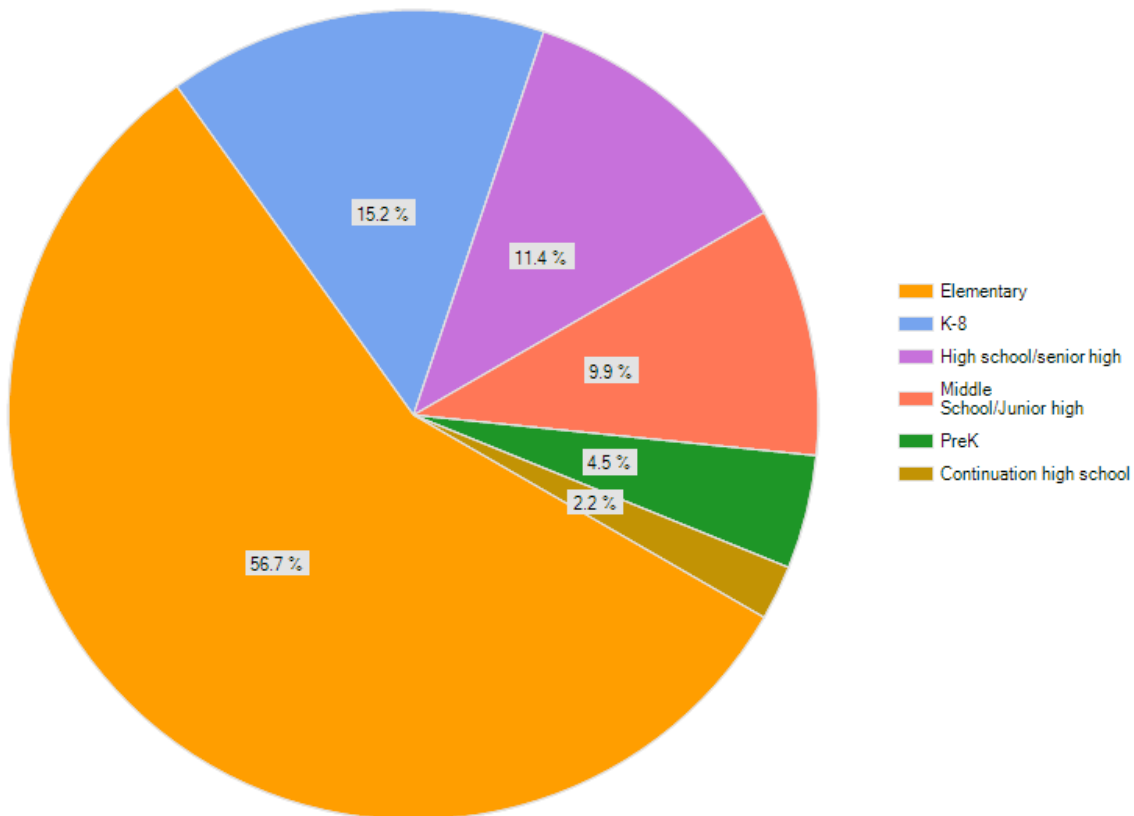
The second study was the 2006-07 Grant Award Information Summary, which summarized various details about the schools that received the California Instructional School Garden Program grants. This survey, also conducted by the CDE, consisted of 3849 schools that received these grants. These resources will be brought up again in reference to the various findings of our survey that follows. The following is a breakdown of the survey questions and results. The full survey results, charts and figures for every survey questions, as well as the above-mentioned surveys on garden education in California schools will be available through links at the end of this write-up, as well as at www.lifelab.org/schoolgardensurvey

Garden Basics

Questions 2 & 11. Your role in supporting the school garden? What best describes your school's grade breakdown?

In this 2011 Life Lab survey, we found that teachers held the highest percentage of respondents (47.6%), with other school staff (14.6%) and parent volunteers (14.3%) following. The majority of respondents worked with elementary schools (56.7%); K-8, High School/ Senior high, Middle School/ Junior High, PreK, and Continuation High School followed far behind. See Figure 1 for a full breakdown.

Figure 1. What best describes your school's grade breakdown?



Questions 12 & 13. What is your school type? What best describes the neighborhood your school is in?

The vast majority of schools were public (88.5%), with Charter and Private schools both making up 5.7% of schools that answered the survey. The type of neighborhood that best described these schools was very close with 41.5% of respondents checking suburban, 37.6% urban, and 20.8% rural.

Questions 14 & 15. Does your school have a garden or garden program? Please choose all applicable reasons that best describe why your school does not have a school garden.

Although this survey was not geared toward those schools without school gardens, 7.6% (45) of respondents answered 'no' to having a school garden. The largest reason for this was of course a lack of funding (69.6%), but it is also important to note that lack of gardening supplies (50.0%), and lack of staffing (43.5%) were also noted as strong factors. This is very close to the three largest barriers to having a school garden that Graham et al. found, which were lack of funding, time constraints, and lack of gardening supplies. Below is a full list of difficulties to having a school garden in California schools, as determined by our respondents.

- 69.6%... Lack of funding
- 50.0%... Lack of gardening supplies
- 43.5%... Lack of staffing
- 32.6%... The risk of vandalism
- 30.4%... Lack of volunteers
- 30.4%... Technical assistance with gardening
- 28.3%... Little to no knowledge about gardening
- 28.3%... Other
- 28.3%... Few or no instructional materials
- 23.9%... Time constraints
- 19.6%... Inadequate space
- 17.4%... Difficulty linking to core academic standards
- 10.9%... No interest in having a garden

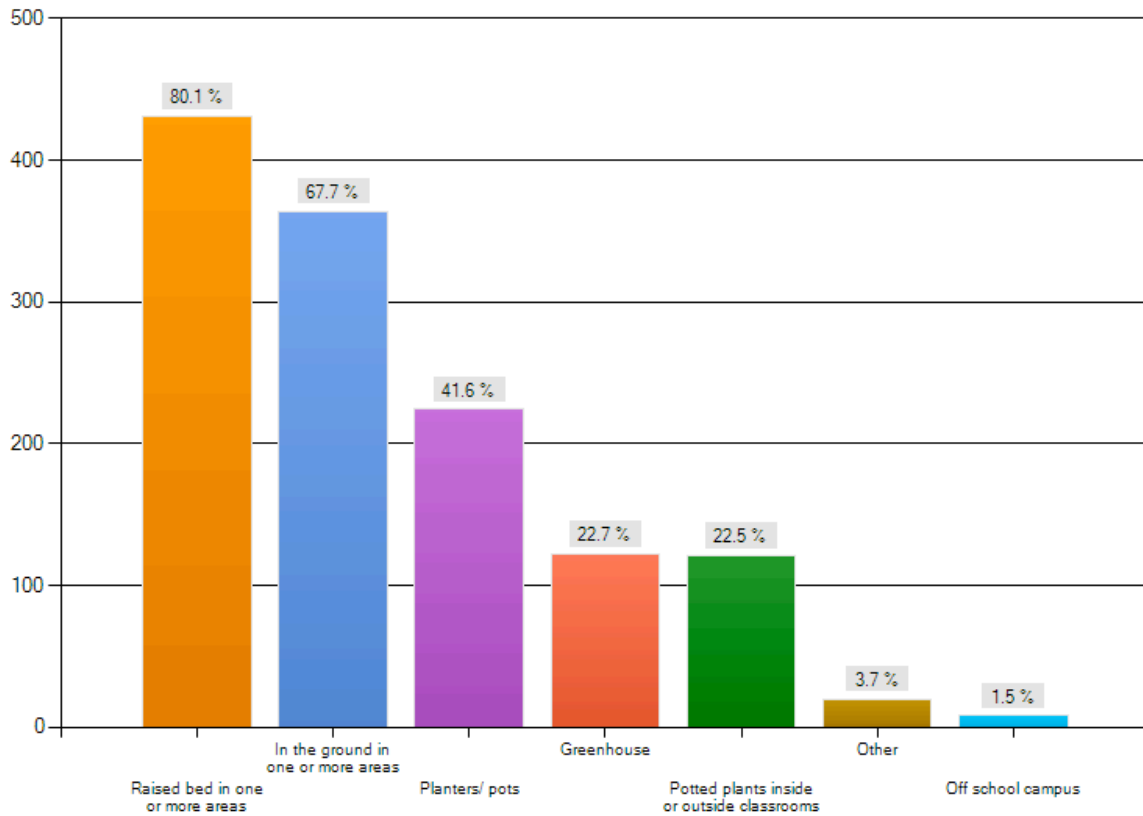
Question 16. How long has your garden been operating? (when was it first created)

The majority of school gardens were created less than 10 years ago, with the largest percentage having been created 5-7 years ago (18.6%). Only 5% of all respondent gardens were created 21-50+ years ago.

Question 17. How would you describe your garden? (select all that apply)

The majority of respondents (80.1%) categorized their gardens as a raised bed in one or more areas, with the category of in the ground in one or more areas following shortly behind (67.7%). See Figure 2 for a full breakdown of the results.

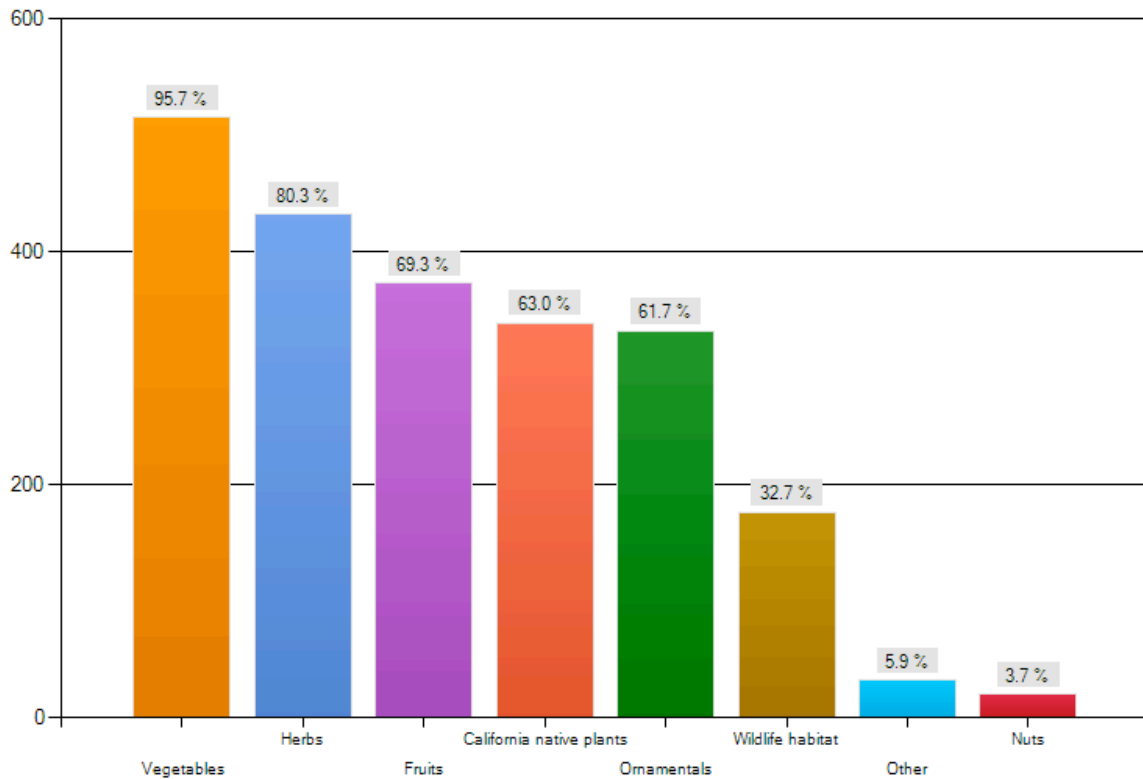
Figure 2. How would you describe your garden? (select all that apply)



Question 18. What types of plants exist/will be grown in your school garden this academic year? (select all that apply)

The three largest categories chosen were vegetables (95.7%), herbs (80.3%), and fruits (69.3%). See Figure 3 for a full breakdown of the results.

Figure 3. What types of plants exist/will be grown in your school garden this academic year? (select all that apply)



Question 19. What is done with the plants grown in the garden? (select all that apply)

76.2% of respondents said that the crops were harvested for consumption and eaten during garden time, as well as 70.6% using them for academic study.

Question 20. What features does your garden have? (select all that apply)

Respondents had a large variety of features in their gardens. The most popular were a tool shed/ storage area (78.1%), compost area (74.4%), outdoor teaching area (62.3%), automated irrigation system (48.3%), and worm bins (44.8%).

Garden Usage: Academic and Otherwise

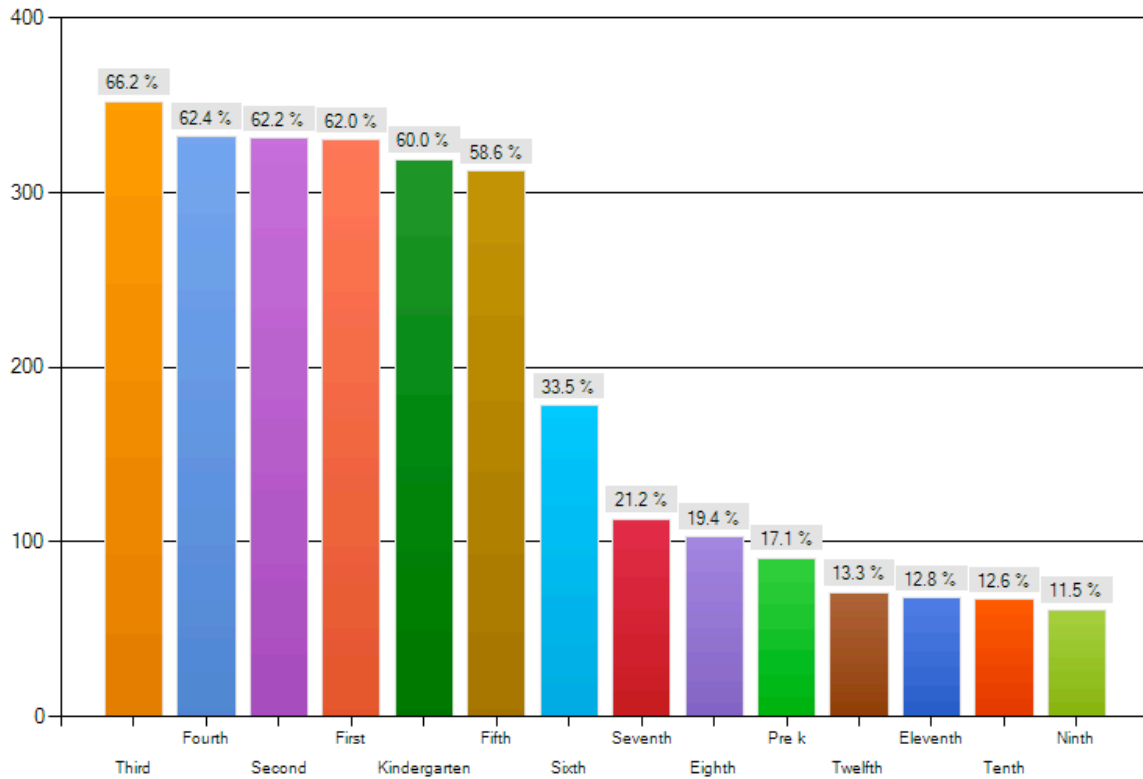
Question 21. When is the garden used? (select all that apply)

89.6% of respondents stated that the garden was used primarily during class instruction time, as well as after school (51.4%), and during recess (36.3%).

Question 22. What grade level(s) participate in garden programming at your school? (select all that apply)

The data is quite even from kindergarten through fifth grade, and drops rapidly after sixth grade. See Figure 4.

Figure 4. What grade level(s) participate in garden programming at your school? (select all that apply)



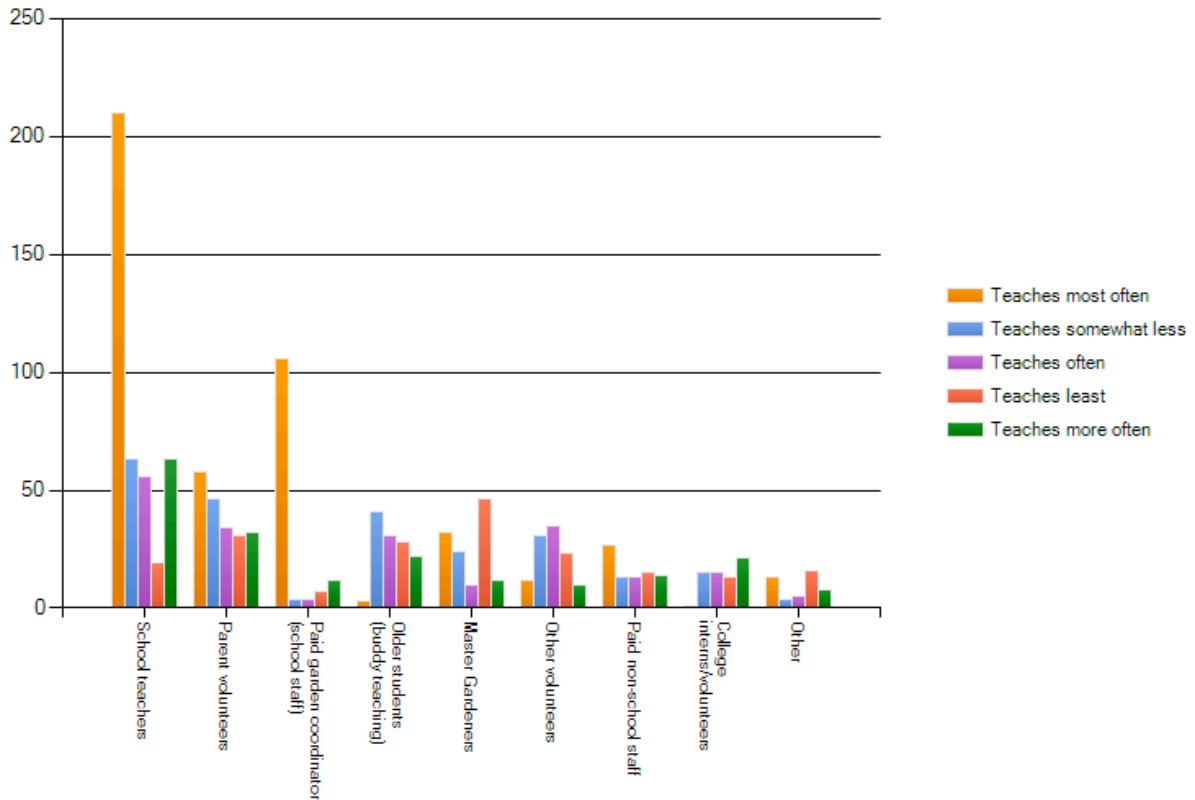
Question 23. What percentage of your school's students do you estimate visit the garden for formal instruction per academic year?

There were a wide variety of responses for this question, with 20.6% of respondents answering 10% of the student population, and 17.3% of respondents answering 100% of the student population.

Question 24. Rank who most often teaches students in the garden? (Select up to 5)

Teachers (45.5%) and paid garden coordinators (22.9%) were found to teach most often in school gardens. This differs from the 2002 survey, which found that the responsibility for the school garden most frequently fell on the teachers (86%), followed by parent volunteers (44%), and students (36%). See figure 5.

**Figure 5. Rank who most often teaches students in the garden?
(Select up to 5)**



Questions 25, 26, 28, 30 & 32. Is the school garden used for academic instruction? Is the garden used to teach: mathematics, English-Language Arts, History/ Social Sciences, Science?

88.4% of respondents say their school garden is used for academic instruction, with 96.8% teaching science, 74.8% teaching English/ Language Arts, 67.3% teaching math, and 55.7% teaching History/ Social studies in the garden.

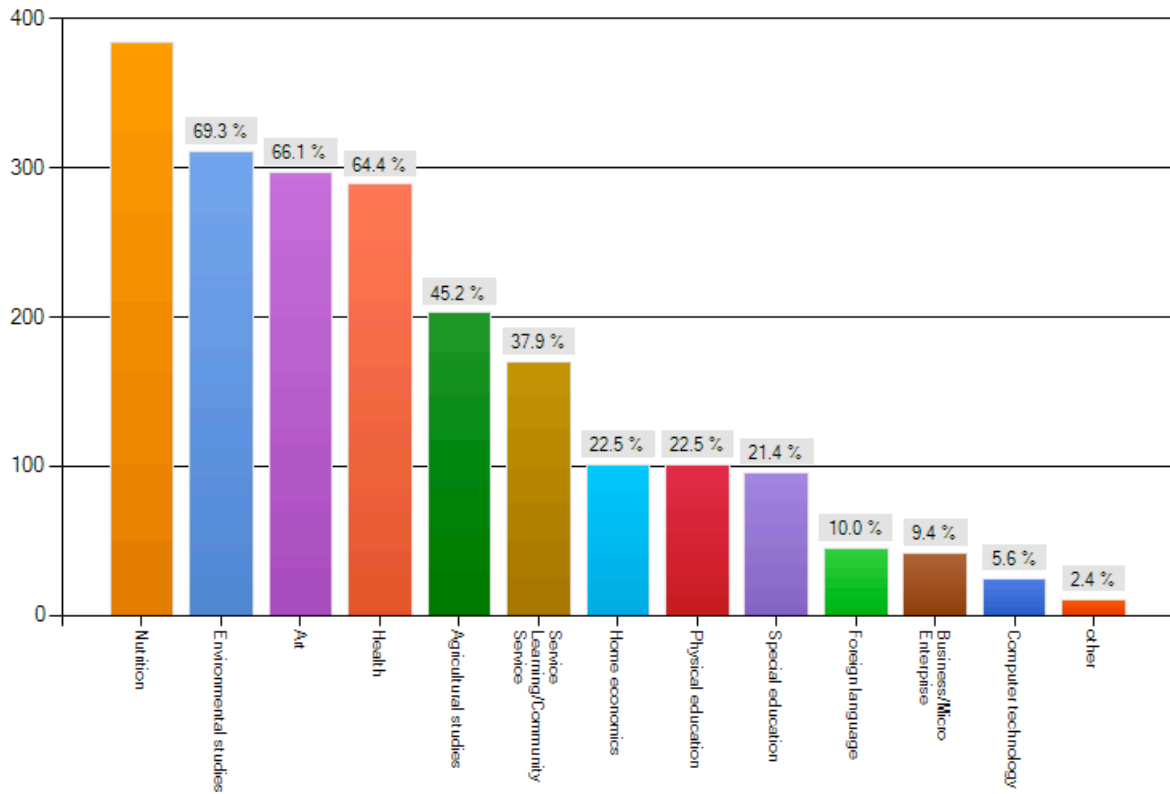
Questions 27, 29, 31 & 33. How would you characterize garden-based instruction at your school in: mathematics, English-Language Arts, History/ Social Sciences, Science? (Select all that apply)

For these four main academic subjects the most used form of academic instruction in the garden was to *reinforce the concepts and lessons through garden instruction* (87% in the math category, 70.6% in the English/ Language Arts category, 74.5% in the History/ Social Studies category, and 89.9% in the science category). *Explicit science lessons taught in the garden* (61.1%) and *garden-related science concepts taught in a lesson prior to or after garden class time* (58.2%) were also popular ways in which science curriculum is taught using the garden.

Question 34. Which of the following non-core subjects are taught using the garden? (select all that apply)

The major non-core classes taught were nutrition (85.5%), environmental studies (69.3%), art (66.1%), and health (64.4%). See Figure 6 for all responses.

Figure 6. Which of the following non-core subjects are taught using the garden? (select all that apply)



Current Resources: Education and Staffing

Question 35. What educational resources and materials are used to teach core academic subjects when the garden is a learning laboratory? (select all that apply)

82.3% of the educational resources used in the garden were lesson plans created by the respondent or other educators. 42.2% also used materials received at workshops or seminars, and 38.8% use garden-based learning publications, such as Life Lab’s *Growing Classroom*.

Question 38. Would you define your school garden as part of Farm to School programming? (Farm to School programs connect schools with local farms with the objectives of serving healthy meals in school cafeterias, improving student nutrition, providing health and nutrition education, and supporting California’s farmers.)

18.2% of respondents described their school garden as part of Farm to School programming, with 12% having never heard of farm to school until filling out the survey, 6.4%

not knowing if their garden did or not, and 63.4% stating that their garden was not a part of the program.

Question 39 & 40. Are there any paid staff that manage the garden or teach in the garden outside of classroom teachers? Select yes if there are any (school or non school) support staff that receive any types of funds for garden programming. What is the hourly pay rate range for paid (non classroom teacher) garden support staff? (if you have more than one paid staff list the higher paid staff. If garden staff is paid with an annual stipend, divide the stipend amount by the estimated hours worked to come up with an hourly rate)

33.1% of respondents have paid garden staff at their school, whereas 66.9% do not. The average hourly pay rate for these staff members ranged from 11-15\$/hour (26.8%), 16-20\$/hour (25.5%), and 21-25\$/hour (22.3%).

Question 45. In the past three years what types of garden based professional development has your garden educator staff received? (select all that apply)

It was found that 48.1% of the garden educator staff had received off site workshop training in garden based professional development, and 33.4% had attended garden based professional development through conferences or seminars.

Funding and Support

Question 43. Rank the top three elements that would most benefit your school garden program overall. (select three)

The elements found to be most important were funding (34.5%), a garden coordinator staff position (27.1%), time scheduled within the school day for instruction (10.5%), and parent volunteers (8.3%).

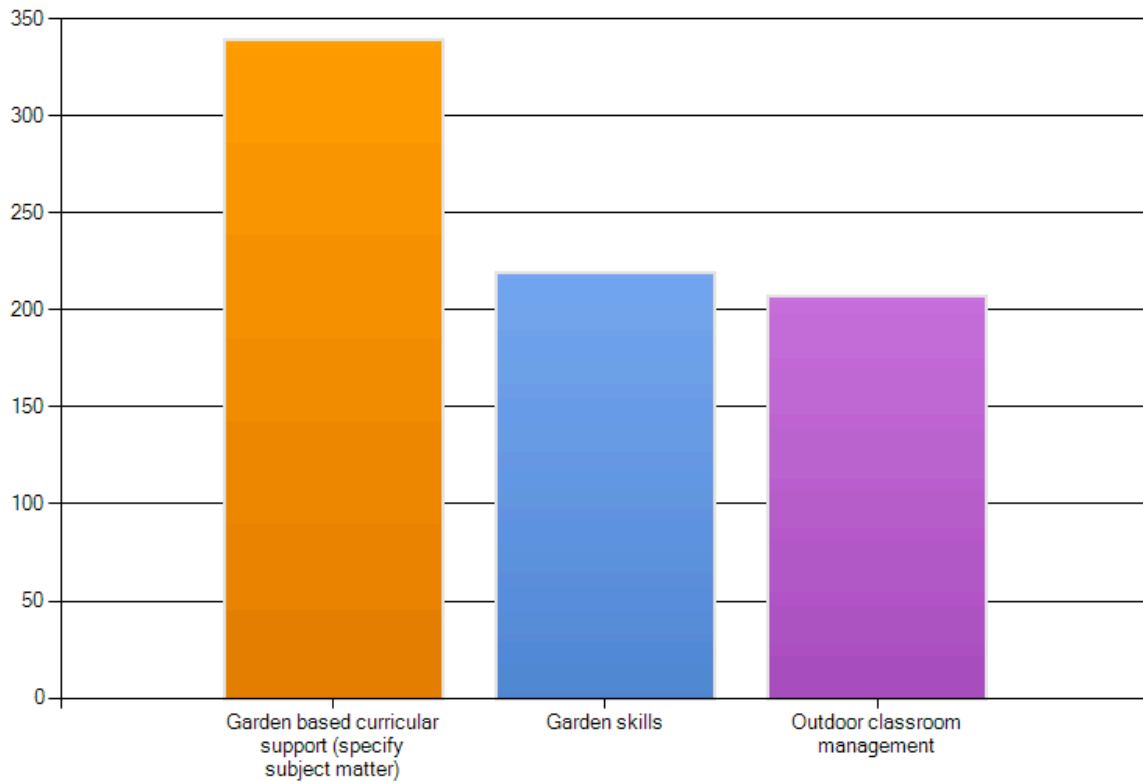
Question 44. Rank the top three factors/resources that would assist your school garden being used as an academic instructional tool. (select three)

We also found that the most helpful factors or resources are teacher training in garden-based learning instruction (30.2%), encouragement from administrators to use the garden as an instructional tool (22.3%), and access to garden-based curriculum/education materials (18.8%).

Question 46. What specific professional development topics would you attend or like to see offered in your area?

71.4% of respondents would like to see professional development in the area of garden based curricular support, as well as garden skills (46.1%), and outdoor classroom management (43.6%). See Figure 7.

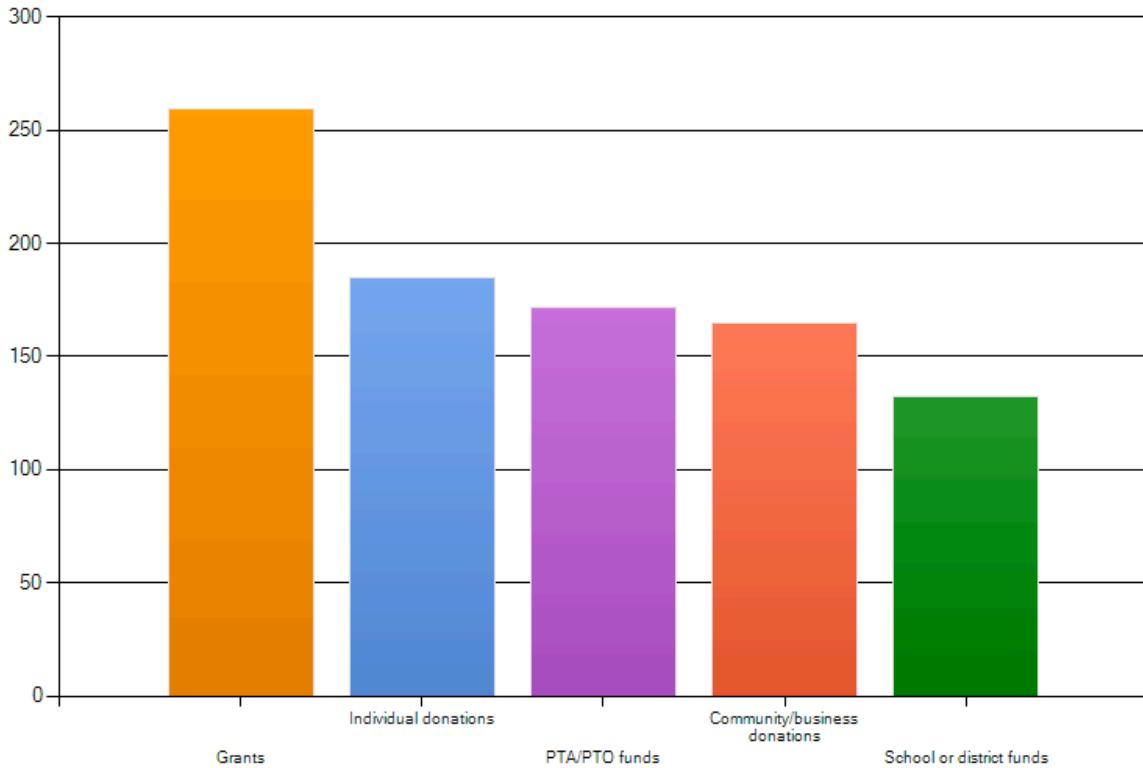
Figure 7. What specific professional development topics would you attend or like to see offered in your area?



Question 50. During this and last academic year who has your school received funds from? (select all that apply)

During the 2010-2011 and 2009-2010 school years 56.9% of respondents received school garden funding from grants, 40.7% from individual donations, 37.8% from PTA/ PTO funds, 36.3% from community/ business donations, and 29% received funding from school or district funds. See Figure 8 for a full breakdown of the results.

Figure 8. During this and last academic year who has your school received funds from? (select all that apply)



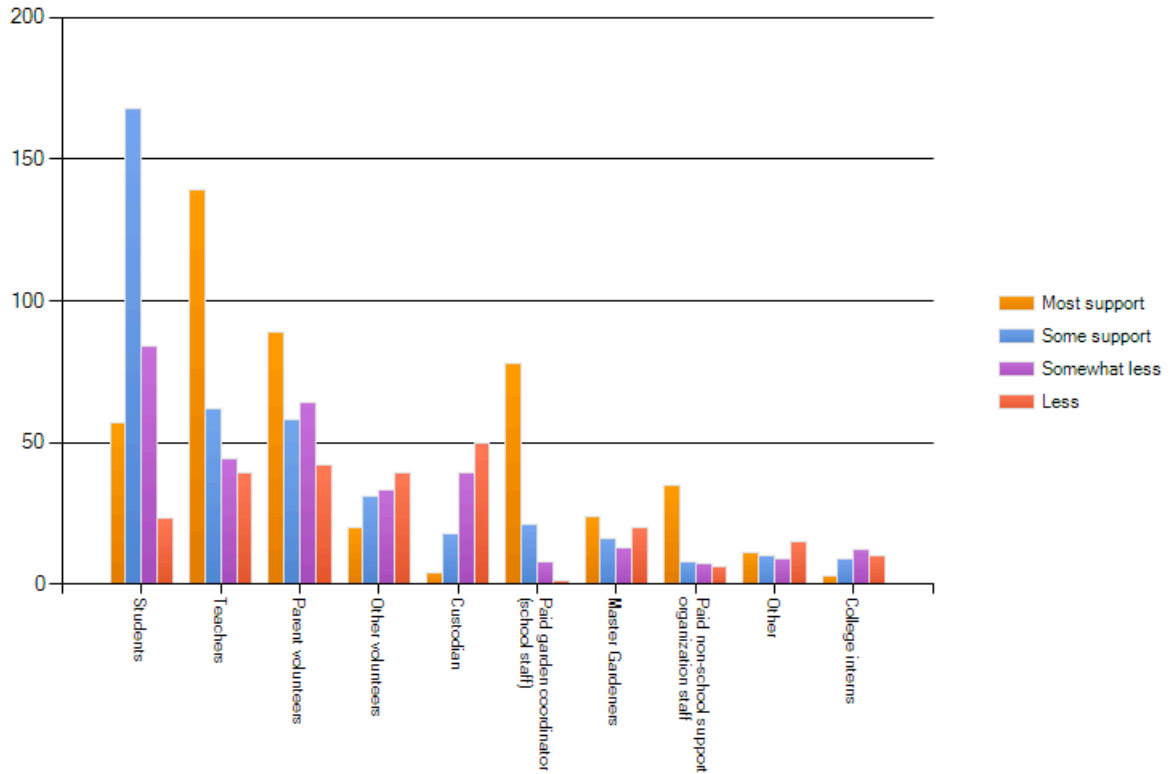
Question 51. During this and last academic year, what support organizations collaborate with your school garden? (select all that apply)

70.6% of respondent school gardens collaborated with non-profit organizations, 35.8% with after school programs, 25.1% with Network for a Healthy California, 17.4% with university partnerships, and 16.4% collaborated with farms.

Question 52. Rank who provides the most ongoing garden site maintenance. (Select up to 4)

It was found that teachers provide the most support (30.2%), followed by parent volunteers (19.3%), paid garden coordinator (school staff) (17%), and students (12.4%). See Figure 9 for a full breakdown of the results.

Figure 9. Rank who provides the most ongoing garden site maintenance. (Select up to 4)



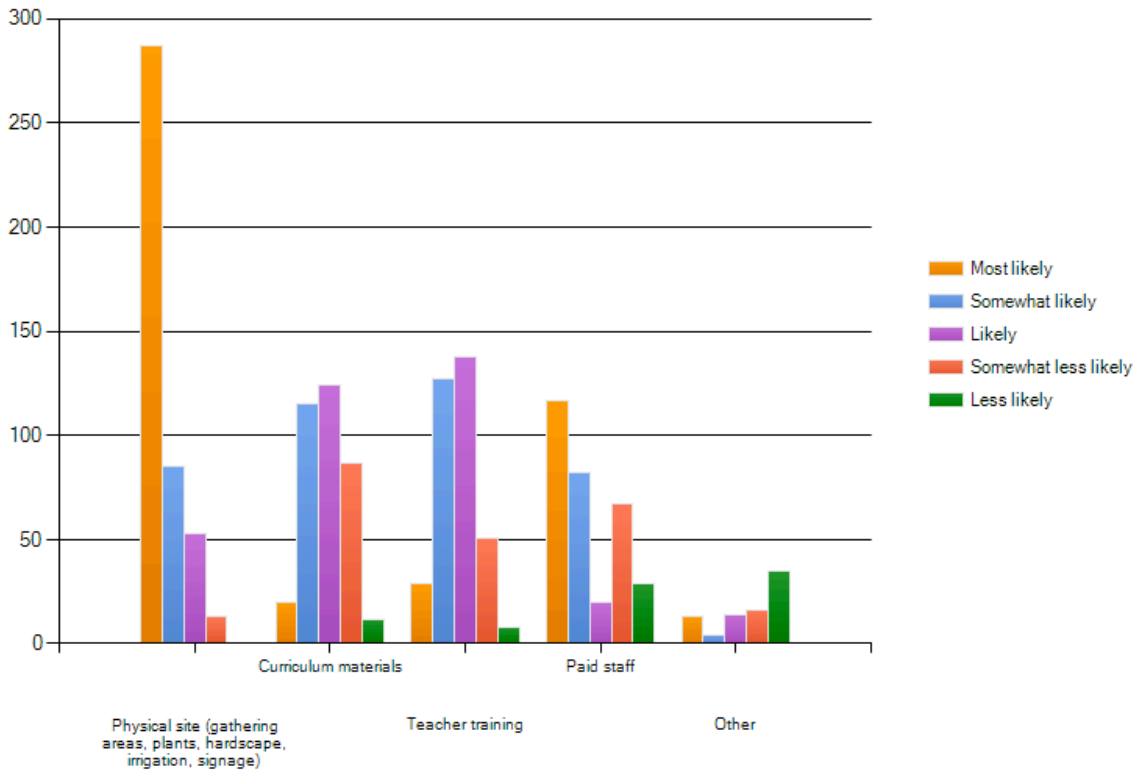
Question 55. If there is summer maintenance of the school garden, who is participating in this? (select all that apply)

47.3% of respondents who have summer maintenance of the garden have parent volunteers doing the majority of the work, with 46.6% stating teachers are participating in the summer maintenance as well.

Question 56. If someone was to grant your garden \$10,000 for the next year what would you spend that money on? (rank from most likely to least likely. Please do not mark items that you would not spend the money on)

Figure 10 shows the full range of answers, but those responses at the top of the list were: Physical site (gathering areas, plants, hardscape, irrigation, signage) (61.6%), and paid staff (25.1%).

Figure 10. If someone was to grant your garden \$10,000 for the next year what would you spend that money on? (rank from most likely to least likely. Please do not mark items that you would not spend the money on)



Observations

Question 36. Which of the following positive observations have you made in your school garden participants? (Check all that apply)

86.7% of respondents listed seeing increased environmental attitudes, 68.4% listed seeing improvements in health and nutrition, 66.4% reported increased social skills/ behaviors, and 65.2% saw an improved attitude towards school.

Closing

It was the hope of Life Lab to create a base level survey, from which other surveys could be made in order to see the progression of garden education in California, and later the rest of the country. In creating the survey for this goal, we gathered questions from past surveys, and added new questions that would allow for a cohesive collection of data over many years. The questions themselves, though looked over by a handful of garden professionals, could have been designed for more concise data collection, something that can be altered in future years. We were also not able to advertise the survey to every California school directly, which led to a much smaller population than the 2002 survey was able to achieve. This surveys population might also be biased towards those teachers and garden educators that are already involved in, or looking to

involve themselves in garden education, and thus were on the mailing lists, or subscribed to the e-newsletters that this survey was advertised in. We were able to collect 599 out of roughly 3900 schools in California that showed interest in Garden education from the California Instructional School Garden Program Information Summary of 2006-07, a feat we see as an accomplishment, and something to only be improved upon in later years. This survey has also given Life Lab, the California School Garden Network, and all other interested parties a large amount of data, which is representative of those schools in California that have gardens. It is also a success that we had 45 schools reply who did not have school gardens, a part of the population that is often overlooked in garden education research, and which we did not intend this survey to be directly geared towards. Overall this survey was a great success, and we hope that you will share in our findings, build upon them, and create a wellspring of information regarding the use of gardens in education, so that we may some day see a garden used in every school in the state.

In this vein, visit www.lifelab.org/schoolgardensurvey to find:

- raw data sets available in Excel files and shared through a Surveymonkey link
- a list of all questions used in the survey
- complete set of graphs for each question
- CA map of schools surveyed

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