

Dissemination Component Study

SUGAR FROM THE SUN
for
Garfield Park Conservatory Alliance

Cecilia Garibay
Selinda Research Associates, Inc.

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TABLE OF CONTENTS

Acknowledgements	iii
Overview	1
Evaluation	1
Method	1
Respondents	2
Data analysis	2
Results	2
References	11
Appendix A: Survey.....	12
Appendix B: Respondents	21



ACKNOWLEDGEMENTS

Many thanks to David Snyder and Thomas Antonio for their work on this evaluation and in coordinating efforts on research for the dissemination component of this project.

Thank you also to all staff from participating organizations who took time out of their busy schedules to complete the survey for this study.



OVERVIEW

The Garfield Park Conservatory Alliance (the Conservatory) is developing *Sugar from the Sun*, a project consisting of a 5,400-square-foot exhibition designed to help families explore photosynthesis, a fundamental biological process. The exhibition, to be constructed in the Conservatory's Sweet House, will use real plants to explore the process that plants use to manufacture sugar (food energy) from the sun (light energy).

The project also includes the development of a dissemination component designed to help conservatories and botanical gardens nationwide effectively teach photosynthesis and encourage science learning. As currently conceived, this aspect of the project will be comprised of a series of regional training workshops developed and implemented by Conservatory staff. The workshops will train staff from other conservatories and botanical gardens on how to effectively integrate photosynthesis education into their interpretive strategies. An interpretive self-guide that can be used by visitors as well additional supporting materials will also be available to participating organizations.

Evaluation

As part of the evaluation work being conducted by Selinda Research Associates (SRA) for the *Sugar from the Sun* project, SRA and Conservatory staff collaboratively conducted a front-end study designed to gather baseline information about the target audience (small to mid-size conservatories and botanical gardens). This information-gathering phase was designed to assist Conservatory staff better understand resources available to these organizations (for example, size of education staff) and to gauge how important science education is to these institutions.

Method

After a series of meetings between SRA and Conservatory staff to determine what information was critical to collect at this stage of the process, the SRA evaluator developed a survey to distribute to conservatories and botanical gardens (Appendix A). Survey questions were primarily designed to provide a profile of each institution, including such aspects as the numbers and types of visitors served, staff size, the focus of an institution's educational programming, and level of programming conducted. Once the survey instrument was developed, it was posted as an online survey for respondents to complete.

Conservatory staff selected and contacted 30 conservatories and botanical gardens who agreed to complete the survey. After an initial conversation to introduce the project and identify the appropriate contact person, all 30 institutions received an email which provided a link to the survey. Follow up reminders to complete the survey were also sent. A total of 25 institutions completed the questionnaire (see Appendix B for a listing of respondents).

In the initial planning phases for this study, we had hoped to also conduct depth interviews with select conservatories and botanical gardens to gain further insights into their needs and how the proposed dissemination component could best work for target organizations. Limited resources, particularly time constraints, however, prevented the team from including interviews in the research. Instead, it was decided that the Conservatory team will select five organizations who



responded to the survey as “ad hoc advisors” who can be called upon to provide feedback as the dissemination component of this project is further developed.

Respondents

Respondents for this study were purposively selected (Miles and Huberman, 1994). In purposive sampling, each respondent is handpicked for certain characteristics. For this study, only organizations with conservatories of 10,000 square feet or more were selected to participate. The reason for this decision is that in the experience of Garfield Park Conservatory staff, organizations with conservatories below this square footage usually do not have even the minimal resources necessary (e.g., staff) to support programming or other educational efforts. Since the *Sugar from the Sun* dissemination component will require at least some of these resources, this became an important criterion. All organizations meeting the criterion (a total of 30) were invited to participate and complete the survey.

Data analysis

Once surveys were returned, SRA analyzed all data. Survey data were tabulated and graphed and summary statistics were calculated as appropriate. Responses to more open-ended questions were coded and grouped by like category.

Results

In this section we provide a brief summary of key results based on 25 respondents. Following this summary, we present detailed charts of survey results by question.

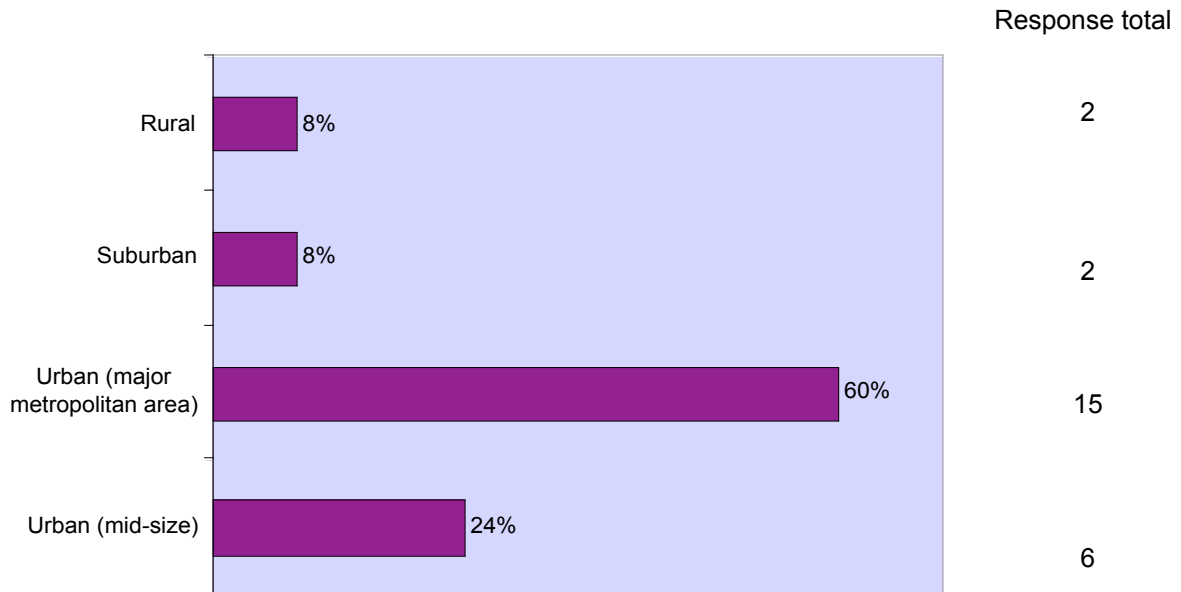
- The largest segment of organizations responding to the survey are located in urban areas, with 23 institutions, or 84%, located in either major metropolitan centers (64%) or mid-size urban environments (24%).
- Responding institutions serve small to mid-sized audiences, with 16 of them or 64% reporting yearly attendance of 300,000 or less. The largest percentage of these (40%) reported yearly visitation of 100,000 or less.
- While 19 institutions (74%) indicated that they target school groups as an audience, 18 of them (72%) reported that their yearly school group visitation was in the 0 – 1,000 category. It is interesting to note that when asked primary grades served, an additional three institutions indicated they serve schools. It is unclear why they responded to this question, but not to the target audience question. It may be that while those institutions do not target schools, some school groups may still visit.
- Primary grades served spanned the range of pre-kindergarten through college level. The largest concentration, however, was in second to fourth grade, with all 22 institutions who indicated they served school groups checking this grade range. The next largest categories were pre-K to first grade, with 15 responses (68%) and fifth to eight grade with 13 responses (59%).
- Families were considered a primary audience with 22 organizations (88%) indicating they target families.



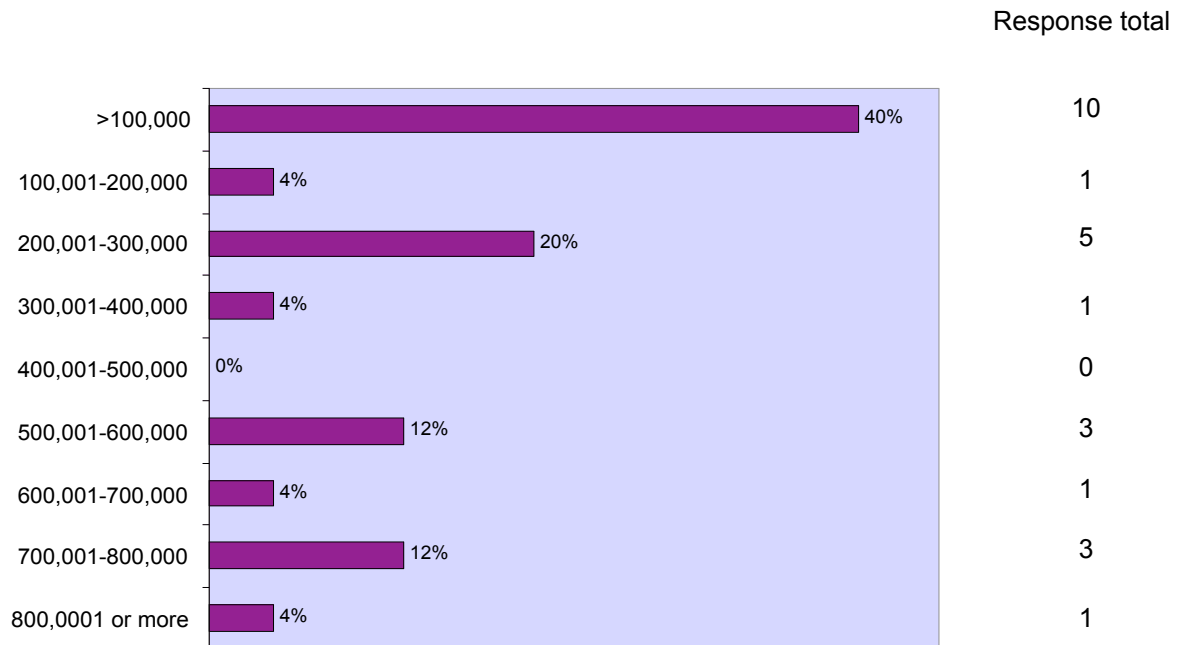
- Additional audiences served included the elderly, gardening clubs, professionals audiences (horticulturalists, photographers, artists) and tourists.
- Organizations who included additional comments about audiences served tended to identify audiences by specific ethnicity or race (e.g., African American, Latino, Asian, White) or geographic location (e.g., urban, rural). Of course, specific audience served, or targeted as potential audiences, was highly depended on an organization's location and context. No specific pattern emerged.
- Of respondents, 20 organizations (80%) indicated that they have an education department, although the size of departments ranged significantly from as low as one half-time person to as high as 32 staff members. The median among the sample was 3 full time education staff members.
- The majority of formal programming at these organizations is focused on schools, with 24 (96%) indicating they offered programs for school groups. This was followed closely by prescheduled group tours (offered at 21 institutions) and adult programs (offered at 19 organizations).
- The majority of informal programming at these organizations is focused on onsite docent/guide interpretation, with 19 (76%) indicating they offered this service. Fifteen (60%) said they offer informal weekend family activities and 12 (48%) also indicated they provide family activities during the week.
- When asked to rate the importance of including science education in future programming at their institution, 20 (80%) rated this issue as either very important or extremely important.



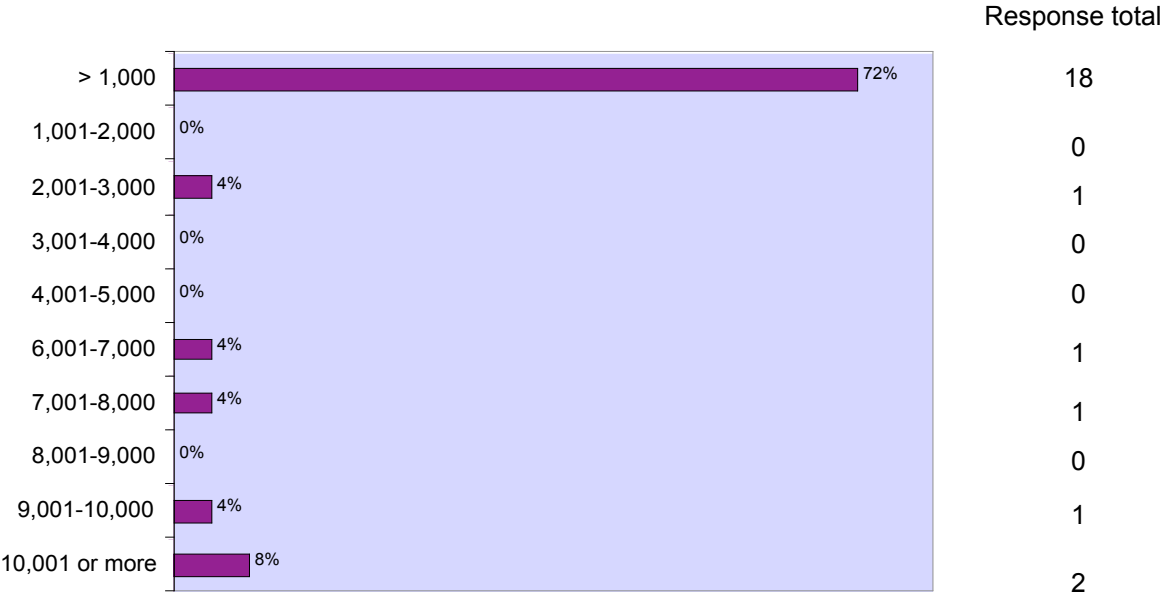
Which best describes your organization's location? N = 25



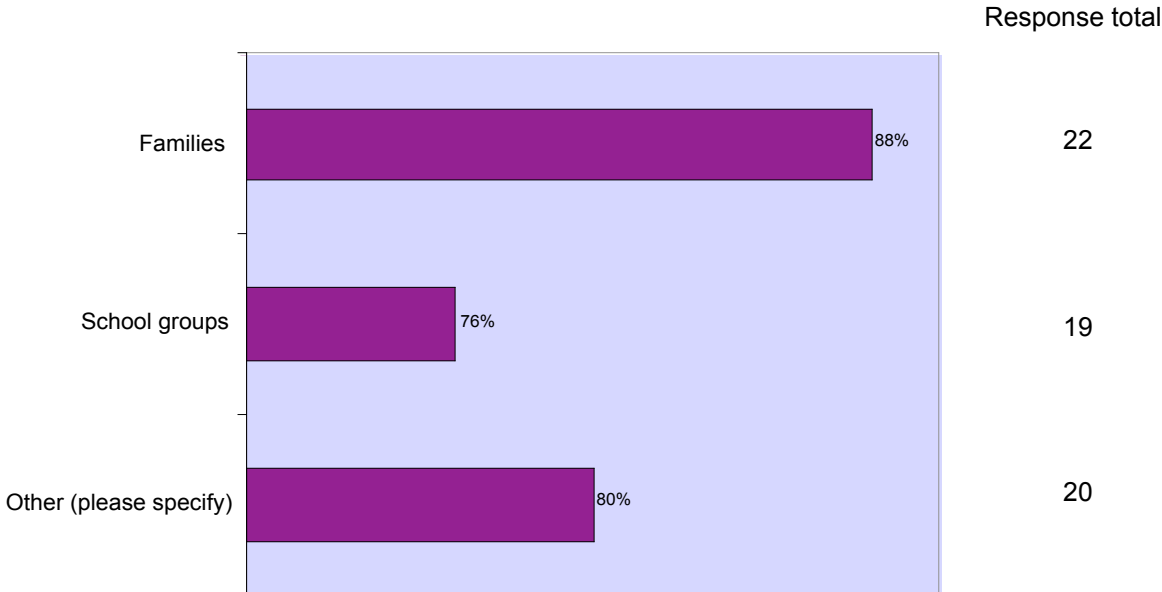
What was your annual attendance last year? (Not counting school groups.) N= 25



How many school groups visited your institution last year? N = 25

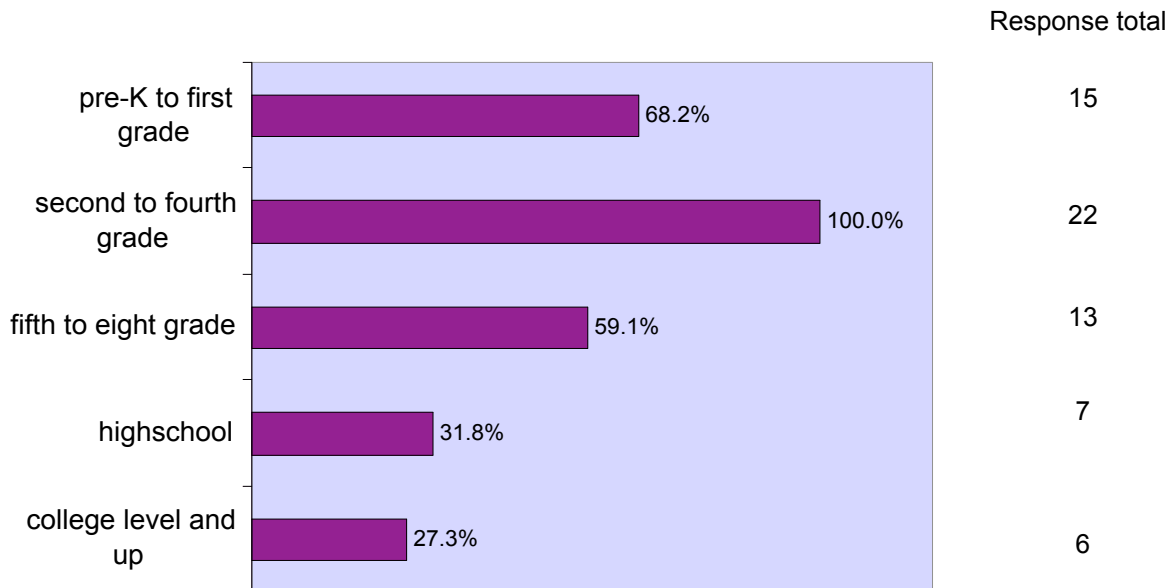


What are the primary target audiences for your institution? Check all that apply. N = 25

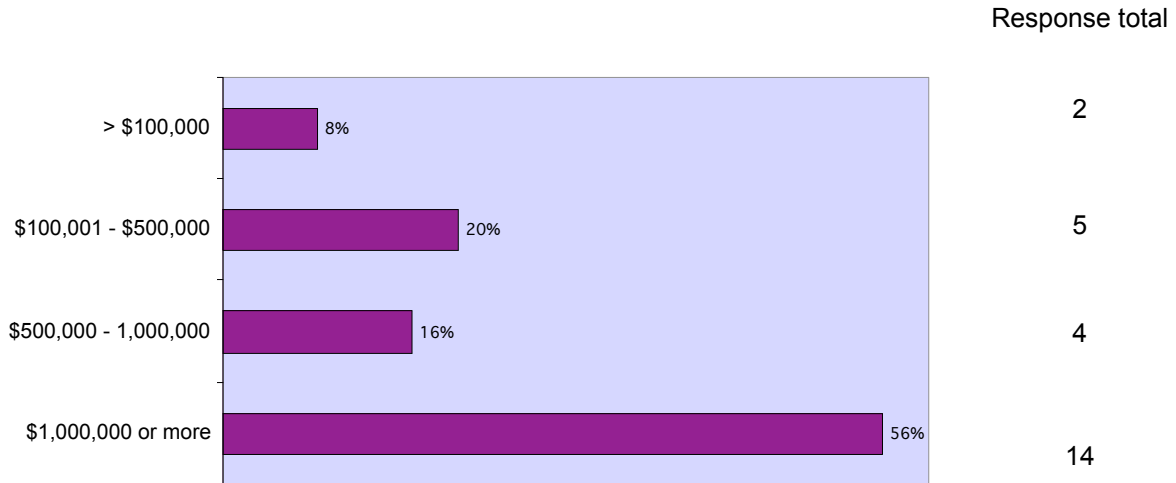


Most common responses to “other”	Response total
Seniors/senior groups/centers	8
Adults	3
Tourists/tour groups	5
University or adult students	4
Professionals (artists, photographers)	3
Horticulturalists/scientists	3
Community/community organizations	2
Gardeners/gardening clubs	3

If you checked school groups, indicate primary grades served. N = 22



What is your institution's annual operating budget for this year? N = 25



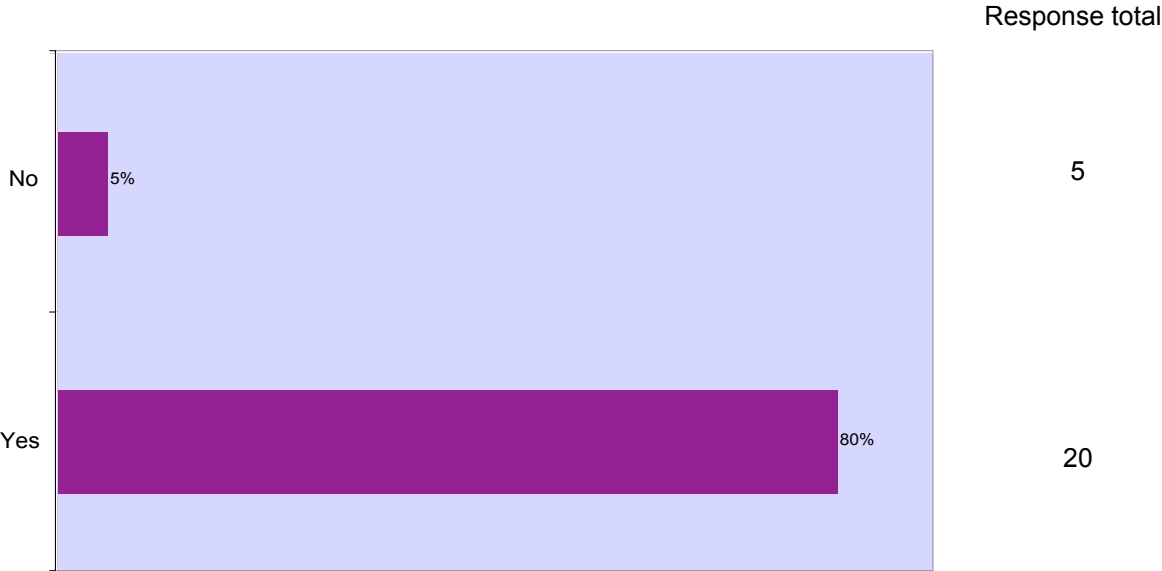
Number of institution staff by category. N = 25

	Full-time Paid	Part-time Paid	Full-time Volunteer	Part-time Volunteer
Range	2 – 586	0 – 300	0 – 12	0 - 1254
Mean	71	27	.5	267
Median	24.5	6	0	60

Note: 1 respondent was not counted in this calculation as they combined full and part time staff numbers



Does your organization have an education department? N = 25

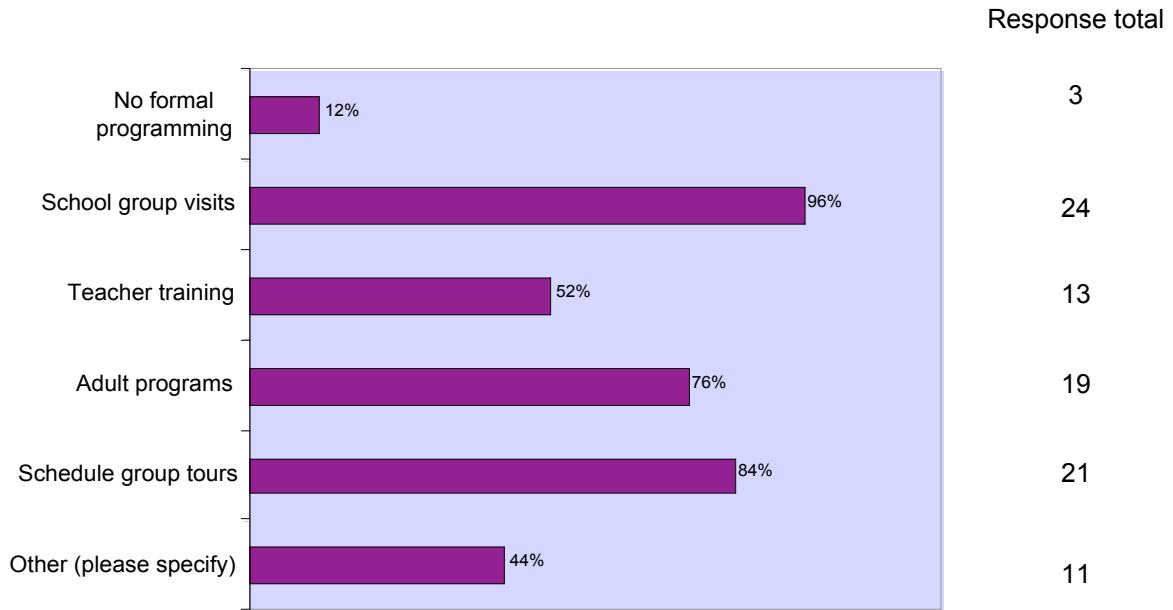


Total number of staff in the Education Department? N = 19

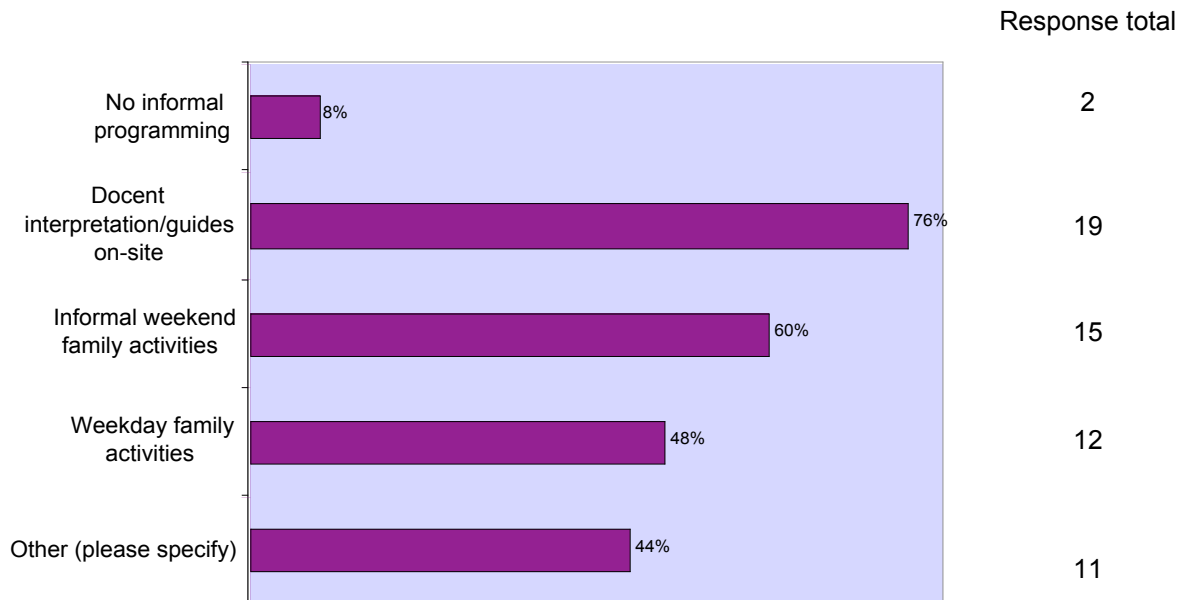
	Total Education Staff
Range	.5 - 32
Mean	7
Median	4

Note: Not all organizations that indicated they had an education department answered this question. One respondent was not counted because they included all education faculty from a nearby university.

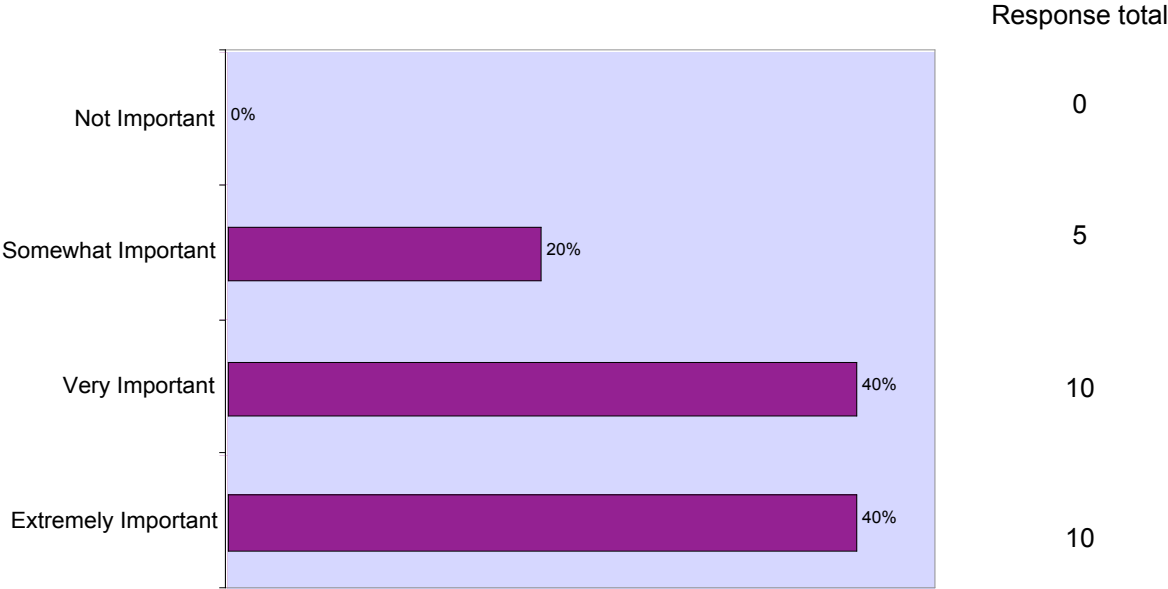
Which types of formal education programs are offered by your organization? Check all that apply. N = 25



Which types of informal education programs are offered by your organization? Check all that apply. N = 25



In thinking about future education programming, how important is including science education to your institution? N = 25



REFERENCES

Miles, M.B. & Huberman, A.M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook*. Thousand Oaks, CA: Sage Publications.



APPENDIX A: SURVEY

Online survey posted on the Web.

Selinda Research Associates is working with Garfield Park Conservatory on the development of a program for effectively teaching photosynthesis for introducing active science learning into the nation's botanical conservatories. Your input is important in ensuring the usefulness of this project to conservatories throughout the U.S.

This survey takes only a few minutes. All information you provide is confidential. Your institution's specific responses will remain anonymous and won't be disclosed to anyone.

[Next >>](#)

Garfield Park Conservatory

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Contact Information

*** 1. Name of Institution**

*** 2. Your Name**



*** 3. Your Title**

*** 4. Street Address * 5. City * 6. State * 7. zip code**

*** 8. Email Address * 9. telephone number * 10. fax number**



General Background

*** 1. Check which best describes your organization's location**

Urban (mid-size)

Urban (major metropolitan area)

Suburban

Rural

*** 2. What was your annual attendance last year? (Do NOT count school groups.)**

0 - 100,000

100,001 - 200,000

200,001 - 300,000

300,001 - 400,000

400,001 - 500,000

500,001 - 600,000

600,001 - 700,000

700,001 - 800,000

800,001 or more



*** 3. How many school groups visited your institution last year?**

- 0 - 1,000
- 1,001 - 2,000
- 2,001 - 3,000
- 3,001 - 4,000
- 4,001 - 5,000
- 5,001 - 6,000
- 6,001 - 7,000
- 7,001 - 8,000
- 8,001 - 9,000
- 9,001 - 10,000
- 10,001 or more

*** 4. What are the primary target audiences for your institution? Please check all that apply.**

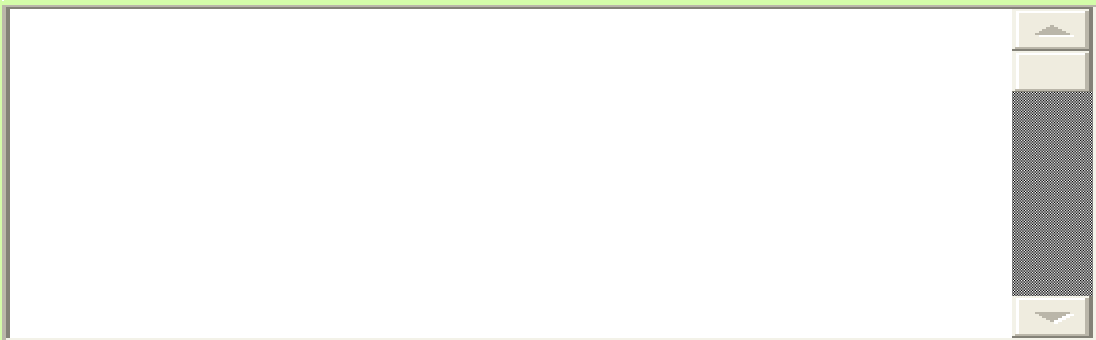
- Families
- School groups
- Other (please specify)



5. If you checked school groups, indicate primary grades served. Check all that apply.

- pre-K to first grade
- second to fourth grade
- fifth to eight grade
- highschool
- college level and up

6. Please share any other pertinent information about the audiences you serve (e.g., race/ethnicity, geographic distribution, etc.).



*** 7. What is your institution's annual operating budget for this year?**

- \$100,000 or under
- \$100,001 - \$500,000
- \$500,000 - \$1,000,000
- Over \$1,000,000

For the next set of questions, please fill in the number of staff at your institution for each category. (For categories with no staff, type in 0)

*** 8. Full time paid staff**

*** 9. Part time paid staff**

*** 10. Full time volunteer staff**

*** 11. Part time volunteer staff**



Education

We want to learn more about the types of educational programs you have.

*** 1. Does your organization have an education department?**

Yes

No

2. If yes, indicate the total number of staff in the education department.

*** 3. FORMAL PROGRAMMING: Indicate which of the following types of education programs are offered by your organization. Check all that apply**

No formal programming

School group visits

Teacher training

Adult programs

Schedule group tours

Other (please specify)



*** 4. INFORMAL PROGRAMMING: Indicate which of the following types of education programs are offered by your organization. Check all that apply**

- No informal programming
- Docent interpretation/guides on-site
- Informal weekend family activities (e.g., touch carts, drop-in activities)
- Weekday family activities (e.g., story time)
- Other (please specify)

*** 5. In thinking about future education programming, how important is including science education to your institution? Please rate below**

- | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|
| Not Important | Somewhat Important | Very Important | Extremely Important |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

6. Please share any other information about your education efforts that you think can help us better understand your organization's programming and needs.



[<< Prev](#) [Next >>](#)

Garfield Park Conservatory

Exit this survey >>

We Appreciate Your Input!

Thank you very much for taking the time to complete this survey. The Garfield Park Conservatory will be sharing the results of this initiative with you in the future.



APPENDIX B: RESPONDENTS

Organization	City	State
Anna Scripps Whitcomb Conservatory	Detroit	MI
Atlanta Botanical Garden	Atlanta	GA
Balboa Park Botanical Building	San Diego	CA
Botanic Garden of Smith College	Northampton	MA
Callaway Gardens	Pine Mountain	GA
Chicago Botanic Garden	Glencoe	IL
Conservatory of flowers	San Francisco	CA
Foellinger-Freimann Botanical Conservatory	Fort Wayne	IN
Fort Worth Botanic Garden	Fort Worth	TX
Franklin Park Conservatory	Columbus	OH
Frederik Meijer Gardens & Sculpture Park	Grand Rapids	MI
Garfield Park Conservatory -- Indianapolis, IN	Indianapolis	IN
Garfield Park Conservatory Alliance	Chicago	IL
Lincoln Park Conservatory	Chicago	IL
Missouri Botanical Garden	St. Louis	MO
Myriad Botanical Gardens	Oklahoma City	OK
New York Botanical Garden	Bronx	NY
Olbrich Botanical Gardens	Madison	WI
Phipps Conservatory and Botanical Gardens	Pittsburgh	PA
Rockefeller Park Greenhouse	Cleveland	OH
San Antonio Botanical Garden	San Antonio	TX
United States Botanic Garden	Washington	DC
University of Connecticut - Ecology & Evolutionary Biology	Storrs	CT
University of Louisiana at Lafayette	Lafayette	LA
Vander Veer Botanical Park	Davenport	IA

