Bay Area Youth Healthy Food Programs Assessment Practices

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ABSTRACT

Youth are particularly susceptible to obesity and other health conditions associated with unhealthy diet that are on the rise in the United States. In response, the San Francisco Bay Area has been the leader in youth healthy food programs. However, there is a lack of research on program assessment. To determine how programs were assessed, I conducted 19 surveys and 13 interviews with program leaders from around the Bay Area. I found that some program leaders were uncomfortable with assessment, as they associated formal evaluations with government bureaucracy. Others desired the ability to assess programs, but lacked the funding to do so. Because of this, leaders of newer programs expressed concerns about a lack of information on successful programs in the area. My findings suggest that resources on how to conduct formal assessment should be provided to program leaders.

KEYWORDS

food movement, youth nutrition, outside education, food programs, food consumption

INTRODUCTION

Poor diet is the primary cause of obesity and malnutrition among youth in the United States (Andrews et al. 2011). Structural inequities and income disparity underpin geographic and demographic patterns of differential access to healthy and nutritious foods (Rose 1999, Blanchard and Morton 2007). For many lower income youth, lack of knowledge about proper diet and inability to afford healthy has shifted consumption to unhealthy low cost fast food restaurants, liquor stores, and convenience markets, contributing to unhealthy consumption patterns (Gilliland and Larsen 2009). Food movement advocates point to these dietary conditions as a primary cause a dietary health crisis in the United States (Agyeman and Alkon 2011). Federal funding for food assistance programs through the Farm Bill has been largely ineffective in this trend (Blanchard and Morton 2007). Food justice advocates aim for a structural change for the food system by encouraging healthy eating habits, yet there are difficulties in achieving this goal, in part because of uncertainty about where or what kind of intervention would be most effective (Gottlieb and Joshi 2010). Youth remain the most vulnerable to this failing food system, since they are often unable to make their own educated dietary decisions and do not always have access to affordable healthy foods; youth healthy food programs have the potential to change this.

Education is necessary to change any habit as educational attainment has a direct impact on food choices, the more formal education one receives, the better food decisions that tend to be made by younger individuals (Bammann et al. 2013, Skelly and Zajicek 1998). The Bay Area is a center of activism in the food movement, thanks in part to progressive California legislature funding the proliferation of youth food programs (Beall et al. 2012). Thanks to this activism school gardens, summer youth camp healthy food programs, and in-class dietary curricula have become features of youth education. Some programs focus on community garden, in which youth work and sell produce in the surrounding community. For instance, PUEBLO's Youth Harvest program based in Oakland has at-risk teenagers harvest fruit and distribute it to senior centers, while other programs in Oakland use gardens to teach science, health, and nutrition (McClintock 2011). There is a potential for programs to have a greater impact since the demand for healthy food and learning rates have been proven to increase with program intervention that utilizes hands-on learning (Coleman et al. 2013, Holfelder and Stodden 2013). Healthy food programs therefore have the ability to educate and encourage youth to be their own food advocates.

Assessment of learning outcomes, use of resources, and staff development among other program concerns can help to assure program efficiency and sustainability. Yet many program coordinators are overburdened, and unable to conduct evaluations of every program component (Clabeaux 2013). Because of their lack of time it is imperative to provide leaders with program practices and curricula materials. Analysis of both positive and negative aspects of a program provide meaningful information for improvement (Hainsworth et al. 2003). The federal government asks questions such as "is the program purpose clear?" and provides an explanation of what was observed but instead of using this to decrease or increase funding it should be used to determine what to improve using assessment results of similar programs (White House 2002). These simple questions must be asked of Bay Area healthy food programs. A comprehensive overview of program successes and failures is needed to produce a complete picture of healthy food programs. Yet there is a lack of literature on healthy food program assessment procedures.

To fill this gap I asked: what types of program assessment, if any, are coordinators performing for local programs in the Bay Area? My sub-questions were: What funding levels did different locations have? What involvement did school administration have with the programs? I then identified successful program assessment techniques and in terms of program outcomes, areas that needed improvement, and how assessment of effects was conducted, to identify best assessment practices. Finally, I developed a best practices guide for program coordinators to use.

METHODS

Study System

To evaluate program assessment processes, I surveyed and interviewed directors of urban gardening, cooking, food harvesting programs in Alameda, Contra Costa, San Francisco, San Mateo, and Santa Clara counties (Figure 1). The study looked at 19 programs within 42 schools. All the programs that responded to the survey worked with elementary school aged youth, as such it appears the focus of these programs are only on children 10 years and under had a broad range of locations, size, funding levels, etc. (Appendix 1). I also engaged in participant observation of two programs, Acta Non Verba and Food Science Buddies, in East and West Oakland during summer 2013.

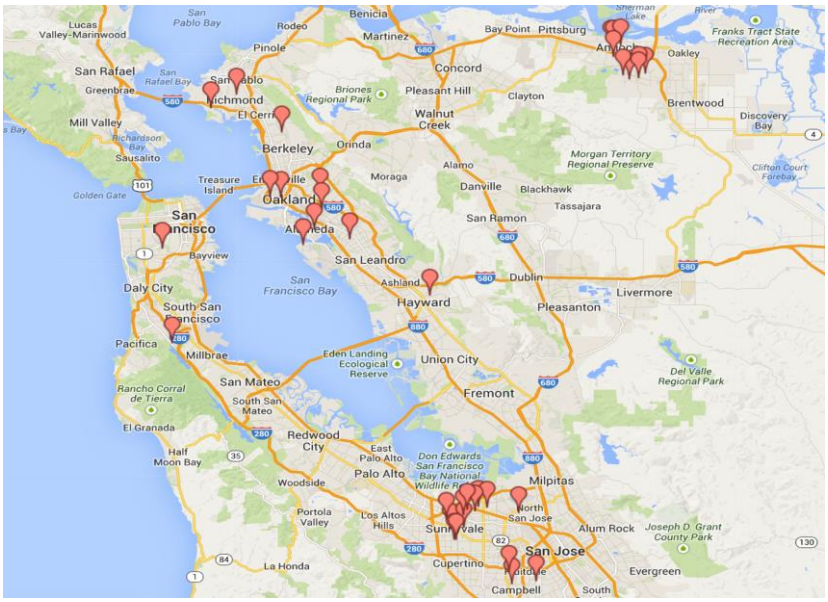

Figure 1. Map of Bay Area programs in study.

Data Collection:

To begin survey data collection I obtained a list of over 400 schools that had previously been solicited to take a survey in regards to program sustainability in 2013 by Environmental Sciences Alumnus, Katie Clabeaux. I then searched online for additional summer and after school programs in the Bay Area, and compiled a final email list. Not all schools listed a contact person for their gardens or program, in which cases I contacted the principal asking to have the survey forwarded to their program leader. I distributed an online survey focusing on program logistics, curricula, and assessment types to program coordinators of 512 gardening and healthy food programs via email (Appendix 1). I received 19 survey responses and conducted 13 follow-up interviews with survey respondents.

I conducted participant observation at two programs during the summer of 2013 in order to have a first-hand experience with how programs functioned. I visited Acta Non Verba in East Oakland four times and Food Science Buddies in West Oakland twice. I provided assistance to program coordinators by setting-up activity materials and chaperoning for certain events. I observed how the program operated, noted leadership activities and behavior, and how certain activities seemed to affect the youth population.

I used qualitative methods to analyze data on types of assessment, and gathered quantitative data in the form of program length, years programs had been active, number of students involved, budget of program, and grade level of youth served. The data collected helped me to compare levels of funding amongst programs and their program methods.

I asked all survey respondents if they would agree to a follow-up interview to elaborate on survey responses. I conducted 30-minute one-on-one interviews with program coordinators via phone. In all interviews I asked each program leader their level of involvement as well as how they got involved in the first place, further questions such as "how busy were you with the program?" and "how did you get involved?" were also asked to understand survey responses (Appendix 2).

Data Analysis

To understand the nature of programs and their level of assessment, I analyzed program logistics and assessment conducted. My survey answered what kinds of assessment were programs conducting, funding received, and what role did the school play. Structure could be classified into hours of involvement, number of student participants, and student grade levels. In my interviews I also asked what resources they used when teaching a lesson. The interview information served to substantiate and supplement survey responses. In evaluating my survey data, I looked for trends in responses and noted any striking responses.

RESULTS

Program Logistics

Program Structure

Teaching methods employed by leaders were formally organized utilizing previous teaching experience and online resources. I found that all private and publicly funded programs had formal teaching curricula. One program noted that they found a lot of resources from an online database created by Alice Waters, which had garden program curricula examples. Other resources used was the San Mateo Food Alliance System, Life Lab, YouTube for cooking recipes, purchase

of an academic program with lessons and materials, as well as meetings with parents to develop effective curricula. The presentation of health information to youth varied as programs provided hands-on learning, in-classroom teaching, or a combination of both. 12% of the programs provided youth with 15 to 45 hours or more participation per month. Certain programs had lessons in 30-minute increments and saw 6 different groups of students either every week (children in middle school) or every other week (children in elementary school), some groups were also larger than others.

Program Overview

Program leaders were highly dependent on budgets to provide effective activities however they were also lacking in time. The ability to conduct assessments often depended on funding. For instance, one program coordinator stated that they do not do assessment like they did in the past, as it is a funding issue. I found that gardens that partnered with outside health organizations were able to leave grant writing to a director in the organization to allow program leader to teach lessons with children. Some programs lacked School District funding and relied solely on their Parent Teacher Association, and certain coordinators felt that the district was virtually nonexistent in these matters. Over the phone interviews revealed: lack of time, and individuals initially got involved to just provide a fun program for students. Certain leaders were volunteers for their position or were allotted few hours of work a week. All of them found themselves devoting more time to run the program. A few programs utilized surveys to gather information from students and teachers.

Assessment

Assessment Analysis

Survey and interview responses indicated that most programs informally assessed success through observation of youth participating in programs or discussion of what was learned post activity. Programs that were just a garden space measured success through engagement of students. There was a common theme throughout all programs; providing youth with the tools necessary to

make healthy food choices. 21% of programs conducted formal assessment, 50% conducted informal assessment, and 29% performed no assessment. Programs shared the common theme of finding challenges with finding enough time in their schedules to assess learning. Because of this, certain gardens relied on teachers to properly gauge the learning of the students, which in turn helped assess the program. A program that conducted one survey revealed that 95% of students liked to eat in the garden. When comparing these answers to students that recently transferred into the school many stated that they were unaware of fruits and vegetables and thought gardens were disgusting.

DISCUSSION

Communication between different gardens and programs in the bay area did not exist. Most information derived for the program came from the experiences of only those at each individual program location. Few programs conducted formal assessment, as budgeting was an issue. The negative attitude surrounding formal assessment in numerous programs may have also hindered improvement of existing structure. Without distancing the negative connotation of assessment from government, current programs will avoid assessment and future programs will continue to have a lack of program resources to utilize.

Program Logistics

Lack of Communication

Bay Area programs require better communication between established and newer programs, as this facilitates sustainability of existing programs and establishment of new programs. One interviewee revealed that when starting up their summer program they were unable to find much support from others on how to start and assess their program. Sharing assessment of outcomes, issues and solutions between programs can prevent a constant reinvention of logistics and create replicable protocols for future programs to use as a guide. Reports summarizing efforts have a potential of focusing only on benefits while minimizing program issues as some programs considered change only when there were few benefits found and a lot of issues. I found that not all

programs existing in the Bay Area knew the same database to use for lessons such as Life Lab (Life Lab 2014). This creates a problem because there are so many databases created with lessons yet it has not been centralized. Programs that have not partnered with the school lack access to most of these databases. This large resource has potential to affect more youth education in gardens, yet is virtually silent as some program coordinators are unaware of its existence.

Informal Observation

While youth participated in programs a separate teacher used the students attitude to gauge learning. One program coordinator heard kids enthusiastically beg to taste raw veggies right out of the garden and found their program to be a success. Leaders judged effectiveness by relating it to student engagement; it was a type of pass or no pass system. If students participated they passed, if they did not, the activity was flawed. Informal discussions between staff members generally did not provide a time to have a proper meeting in which program components could be altered. Any informal discussions led to most knowledge learned being forgotten with few occasions where information was informally adapted to program. Because program leaders were so busy they were not able to take down notes on aspects of the program they observed to be working or not.

Two of the surveyed programs utilized classroom teacher input to assess learning in the garden and related the information to teaching in the classroom. Those teachers would check in with students on what they learned and one teacher wrote a blog about what she observed for the school. Generally feedback from students was positive as the lessons taught in the garden are not reproducible in the classroom (Robinson Zajicek 2005, Blair 2009). It seems that certain schools have school administration deal with other matters and neglect program assessment, leaving complete control to coordinators. However certain programs directors wanted a greater emphasis on assessment. As one stated, "it would help see what worked best, where to take students from there, what to review. It would help sell the effectiveness of the program to potential funders." In order to avoid reinventing the wheel programs need to take formal assessment to the next level, which provides information for future programs to be successful.

Assessment

Issue with Assessment

Many programs set out to change consumption patterns in youth, but few actually collected data because they had a culture that denied paperwork or bureaucracy and they also lacked resources to assess effects. Program leaders get involved with these programs to improve health of youth, however they also rely on good faith, where they feel having something exist is more beneficial than not and therefore they did not need formal assessment. The culture of these programs displays an independent, anti-bureaucratic sentiment, even when receiving funding from the state and federal government. Use of NGO's (non-governmental organizations) may be a potential avenue for helping to evaluate programs. If a NGO were to develop a how to assessment guide like certain higher education institutions more programs may feel more inclined to partake in formal evaluation (OAPA 2001). Other programs felt there was no need for formal assessment thanks to the great responses seen from students. Funding was a huge issue as survey respondents noted, from my participant observation I saw a reduction in the ability to spend on assessment without cutting out other crucial program aspects. This creates a paradox in which programs need to provide potential funders assessment and beneficial program outcomes yet programs are unable to because they lack funding. Schools in the Oakland Unified School District implemented programs to meet the wellness policy outlined by the district, but without evaluation of programs, no change can actually be found (BP 5030 2013). However the schools affected by this policy that responded to this survey had put something in place to ensure the policy was followed. Committees were a direct effect that had teachers, administrators, and garden leaders come together to discuss garden operations and student participation. These committees met frequently to see how students developed which has potential to create positive benefits as found by public health departments (Judd 2006). The assessment conducted by most programs was an informal type of review of program policies and procedures. Many programs have a culture established that denies formal assessment even with policies such as the wellness policy instituted in the Oakland Unified School District, because of its lack of accountability (BP 5030 2013). Placing the role of evaluation with another individual takes the pressure of garden leaders whose purpose is to educate children.

Types of Assessment

Certain programs were equipped with various types of assessment from wellness committees that guided activities, to harvest records, and even surveys. The programs that employed surveys demonstrated a positive effect on students, which promoted healthy food choices. The survey was employed in 12 different schools in the district, questions were simple: what do you learn, what is your favorite thing to eat, do you have enough time in the garden? Committees help keep these programs going by discussing feedback from all those involved and divide tasks out to different groups (soil and garden maintenance, lesson planning, and assessment. There were some cut and dry methods where program leaders when teaching plant sequencing would pick out the kids who were not absorbing the information and sent them to volunteer parents to reinforce concept and solidify learning. Observation showed that in certain populations the youth influenced each other with respect to food choices. One student's decision to consume a healthy fruit or vegetable led others to follow in their footsteps.

Recommended Practices

Others recommended an adaptation of a better assessment process such as a "streamlined assessment that explains to teachers and students why they are taking them. I.e. to adapt our program to best meet your needs, to continue program (i.e. funders want to see and hear from you). Someone to distribute to contact person and pick them up." Program leaders are overworked and would greatly appreciate assistance from another individual to oversee assessment. A teacher, administrator, or outside volunteer could do this assessment. Said individual would communicate with program leader regularly to further develop the program and find ways of improvement. Encouraging parent participation is a great way of involving the community and brings attention to these programs while also teaching parents about better health habits.

Limitations and Future Directions

My survey was only able to capture information on programs in the Bay Area, which is known for its history of food movements and ideals far more progressive than other parts of the country. Because of this, it may be difficult to make inference concerning programs outside of the Bay Area. The response rate was also not as high as was expected. This could have been due to

the fact that not all those who were sent a survey had a garden or youth program in their school or leaders did not have the time to respond. Because of this, statistical methods could not be employed because of the small sample.

Survey design and interviews provide a necessary means of closing the information gap but participant observation and physical site visits are more effective in collecting data on program operations (assessment, logistics). An approach that may have provided further knowledge is sending researchers out onto the field to gather information from homes and sites (Cohen et al. 2012). More participant observation of programs is a great idea that could be done by one individual by planning an entire summer and part of the start of the school year around visiting different programs around the Bay Area. Other key points to explore are how geographic location could either provide programs with a higher or lower amount of funding which could make the difference between an increased focus on assessment or total disregard.

Broader Implications

Future programs dedicated to improving the welfare of the community have a lot to learn from the data collected in these surveys. If more programs do not begin to consider means of assessment, a lot of information presented to funders will be purely observational. The benefit of conducting assessment is using the data to apply for more public and private grants, ensuring youth are absorbing knowledge, amongst other activities. The downside of assessment is that many schools have independent programs that are anti-bureaucratic. They are able to plan whatever structure they want, but without effective delegation of assessment to a specific individual, it will not get done. Programs are providing a fantastic exposure opportunity for youth that encourages a healthier lifestyle. Regardless of whether program leaders knew it or not they all conducted means of assessment. Leaders have the potential to act as a resource to others providing their knowledge learned from conducting activities with youth for future program directions.

List of Best Practices

In order to have better assessment, the data collected in these results must be shared as a guide for programs to follow. Without time constraints, the next best way to close the gap of

assessment would be to visit all program sites in advance. Encouraging programs to conduct further assessment or to consider it creates the potential to learn from what has worked and not worked in the past (depending upon area of program and other logistics).

ACKNOWLEDGEMENTS

I would like to thank Kurt Spreyer for being my mentor and providing me with ample feedback and support over the past year. This would have not been possible without John Battles, who offered me a great deal of support in ESPM 100ES. In addition, I would truly like to thank the phenomenal ESPM 175 team for encouraging us on this long and treacherous journey. I would also like to thank the ESPM 175 class, especially Team Juan for the thesis group editing and having made this year and a half exciting. Most importantly, I would like to thank my family for supporting me in my paper (which I will be translating for them) and for my friends who listened to me for an entire year about writing this thesis and never failed to keep me motivated to push forward.

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APPENDIX 1: Survey Questions

Bay Area Youth Healthy Food Programs Assessments: Best Practices

Hello, my name is Juan Hurtado-Rodriguez, an Environmental Sciences student at UC Berkeley conducting senior thesis research on the assessment of youth healthy food programs in the Bay Area. I would like to ask you to take a few minutes to complete this survey. Feel free to skip questions you may not feel comfortable answering. All responses will remain confidential. If you have any questions at all, please email me at juanhurtado@berkeley.edu

Thank you,

Juan Hurtado-Rodriguez

* Required

What is your name? *

What is the name of your program? *

Where is your program located?

When was your program founded?

How many students participate per year?

What grade levels are represented?

- ☐ Pre-School
- ☐ Kindergarten - 5th Grade
- ☐ 6th Grade - 8th Grade
- ☐ 9th Grade - 12th Grade

How many hours do students participate per month?

- ○ 1 - 15 Hours/Month
- ○ 15 - 30 Hours/Month
- ○ 30 - 45 Hours/Month
- ○ 45 or more Hours/Month

How is your program funded?

- ☐ Publicly
- ☐ Privately
- ☐ Both

What is your annual program budget?

- ○ $1 - $499
- ○ $500 - $999
- ○ $1,000 - $2,499
- ○ $2,500 - $4,999
- ○ $5,000 - $7,499
- ○ $7,500 - $10,000

What are the key goals of your program?

Does your program plan include means of assessment?

Do you evaluate the effectiveness of your program in meeting these goals? Why or why not?

If yes, would you consider this a formal or informal assessment process? Please describe the assessment process. If not, please explain why not.

The following are informal ways of assessment, if you have done any of the following please elaborate as to what you did.

Write in a journal, hold team meetings, interview students, observe students in a systematic way, checklist of behaviours, etc.

Do students have any input in terms of assessment? If so, how?

What challenges did you encounter in assessing your program?

How could you improve assessment?

What areas of the program are the most difficult and easiest to assess?

How do you think that improved means of assessment would or would not be helpful to your program?

Does the person charged with assessment have any formal training in assessment? If so, please specifiy.

Do you report assessment information to your funders?

Has your assessment process led you to make any changes to your program? If so, please specify. If not, why?

Is there any form of external review? If so, are there any standards?

If you have any last comments please feel free to fill out this box

I am also conducting interviews (which remain confidential). If you are willing to have a quick conversation over the phone with me please leave your number and the best times to reach you at, thank you!

APPENDIX 2: Interview Questions

How busy are you with this program?*

How did you get involved?*

Have you been able to find a lot of information on gardening/youth programs?

What foundation do you report to if you don't mind my asking?

How effective have worksheets been?

Have you been able to find a lot of information on gardening/youth programs?

Do you have a way of ensuring whether or not students are truly absorbing the science curricula (other than participant/non-participant)?

Have you been able to find a lot of information on gardening/youth programs?

What information do you provide to funders?

How do you evaluate goals being met internally?

Have you been able to find a lot of information on gardening/youth programs?

Did lack of time with students prevent you from performing any kind of assessment?

You mentioned Laura who writes in a journal, what does she write?

How has preparing the survey worked out for you?

Have you been able to find a lot of information on gardening/youth programs?

Do you know what the agency does when assessing your program?

What kind of involvement do teachers have with your program?

Have you been able to find a lot of information on gardening/youth programs?

Do you still have teachers help with applying for grants? If so what do they include?

Do you take notes on stimulating activities performed with students?

**everyone was asked those questions*