

Looking Back and Looking Ahead: A Formative Evaluation of  
Discovery Youth at San Jose Children's Discovery Museum

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“This is a special place for me” – Michelle, Discovery Youth Participant

## **Abstract**

Discovery Youth is Children’s Discovery Museum of San Jose’s (CDM) innovative after-school program designed for young adolescents in the San Jose area. At the end of its first year of funding from the Lucile Packard Foundation for Children’s Health (LPFCH), the program is on track to meet its broad goals of promoting healthy development and strengthening opportunities for young people to participate in meaningful after-school programs. The program’s greatest successes have been the dissemination of health education materials to the general public and the contributions to the participants’ self-image. From the evaluator’s standpoint, the most significant need is to better integrate participant-driven research goals into the program’s activities. Because CDM staff and participants have formed strong, caring, and respectful bonds, the program is in great position to meet the educational, social, and emotional needs of this community of young people.

## **Introduction**

In Discovery Youth, students developed multimedia projects designed to promote health awareness to peers and younger children. The topics of these projects ranged from smoking prevention to promoting good hygiene to demystifying visits to the doctor. By giving participants the chance to develop multimedia projects that promote healthy behaviors to other audiences, the participants construct identities as health educators and contribute to the health awareness of the museum’s thousands of younger visitors. These

opportunities to share knowledge have also served as avenues for participants to increase their social skills and participate in service learning.

Discovery Youth is free and is open to everyone ages 10-14. More than 130 adolescents came through the doors of Discovery Youth this past school year; a core group of about 25-30 became regular participants. They were guided by two Museum Educators who were supervised by CDM's Director of Youth Programs. Most of the program's activities took place in Children's Discovery Museum's Multimedia Studio. The Multimedia Studio is a large, airy room, with 10 networked personal computers that have multimedia software installed.

Throughout the program year, participants came to Discovery Youth after school and on weekends. Young people from 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> grades came on Thursdays, while 5<sup>th</sup> and 6<sup>th</sup> grade students came on Tuesdays; both groups came on Saturdays. Michelle, a rising sophomore, first came to Discovery Youth to learn about technologies and how to use multimedia to tell stories. "How often do kids get to make movies?" she asked. One of the staff's key goals was to channel the participants' interest and enthusiasm in using technology into a program that emphasizes health awareness. The staff responded to this challenge by creating a learning environment and learning experiences that felt distinctly different from a school's health class. Promoting this kind of environment was critical because the Discovery Youth program is popular precisely because it offers the chance to learn in settings different from school.



Discovery Youth Participants collaborate on a claymation video project

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While this program is still searching for the most efficient ways to incorporate an inquiry-based approach to health issues, there is no doubt that Discovery Youth has had a positive impact on the mental and emotional health of the participants. The participants and the staff have formed a community that fosters self-confidence, supports positive relationships between adolescents and adults, and promotes social interaction within a diverse cohort. Supporting the health and well being of the participants is a core value of the staff and of the program's activities.

This report analyzes some of the successes and challenges that the Discovery Youth participants and staff have experienced and makes some recommendations for the second year of the program.

## **Methodology**

This evaluation is based on a series of interviews with Discovery Youth staff and participants. The first step was working with CDM's Director of Youth Programs and one of the two Museum Educators to develop a general outline of the needs and scope of the evaluation and to discuss strategies for getting feedback from the participants. After the framework had been established, the reviewer interviewed the Director of Youth Programs. Next, the Museum Educators were interviewed together and individually to understand the staff perspective of the program.

A week later, eleven Discovery Youth participants engaged in a facilitated reflection session. During this time, the participants were divided into four small groups and were given markers and a large sheet of paper with one of four titles: I like...; I'd change...; I learned...; I still want to learn.... Each group wrote down suggestions for completing the phrase on the page they were holding. After several minutes, the evaluator rotated the sheets among groups so that each group had the chance to answer each question. By the end of the session, there were four large sheets of paper filled with recommendations and reflections on the program. Next, the participants showed some of their videos and gave feedback on their processes and projects as they watched their work. Finally, the reviewer conducted in-depth individual interviews with two Discovery Youth participants.

## Meeting the Goals of the Proposal

“I wish school was like this” – Javier, Discovery Youth Participant

Each of the goals outlined in the original proposal has been met to some degree. The brightest successes for the program have been the increase in participants’ self-confidence, social skills, and multimedia authoring skills. This program has made a significant impact on the way these young people interact with three very different groups of people: peers, adults, and younger children.

Goal: By June 2003, 70 young adolescents (45 in year one and 25 in year two) will produce 27 media pieces for radio, video, and the Web

In the first year, 132 adolescents were served to some degree by the Discovery Youth program. From this group, a core group of 25-30 young people came together and participated throughout the year. Together, they produced a total of 17 projects. The vast majority of these were health education videos for audiences of children and other adolescents.

The participants in Discovery Youth were introduced to the technical and creative aspects of producing educational multimedia. Specifically, this means they learned to:

- shoot footage using digital video cameras
- edit film and create special effects using Adobe Photoshop and Apple iMovie
- create animations using stop motion techniques and Macromedia Flash software
- use backgrounds, set design, costume design, and art direction to make compelling finished products



Discovery Youth participant prepares a background for shooting

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So far, radio and web page development have not played a large role in the Discovery Youth program for two main reasons. First, the participants were most excited about making videos and less excited about other technologies; using video cameras sounded much more fun than using computers to design web pages or recording their voices for radio spots. Secondly, the program staff's skill sets were better matched for video than radio and web projects.

Goal: By June 2003, 75 percent of participants will indicate increased confidence, greater social skills, and development of stronger relationships with peers.

One of the great successes of the program so far has been helping participants increase their self-confidence and social skills. In turn, the participants have developed new friendships with a diverse group of fellow participants. Just as important is the fact that the participants seem to be aware of what they have accomplished. Two participants explained that their increased confidence has had a significant impact on their lives.

Javier, a 14-year-old Latino youth, is a Discovery Youth participant who recognizes how much he has gained from the program. “Without this program there’s no way I could just sit here and talk to you... I got better at talking.” He is proud and appreciative that Discovery Youth has given him the confidence to talk to new people, make new friends and overcome the shyness that had been such a big part of his personality.

Michelle, a high school sophomore, expressed her awareness of her increased confidence by noting how much better she works in groups. She noted that in Discovery Youth she has “learned how to work with other people and to have fun doing it.” Furthermore, she was proud of the fact that the participants and staff that she has collaborated with at CDM have become her friends

The reflections of the staff strongly support the role that this program has played in increasing self-esteem. The staff members felt encouraged that not only do “diverse kids work well together,” but also, “our kids are going to movies together on Sundays.” In Discovery Youth, adolescents are able to explore new sides of their personalities. The student who has been expelled from several schools can work together with the straight – A student from another school; they have a chance to be free from the expectations of the individuals and the social networks of their schools.



Goal: By June 2003, 75 percent of participants will indicate having experienced a positive relationship with one or more caring adults (program staff, project advisors, professionals):

All of the participants at a reflection session indicated that working with the staff was one of their favorite parts of the program. Both participants and staff mentioned that there was a high degree of respect and trust between kids and staff. One participant said, “[The staff] are both really good role models, they treat us like people. They understand us; they don’t look down on us.” It is clear that the staff members excel at balancing their roles of teacher, friend, and adult and that the participants recognize the value of having these staff members in their lives. As further testimony, one mother has expressed deep concern about finding another positive male role model for her son with the departure of one of the staff members.

As the students reflected on the program they began to brainstorm new jobs for that staff member, who is moving to Florida. All of the participants wanted him to stay, but one comment stood out, “You should work at the Discovery Museum in Florida.” This comment indicates not only an appreciation for what staff contribute to the Museum and the participants’ lives, but also a recognition that other young people should be able to experience a relationship with this adult.

Goal: By June 2003, 70 young adolescents will increase their health knowledge through research and media design projects as measured by youth questionnaires.

From the evaluator’s point of view it is clear that the participants have increased their health knowledge, although they have taken a different path to achieve this goal than originally intended. By designing multimedia projects and being given the responsibility to act as educators of their peers and younger children, participants became experts on health issues. Instead of emphasizing the research component of this project, the staff supported participants’ learning through creative experiences. The participants brainstormed health topics, decided which topics were most relevant for their audiences, researched those topics, and then created the projects to convey healthy messages. During an interview Javier articulated the benefits of learning in the informal environment of Discovery Youth: “Most kids, school is not their favorite thing -- me too. Here, it’s fun we can work on computers and learn new things”

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Participants using health texts to create animation flip books

Goal: By June 2003, through service learning projects, participants will design and implement health-related activities that benefit 10,000 young children in Zoom Zone

Participants had a chance to share their work with young children in the Museum's Zoom Zone regularly. They also had a chance to showcase and explain their work at the San Jose Children's Health Fair and at the Museum's three Safe Nights. As the program progressed, the participants' roles as health educators became much more vibrant and visible as they interacted with more people. This service learning component of the program gave participants the chance to work directly with younger children, and build their identities as educators. For example, the video "Rigo Goes to the Doctor" aimed to ease children's fears of visiting doctors. "In Your Nose" took a more humorous approach to helping younger children learn not to put foreign objects in their noses. The Discovery Youth participants not only learned about health, but also how to teach others about a topic with which they have some expertise.

Goal: By June 2003, 700 young people in Santa Clara County will be exposed to high-quality, health-related radio, video, and Web presentations led by program participants

The Discovery Youth participants successfully presented their work at the San Jose Children's Health Fair and the CDM's Safe Nights. So far, several hundred young people have seen the projects, and it is likely that hundreds more will view these projects in the coming year.

## **Other Successes of the Program**

“I learned that doctors aren’t scary” -- Discovery Youth reflection session comment

There have been several successes in this program beyond the original goals that were set out last year. These achievements contributed to the overall success of the program and the feeling of accomplishment that is evident in the reflections of both staff and participants. As the program enters year two, staff should keep these successes in mind as they develop activities for Discovery Youth.

### **Participants recognize that Discovery Youth impacts them at critical junctures in their lives**

In interviews, participants recognized how important this program was at this point in their lives. They were grateful that Discovery Youth gave them “something to do” instead of “getting into trouble” or “doing bad things.” It is significant that the participants themselves recognize the importance of the program; they realize that this is not just an after-school program but a chance for them to develop their personalities and be free from the social pressures that exist in their school lives. In turn, this has led participants to strengthen their self-images and given them the confidence to try new things with new friends.

### **Scaffolding was used well to help participants excel at representing CDM**

The Discovery Youth program has employed a two-tier approach to representing itself to the general public. On the first tier are the activities that Discovery Youth

participants take part in on the Museum floor, such as working in the Zoom Zone and working with younger visitors in the Museum's Early Childhood Center (ECC). Because these first-tier activities are in-house, museum staff and a familiar environment can act as scaffolding as participants learn about the responsibility of representing the Museum to the community. Building on that experience, participants then represented the Museum to the general public without the scaffolding of the Museum setting. These second tier activities with the public at large include representing CDM at The Children's Health Fair and Safe Nights. Distinguishing between these activities is important because the participants were able to develop confidence and skills in the safer CDM environment before presenting their work and knowledge in open settings.

### **Participants are better prepared for school**

During interviews with the participants it became clear that Discovery Youth has helped some participants prepare for school. This is especially important as many of the participants transition to high school where they will be required to use computers regularly. Javier expressed confidence that his computer skills will help him as he enters high school. He was excited about typing and e-mailing homework to his teachers because it "saves trees and is more efficient." He noted that because he does not have a computer at home, he would not have learned how to use a computer without the Discovery Youth program. Because Discovery Youth has better prepared Javier for future learning, the impact of this program could be significant throughout his educational career.

### **Discovery Youth participants learned from each other**

During the year, some of the participants became experts in using multimedia hardware and software and taught others in the program how to use these tools. These experiences are important not only because they gained the confidence and self-respect to consider themselves teachers, but also because it indicates the development of a learning community where one person can feel comfortable asking a peer for help.

### **Significant Challenges**

From the outset, increasing health knowledge has been a primary goal of the staff; the participants, however, are attracted to Discovery Youth by the promise of learning how to use high-tech equipment. From the participants' point of view, learning the technology is just much more fun than learning about health. To meet the challenge of closely tying the health research agenda with the youths' interest in creating media, the staff has emphasized health awareness issues as the central themes of the video projects and supported participants' research to help make the videos educational for producers and audiences.

Perhaps one reason this tension exists is that producing video is not fundamentally a research activity. Video can be an exceptional teaching media and a creative outlet, but one cannot use a video camera to look up facts and figures about health. A challenge arises because video is the medium that participants are most anxious to use. The staff attacked this challenge by emphasizing the positive impact of teaching younger kids about health. This strategy helped keep the health education agenda visible without

making the program sound like health class and potentially turning away the very students that the program is trying to reach.

### **Aligning participants' interests with staff's agenda**

Throughout this program, there has been a tension between participants' reasons for being in Discovery Youth and the Museum's agenda while they are there. These views are not mutually exclusive, but they are not yet as closely aligned as they could be. At the highest level, it seems that researching health issues is not a motivating enough reason to keep adolescents coming back to the program; they are far more interested in learning how to use the video cameras and computers

To meet this challenge, the staff members have continually looked for new ways to include a health awareness agenda. Throughout the year staff helped students

- Discuss health issues in down time and informal conversations
- Make informed decisions about the most important pieces of a single health lesson to include in a media project
- Address health issues that did not make it into the final projects

One of the key benefits to this approach has been keeping health discussions always on the table; participants are always surrounded by health issues, but are less likely to feel bombarded by a health curriculum that resembles a school curriculum. On the other hand, the participants might be less aware of the program's design and might be less inclined to research new topics, instead choosing to work with topics that they already know about, such as the dangers of smoking. Continuing to look for ways to encourage the research component of the program will help keep health awareness as a takeaway from the program.

### **Matching staff expertise with program requirements**

The museum educators who worked directly with the participants felt that they needed more training and support in health issues to provide a richer environment for research. Neither of the staff members had enough of a children's health background to feel confident answering some of the questions that participants raised. As educators, they were faced with a dilemma of how to best spark curiosity in their students about a topic that they had little training in how to teach. The staff worked through this dilemma by encouraging participants to look at familiar topics in more depth and to consider different ways to present their knowledge to peers and younger kids. This approach fostered learning as students became experts on their topics and constructed identities as health educators. The trade-off was that there were fewer opportunities for participants to think about, and then research their own health questions. The participants, however, did not seem too troubled by this shortcoming as they reiterated that the most interesting parts of the program were working collaboratively and learning how to use new equipment.

### **Managing participants' expectations**

The staff found that participants have high expectations for multimedia projects, but have a harder time realizing how much work goes into producing high-quality products. For example, several participants wanted to make high quality websites, but quickly lost interest when it became apparent how much work was needed to produce the products they had envisioned. Two of the key software products, Adobe Photoshop and Macromedia Flash, are complex tools that are usually used by adults who have had a



significant amount of training. These applications were used by some of the young people, but they sometimes proved to be the wrong fit because of the time and patience needed to use them effectively. Instead, participants often worked with techniques such as stop-motion animation and software such as iMovie to enhance their projects. It seems that this strategy was successful because the students remained interested and engaged in the projects and continued to produce innovative work.

## **Recommendations**

Overall, the Discovery Youth project has successfully raised health awareness without feeling like a traditional school class. The staff have created an environment where participants have

- increased their health awareness through teaching others
- strengthened their self- confidence by creating multimedia and representing CDM to the public
- formed positive relationships with adults by working with staff members who respect the participants as people
- become better prepared for school by increasing their technology skills
- feel physically and emotionally safe

The recommendations below are designed to build on the achievements of the program's first year and resolve some of the challenges that arose in the program.

### **Plan the Curriculum Earlier**

To emphasize the health research aspect, the staff could move some of the planning forward by identifying the interests and needs of the participants earlier in the year. The research topics do not necessarily need to be set in advance, but the processes that participants use should be clearer. One idea is to poll participants before they enroll

in the program to find out what kinds of topics are interesting to them and their level of multimedia skills. Having a general sense of the kinds of things participants are interested in could help staff develop a plan for guiding the research and production process; staff would have a good idea of the directions that the students want to go and could then plan accordingly. Polling incoming participants would retain the authenticity of having participants identify their own projects while giving staff more time and information to plan earlier. In turn, this could help participants and staff focus on what could be done in the time period instead of grand plans of long videos with expert production values. An entry poll could also help determine a baseline level of participants' health knowledge so that staff could survey how much learning has taken place over the course of the year.

### **Leverage resources and expertise of LPFCH to support staff**

One of the most significant events for the staff was the LPFCH's Children's Mental Health Day. At this conference staff not only learned more about the subject matter (children's health) that they were teaching, but they also got a clearer idea about how their work was part of the bigger picture of work on children's issues. Being included in this conference boosted staff morale because they felt that their work was being validated. The staff was grateful for that event, and would like more contact with the resources that LPFCH can offer. The project's coordinators are eager to learn more from LPFCH and would like to be able to turn around and help guide the young people with whom they are working. One possibility is to have a children's health expert affiliated with LPFCH come onsite to help lead staff and participants through a seminar

on children's health. This kind of onsite seminar could spark participants' imaginations and continue to build staff members' confidence.

### **Leverage CDM resources for outreach and recruitment**

Over the past year, the staff spent a significant amount of time doing outreach and recruitment. They did workshops on the road, served agencies at community centers, and spent time at community events. The Discovery Youth program needs to leverage more of the existing marketing and communications resources within CDM's organization to bring young people to the program. This could include some kind of display on the museum's floor, a bigger presence on the CDM website, or a stronger relationship with the Museum's own external relations department.

In the upcoming year, there needs to be stronger relationships with the local schools to help recruit participants and to coordinate their offerings. One local school that sends many students to Discovery Youth began its own multimedia training program after school at the same time as the Discovery Youth Program and siphoned some participants away. Javier considered himself lucky to have found out about this program through an exceptional teacher. He commented, "If I didn't know Ms. Brown, I wouldn't have met any of these people."

### **Invite special guests from industry to help meet program goals**

During the past year, Discovery Youth hosted several guest visitors who added their expertise in multimedia to the program. In year two, the Discovery Youth staff could invite more guests from health institutions and multimedia companies to lead

seminars with the participants. The staff could designate one day every other week for visitors to the Discovery Youth program. For example, it is likely that there are professional web designers in the community who would be willing to volunteer one afternoon to lead a web design session for participants and staff. Bringing special guests to CDM is likely to motivate the participants and could lead to the production of other kinds of media to complement the videos that have been produced to this point. Similarly, Discovery Youth could look for a volunteer from the radio industry to lead a session or two on radio production. This might help get kids excited about a technology that at first glance is not as appealing as video or computers.

## **Summary**

At the midpoint of this two-year grant, several compelling results indicate that this program is extremely valuable to its participants. Most importantly, Discovery Youth has made a significant impact on the lives of the young people involved in the program. They have strengthened their self-confidence, developed positive and powerful relationships with adults, enhanced their social and teamwork skills, learned computer and multimedia skills that are transferable to school, and have gained insight into themselves. By participating in this program, young people have experienced respect and responsibility in a supportive environment.

Additionally, the staff and participants have developed multimedia artifacts that can have an impact on the broader community. Health awareness videos can be shown at CDM and at schools, or can be broadcast on public access television to raise community awareness of children's health issues. The work that has been done over the past year

can be the starting point for an entire collection of multimedia projects designed by young people for young people. The Discovery Youth environment makes lasting contributions to the individuals; the projects make lasting contributions to the community.

While these benefits are significant, there are two challenges that need to be met for this project to be an unqualified success. First, the program needs to do a better job of increasing participants' own learning through inquiry. While the participants' health knowledge has increased as a result of this program, the inquiry piece has not taken off in the way originally intended. To meet this goal in year two, the CDM staff can work with LPFCH to brainstorm creative ways to differentiate health inquiry activities in the Discovery Youth setting from health classes at school. Second, the Discovery Youth staff, the participants and the CDM staff all need to generate more awareness of the program by expanding the presence of the program within the museum and coordinating with local schools. One staff member summarized this by saying, "We do good things here, we need to let people know about them."

Discovery Youth provides positive opportunities to young people at critical points in their lives. Through the process of creating health education videos, participants like Javier have gained self-confidence, developed positive relationships with adults and peers, and are prepared to meet learning challenges for the rest of their lives. For Javier, "This was a big change in my life."