

# Science for All: What Do Our Kids Say?

## A Model for Evoking the Wisdom of Youth

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Techbridge



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YOUTH RADIO

### The Challenge – and Opportunity

How do we interest more children in science – particularly those who come from communities not well served by classroom, informal, or after-school science programs?

Our future success as a nation may depend on our ability to find creative answers to this question. In a 2010 report, the President's Council of Advisors on Science and Technology wrote:

*Science education will determine whether the United States will remain a leader among nations and whether we will be able to solve immense challenges in areas like energy, health, environmental protection, and national security.*

We need scientists who can create innovative solutions in these and other areas – and a scientifically literate population to support wise policy choices. Yet we are failing to address this national priority. While some students will always be drawn to science, technology, engineering, and math, a growing number turn away from these fields and many consider them irrelevant to their lives.

How do we reverse this trend? What would it take to engage all young people with science, in all our communities, so that science is considered fun and worth learning rather than feared or thought to be a subject for the select few?

Or, to paraphrase President Obama from his speech about the importance of science and technology: How do we make science as cool as basketball?

There are a lot of adults asking this question.

***Perhaps we should be asking the kids themselves.***

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### A Pilot Project

We did just this – and you can, too.

During the fall of 2010, the Noyce Foundation partnered with Techbridge, the World Café Community Foundation, and Youth Radio to host a series of conversations on science with 7<sup>th</sup> and 8<sup>th</sup> graders from Edendale Middle School in San Lorenzo, California.

We talked both to students interested in science and to those who had little or no interest in the subject. We wanted to know how both groups viewed science, whether they felt that science was important in their lives, and how they'd recommend to both friends and parents that science matters. We also wanted to involve the kids themselves in designing and hosting these conversations.

Highlights of these conversations can be seen in the video “Science for All,” available from the Noyce Foundation. We learned that kids do have very important insights and ideas to share.

### Our Learning: Strategies for Designing Conversations with Students

Over the course of two months, our team designed and hosted a series of three conversations with students from Edendale Middle School. Not only did we learn from the youth that were involved, we also gathered best practices that can help any community interested in hosting their own conversations.

Based on our experiences, we thought it would be informative to share what we've learned – knowing that you'll find the most effective way to do it with youth in your own school or community.

Here are some ideas to help you get started!

- 1 Identify partners and planning team.** Finding the right partnering organizations can provide the necessary bandwidth and expertise to get the project off the ground.

The Noyce Foundation invited a few key organizations to collaborate in this project, and each played an important role. Some of these partners included:

- *Techbridge*, an organization that runs after-school science programs and has strong relationships with schools in the area. They helped us find the students that would participate in the project.
- *The World Café Community Foundation*, an organization that specializes in hosting conversations around questions that matter. They brought expertise in the design and facilitation of the conversations with the students.
- *Youth Radio*, a non-profit that uses media to promote resiliency in youth, offered video support to capture the conversation sessions and produced the final video.

**2 Clarify your purpose and explore questions that matter.** It is important that all members of the planning team have a clear understanding of the reason you are starting this project. Knowing the purpose enables you to consider which students to invite to participate, and the types of questions that you will want to explore during the conversations. Finding and framing questions that matter to those who are participating is an area where thought and attention can produce profound results. If the questions are not engaging for the students, they will not take the time to offer meaningful responses.

Our purpose for the “Science for All” project was to learn what it would take to make science more appealing to all youth. We crafted questions that served this purpose. Here are some examples of the questions we asked students:

- What is science?
- Why is science important?
- What are all the ways you can use or learn about science outside of the classroom?
- What do you like about science?
- What do you not like about science?
- Was there a turning point that made you become interested in science?
- What do your friends think about science?
- Why do you think other students do not get excited about science?
- If your job was to get your friends interested in science, how would you describe science to them? (In our conversations, the students worked together to create posters to show their peers that science can be interesting.)

**3 Invite selected students to help design and host the conversations.** Including students in the design process will add valuable insight and feedback as to what conversations will be engaging for the participants. Additionally, having students facilitate the conversations will be a different experience for the participants, and they might feel more open to share honestly when there is no adult in front of the room.

**4 Design conversation process around key principles.** Principles that foster collaborative dialogue and active engagement are critical to successful conversations.

Below are a few principles developed by the World Café Community Foundation:

- *Create hospitable space.* When people feel comfortable to be themselves, they do their most creative thinking, speaking and listening. Consider how your invitation and physical set-up contribute to creating a welcoming atmosphere.
- *Encourage everyone’s contribution.* It is important to encourage everyone to contribute their ideas and perspectives, while also allowing anyone who wants to participate by simply listening to do so.

- *Listen for insights and share discoveries.* Through practicing shared listening and paying attention to themes, patterns and insights, participants begin to sense a connection to the larger whole. Ask the students to not only respond to each question with thoughtfulness, but to listen to one another for deeper learning.
- *Have fun!* The conversations as a whole need to be stimulating and enjoyable for the participants in order for them to fully immerse themselves in the inquiry. Include icebreakers and other “hands on” activities during the sessions as a way to get the participants energized and excited.

**5** **Share what you’ve learned.** Take the time and capture the observations, insights and new questions that arise through the entire project. As we find new ways to engage more youth in science education, it is imperative that we continue to share our learning with others in the field.

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*These guidelines reflect what we learned in our pilot program. We encourage you to adopt what’s useful – and to find your own creative ways of inviting youth in your school or community into conversation. What worked for us may not work as well for you, and you may have ideas we didn’t consider. What’s most important is that you begin the conversation, whether that’s a single session after school one afternoon or a series of dialogues with students over a longer period of time. Share your experience... and what you learn... with us and others!*

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### Our Invitation to You

Whether you are leading an afterschool, summer, or in-school science program, *have a conversation with your kids* to discover the ways that science matters in their lives and to create programs that will engage them. Using the guidelines described above, you can explore questions that matter to you and your students and learn a great deal about their views of science education.

Given the right conditions, your kids will surprise you and provide much clarity on how to make science appealing and accessible to all youth!

If you have questions or would like to learn more, please contact Ron Ottinger, Executive Director of the Noyce Foundation, at [rlottinger@noycefdn.org](mailto:rlottinger@noycefdn.org).

*Have fun!*

