

Nanoscale Informal Science Education Network Museum and Community Partnerships Evaluation Report

EXECUTIVE SUMMARY

This document is an executive summary of the *NISE Net Museum & Community Partnerships Project Evaluation Report* (Todd, King, Cardiel, Ramos-Montañez, & Kollmann, 2017). The sections below share some of the key points from the main findings in the report. Additional findings and information can be found in the full report.

Background of the NISE Network



The Nanoscale Informal Science Education Network (NISE Net, nisenet.org) is a national community of researchers and informal science educators dedicated to fostering public awareness, engagement, and understanding of nanoscale science, engineering, and technology (nano). NISE Net is one of the largest informal science education initiatives ever undertaken in the United States.

Background of the Museum & Community Partnerships Project



NISE Net received funding from the National Science Foundation for the Museum and Community Partnerships project, an initiative to build professionals' capacity to reach underserved audiences by fostering collaborations between museums and local community organizations. The Network distributed 100 *Explore Science—Zoom into Nano* outreach kits of professional resources and educational materials for partnerships (a museum paired with a local community organization) to use to reach underrepresented children, youth, or families. This document summarizes the summative evaluation findings from this project.

Evaluation Methods and Audiences

The data described in this report were gathered in three ways:

1. Pre- and post-surveys of participating professionals from museums and community organizations ($N=254$)
2. Activity surveys about kit materials collected from professionals who facilitated hands-on STEM activities ($N=119$)
3. Administrative records including project applications ($N=100$) and reports ($N=84$)

This executive summary and the associated report are structured to correspond to findings about the evaluation's two key target audiences:

1. **Professionals:** The staff and volunteers who participated in the project, consisting of those from:
 - *Museums:* NISE Net organizations including science centers, children's museums, universities, and more
 - *Community organizations:* Independent organizations or local branches of national youth-serving organizations
2. **Publics:** The children, youth, and families who were participants in project activities, many of whom were underserved by STEM institutions and/or underrepresented in the STEM fields.

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PROFESSIONAL IMPACTS FINDINGS

The Value of Partnership

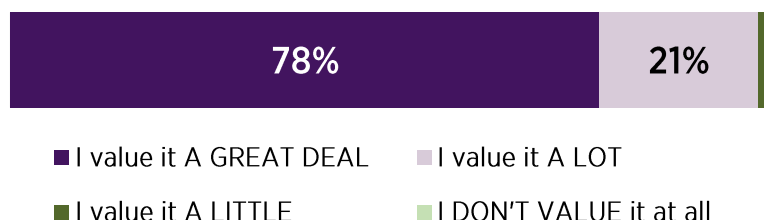
Professionals **valued partnership** between museums and community organizations and reported being **more likely to engage in future collaboration**.

AFTER participating in *Explore Science—Zoom into Nano*, how much do you value fostering local partnerships between museums and community organizations? (n=72)

After the project,

78%

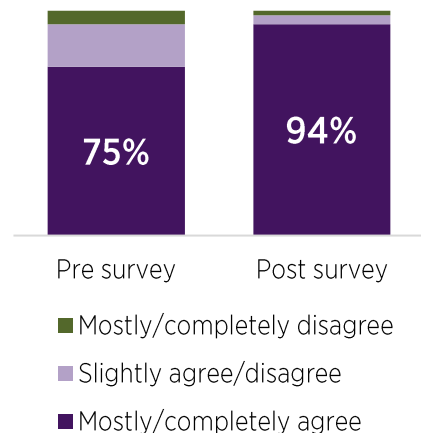
of respondents (n=70) were **“MUCH MORE LIKELY” TO ENGAGE IN FUTURE COLLABORATION** with a museum and community organization.



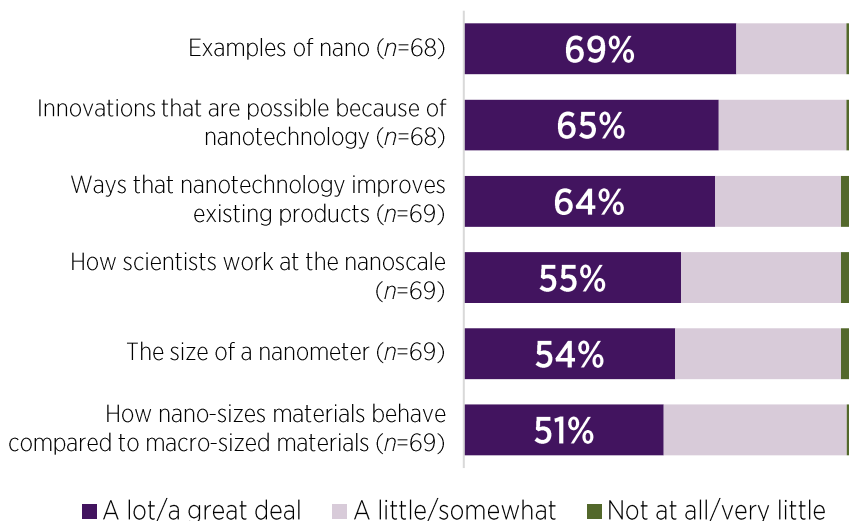
Learning about Nano Concepts

Professionals **gained confidence explaining nano** concepts and **attributed those gains to the project**.

I feel confident in my ability to explain examples of nano to another adult. (n=47)*



How much has *Explore Science—Zoom into Nano* affected your confidence in explaining to another adult...



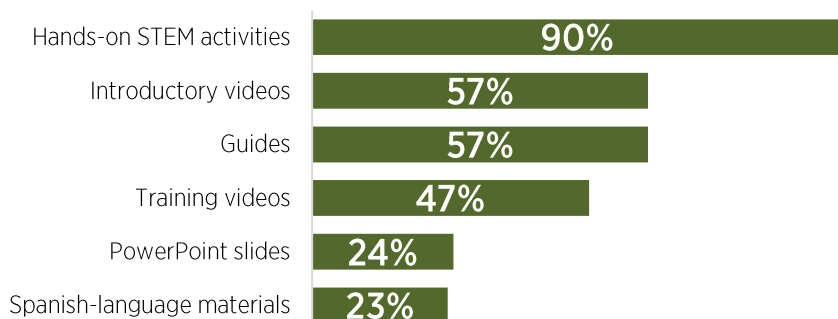
Note: See report to learn about other nano concepts.

PROFESSIONAL IMPACTS FINDINGS, CONTINUED

Usage of Project Materials

All project resources were used, especially the hands-on STEM activities, introductory videos, and guides. Many respondents—especially those from museums—had personally used kit materials in different ways **beyond project requirements**.

Which of the following *Explore Science—Zoom into Nano* materials have YOU PERSONALLY used as part of your *Explore Science—Zoom into Nano* partnership? (n=70)



67%

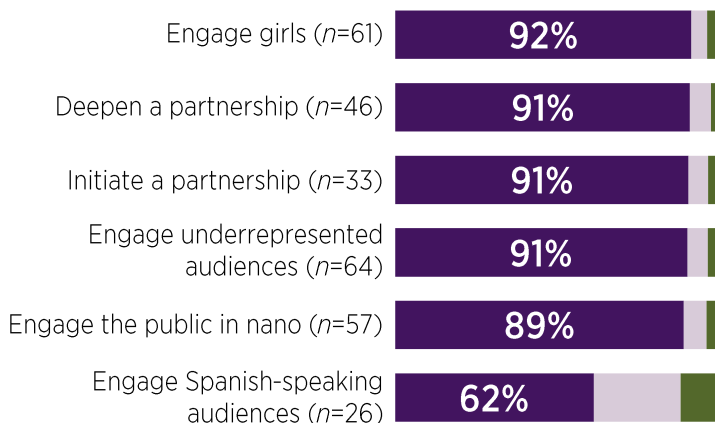
of respondents (n=64) had used kit materials to engage the public in content areas **OTHER THAN NANO**.

Note: This is what each individual respondent used, not what whole organizations used.

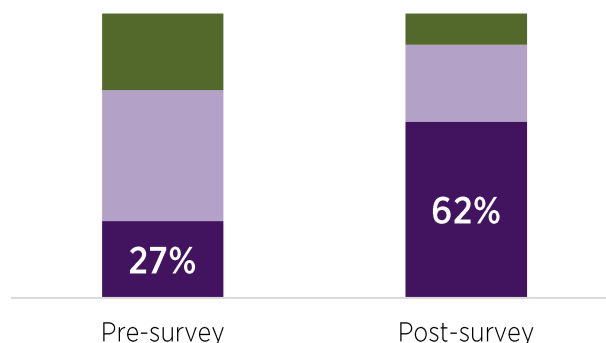
Confidence with Professional Practices

Professionals had **high levels of confidence** for implementing professional practices, and **confidence for engaging Spanish-speaking audiences grew**.

After participating in *Explore Science—Zoom into Nano*, I feel confident in my ability to...



[Before/after] participating in *Explore Science—Zoom into Nano*, I [felt/feel] confident in my ability to engage Spanish-speaking audiences. (n=26)*



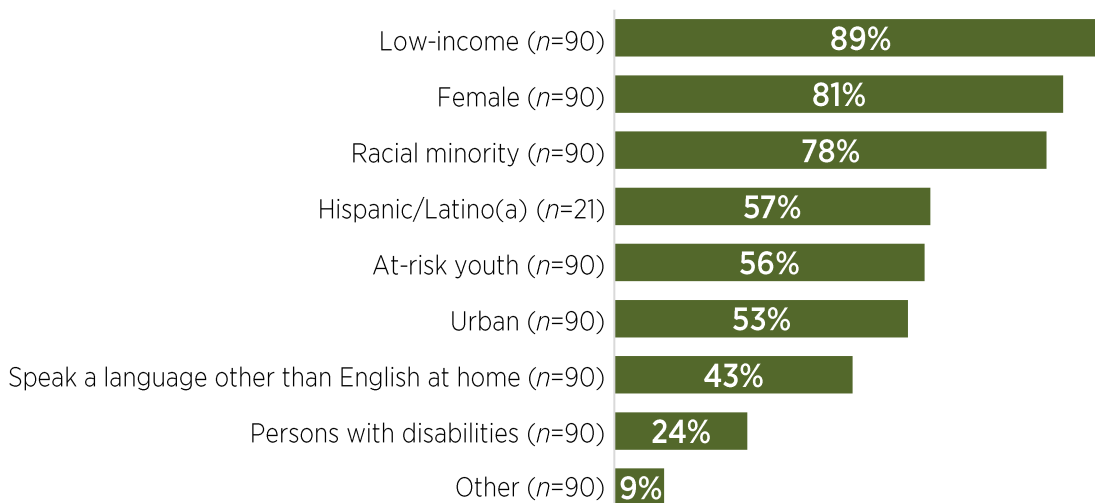
■ Mostly/completely agree ■ Slightly agree/disagree ■ Mostly/completely disagree

PUBLIC IMPACTS FINDINGS

Public Reach

Partners' self-reported estimates of underrepresented audiences indicated that the project activities most often reached participants who were **low-income, female, and people of color**.

Which of the following demographic categories apply to [the participants] in *Explore Science—Zoom into Nano* activities?



Education, Engagement, and Relevance of Hands-on STEM Activities

Facilitators felt the **activities were educational, engaging, and relevant** for the public, though there is an **opportunity to increase the activities' relevance**.

92%

of respondents (n=118) thought the activities were **ENGAGING** or **VERY ENGAGING** for the public.

85%

of respondents (n=117) thought participants **LEARNED SOME** or **A LOT** from the activities.

68%

of respondents (n=118) thought the activities were **RELEVANT** or **VERY RELEVANT**.