

NanoDays Online Workshop

Formative Evaluation

Amy Grack Nelson, Gayra Ostgaard, & Kathleen Miller

June 2010

Acknowledgements

Thanks to the members of the data collection, analysis, and reporting team that has been part of the NISE Network evaluation efforts for the SMM Department of Evaluation and Research in Learning: Daniel S. Bernstein, Sarah Cohn, Kirsten Ellenbogen, Amy Grack Nelson, Denise Huynh, Zdanna King, Kathleen Miller, Al Onkka, Scott Van Cleave, and Gayra Ostgaard. Additional thanks to the many and various participants and developers of the NISE programs, exhibits, forums, and other activities.

THIS IS A FORMATIVE EVALUATION REPORT

Formative evaluation studies like this one often:

- **are conducted quickly**, which may mean
 - small sample sizes
 - expedited analyses
 - brief reports

- **look at an earlier version** of the exhibit/program, which may mean
 - a focus on problems and solutions, rather than successes
 - a change in form or title of the final exhibit/program

This report was based on work supported by the National Science Foundation under Grant No. ESI-0532536. Any opinions, findings, and conclusions or recommendations expressed in this report are those of the author(s) and do not necessarily reflect the views of the Foundation.



Amy Grack Nelson
Science Museum of Minnesota
120 West Kellogg Boulevard
St. Paul, MN 55102
agnelson[at]smm[dot]org
(651) 221-4575



Table of Contents

| | |
|--|-----------|
| Overview..... | 4 |
| Results and Discussion | 4 |
| Overall Experience..... | 4 |
| Outcome 1: Become Familiar with the NISE Network..... | 6 |
| Outcome 2: Become Familiar with What NanoDays Resources Are Available on nisenet.org and How to Find Them..... | 7 |
| Outcome 3: Increase Participants' Comfort Level Using NanoDays Activities with Their Public Audiences | 8 |
| Feedback on Workshop Format..... | 9 |
| Suggestions for Improving Future Workshops | 14 |
| Conclusion & Recommendations..... | 16 |
| Conclusion | 16 |
| Recommendations | 17 |
| Appendix A..... | 18 |
| Appendix B..... | 20 |
| Appendix C..... | 22 |
| Appendix D..... | 25 |
| Appendix E..... | 27 |
| Appendix E..... | 29 |
| Appendix F..... | 31 |
| Appendix G..... | 33 |
| Appendix H..... | 34 |
| Appendix I..... | 36 |

Overview

The NISE Network held its first online workshop February 17-24, 2010. The workshop focused on NanoDays and the activities in the NanoDays kit. The workshop was designed around five overarching goals and four participant outcomes, as listed below.

Workshop Goals

1. Integrate new and existing partners into the NISE Network.
2. Introduce participants to a limited number of NanoDays activities.
3. Demonstrate navigation and use of the nisenet.org catalog, specifically in relation to NanoDays resources.
4. Encourage participants to deliver one or more of the modeled activities to a test audience.
5. Provide a forum for reflective discussion about the test activity experience.

Workshop Outcomes

Workshop participants will:

1. Become more familiar with the NISE Network.
2. Become familiar with what NanoDays resources are available on nisenet.org and how to find them.
3. Increase their comfort level using NanoDays activities with their public audiences.
4. Contribute to nisenet.org by commenting on NanoDays activities.

The workshop was administered through ASTC Connect. Workshop elements included an online discussion forum, live webcast demonstrating three NanoDays activities, videos posted of the webcast after it occurred, and tips and support for navigating nisenet.org.

A total of 86 people participated in the workshop. Upon completion of the workshop, participants were sent an online survey. A total of 33 participants completed the survey, for a 38% response rate. NISE Network staff that participated in the workshop were also invited to provide feedback through a debrief survey. Five staff provided feedback, which is incorporated into this report along with the participant data.

Results and Discussion

Overall Experience

The workshop was a positive experience for a majority of participants. As illustrated in Table 1, three-quarters found the workshop useful or very useful.

Table 1: Usefulness of Workshop Experience (n=32)

| | Percent of participants |
|--------------------|-------------------------|
| Very useful | 22% |
| Useful | 53% |

| | |
|----------------------------|-----|
| A little bit useful | 22% |
| Not useful | 3% |

Participants provided comments on what they valued most about the workshop. Two-thirds of participants valued the live webinar the most. Many participants mentioned that this format allowed them to observe someone doing the NanoDays activities and have their questions answered in real time (see Appendix A for full comments).

Table 2: Valued Aspects of Workshop Experience (n=27)

| Theme | Percent of participants |
|-------------------------|-------------------------|
| Live webinar | 67% |
| Discussion forum | 33% |
| Other | 7% |

NISE Net staff were asked what their overall impression was of the workshop. Staff were particularly pleased with the audience the workshop drew (see responses below).

- I was really pleasantly pleased with how many people seemed interested, and the workshop conversation. I was so excited by seeing all the personal testimonials about people's experiences. It was especially exciting to read info from people I didn't know anything about.
- I thought it was great that so many people signed up, and there seems to be real enthusiasm in our community for this kind of opportunity. It did seem like the enthusiasm fizzled a bit toward the end, and I'm not sure if that's because the topic wasn't totally suited to the audience, or people felt like the main event was over.
- I like the workshop. It was good to get a group of people to discuss their plans for NanoDays. Hear about suggestions about informing the public about the nanoscience/nanotechnology.
- It was fun, and it allowed me to connect with new NISE Net partners that I probably wouldn't have met otherwise.
- Eh. It was ok.

NISE Net staff were then asked to specify what they felt went well during the workshop (see staff comments below). Some staff mentioned that they felt the introductions went well and they liked the dialogue that occurred. Two staff mentioned how well the workshop was facilitated and one person commented that the webcast went well.

- The introductions went very well. Everyone participated, and I got a good feeling for who was on the group. Several spontaneous connections happened from reactions to what people mentioned.
- I thought the introductions were great, and I thought the webcast with the real-time questions and chat was really well done.
- Margaret Glass did a fantastic job of seeding dialogue between participants. The dialogue in general was helpful.
- The ease of posting and getting a response back from the group.
- I thought Margaret was super-organized. I thought Steve did a great job presenting and answering questions.

Participants were asked what their expectations were for the workshop and whether their expectations were met. Participants' expectations were coded into themes (full responses can be found in Appendix B). As illustrated in Table 3, half the participants expected to learn about techniques for presenting NanoDays activities, and for these participants over half felt their expectation was met, with most of the other participants feeling their expectations partially met. Over a quarter of participants expected to learn how to use the kit beyond NanoDays or expand upon the activities that were included. Close to two-thirds said this expectation was only partially met or not met. See Appendix C for explanations of how participants' expectations were met, or not met.

Table 3: Participants' Workshop Expectations (n=30)*

| Theme | Percent of participants | Expectations met | | |
|---|-------------------------|------------------|-----------|-----|
| | | Yes | Partially | No |
| Techniques for presenting NanoDays activities | 50% (15) | 53% | 40% | 7% |
| Presenting nano education beyond the NanoDays kit | 27% (8) | 38% | 50% | 13% |
| More nano-related information | 17% (5) | 80% | 20% | 0% |
| Presenting to a younger audience | 7% (2) | 50% | 0% | 50% |
| Other | 17% (5) | 40% | 60% | 0% |
| No expectations | 10% (3) | N/A | N/A | N/A |

*Participants provided multiple answers.

Outcome 1: Become Familiar with the NISE Network

An outcome of the workshop was that participants would become more familiar with the work of the NISE Network. Half the participants agreed that it increased their knowledge, while another third somewhat agreed. Four attendees (three who somewhat agreed and one who disagreed) provided comments related to their ratings. These attendees had previous experience with the NISE Network and felt that they already understood the work of the Network, which is why they didn't give a higher rating.

Table 4: Become Familiar with the NISE Network (n=32)

| | Disagree | Somewhat disagree | Somewhat agree | Agree |
|---|----------|-------------------|----------------|-------|
| As a result of the workshop, I have a greater understanding of the work of the NISE Network | 9% | 6% | 34% | 50% |

A goal of the meeting was to integrate new and existing partners into the NISE Network. Integration referred to anything from creating a nisenet.org profile to following up with people met through the workshop. Of the 86 participants, almost half (47%) have a nisenet.org profile. Of these 40 profiles, most (80%) were created before the workshop, and the other 20% were new profiles created after the start of the workshop. In terms of following up with someone they met during the workshop, around a quarter of participants (23%) felt they would follow up with someone they met and another quarter would maybe follow up (see Table 5).

Table 5: Follow up with Workshop Participants (n=26)

| Percent of participants | |
|-------------------------|-----|
| Yes | 23% |
| Maybe | 23% |
| No | 54% |

Outcome 2: Become Familiar with What NanoDays Resources Are Available on nisenet.org and How to Find Them

A second outcome of the workshop was that participants would become more aware of how to find resources on nisenet.org. Participants were first asked about their awareness of finding resources in general on nisenet.org. Three quarters of participants felt at least somewhat more aware of how to find resources on the site (see Table 6). However, a quarter of participants still felt unsure.

Table 6: Awareness of nisenet.org Resources (n=32)

| | Disagree | Somewhat disagree | Somewhat agree | Agree |
|---|----------|-------------------|----------------|-------|
| I am more aware of how to find resources on nisenet.org | 9% | 16% | 31% | 44% |

Six individuals provided comments to explain their ratings.

- It's a memory issue. I'm not going to the website at the moment to look for things to see if I can find them. And of course, during the workshop, there was a little bit of local conversation; I was not always tuned in 100%. (somewhat agree)
- Actually it would be a good workshop just to teach us how to navigate the nisenet.org and how to use stuff there. I've bumbled around a bit and know what I need to know but would have loved some help. (somewhat agree)
- I am still not fully aware of the extent of resources available on nisenet.org. At this point, it's in my court to become so. (somewhat agree)
- I was already aware of the extra activities and information found on nisenet.org. (somewhat agree)
- While the session was great, I can't say it helped me to understand the website and how to find resources online, but I also think I can figure that out if need be. (somewhat disagree)
- I was already very comfortable using nisenet.org, so the workshop had no effect on that. (somewhat disagree)

Participants felt more familiar with NanoDays resources available online than searching for resources in general on nisenet.org. As illustrated in Table 7, over half agreed that the workshop made them more familiar with NanoDays resources on the site.

Table 7: Familiarity with NanoDays Resources (n=32)

| | Disagree | Somewhat disagree | Somewhat agree | Agree |
|---|----------|-------------------|----------------|-------|
| I am now more familiar with the NanoDays resources available on nisenet.org | 9% | 9% | 25% | 56% |

Outcome 3: Increase Participants' Comfort Level Using NanoDays Activities with Their Public Audiences

A third outcome of the workshop is that participants would become more comfortable using NanoDays activities with the public. Table 8 shows that this outcome was achieved for the majority of participants, as illustrated in Table 8. Two thirds agreed that they felt more comfortable using NanoDays activities with their public audience and more than half agreed that the workshop increased their enthusiasm for teaching others about nanoscale science, engineering, and technology.

Table 8: Comfort and Enthusiasm for Leading Nano Activities (n=31)

| | Disagree | Somewhat disagree | Somewhat agree | Agree |
|---|----------|-------------------|----------------|-------|
| I feel more comfortable using NanoDays activities with our public audience | 7% | 3% | 23% | 68% |
| The workshop increased my enthusiasm for teaching others about nanoscale science, engineering, and technology | 3% | 3% | 39% | 55% |

Four participants provided comments about their ratings above.

- I have done many of the activities in the kit, but not always with a focus on the 'nano' aspects. It is exciting to think of presenting them with this perspective. The signs, materials, and supporting resources make it easy to present. The resources also have been a catalyst for scheduling a public program with researchers at Brandeis that we've been working with. (agreed with both statements)
- (The workshop) was not really helpful to me - other than to see how many folks are interested, so did help enthusiasm. (somewhat agree with the second statement)
- The idea behind the workshop was excellent. I just feel like I only got one days worth of demos when I was expecting demos the whole workshop. (somewhat agree with first statement, disagree with second statement)
- I somewhat disagreed (with both statements) only because I did not have the chance to use the resources with a public audience.

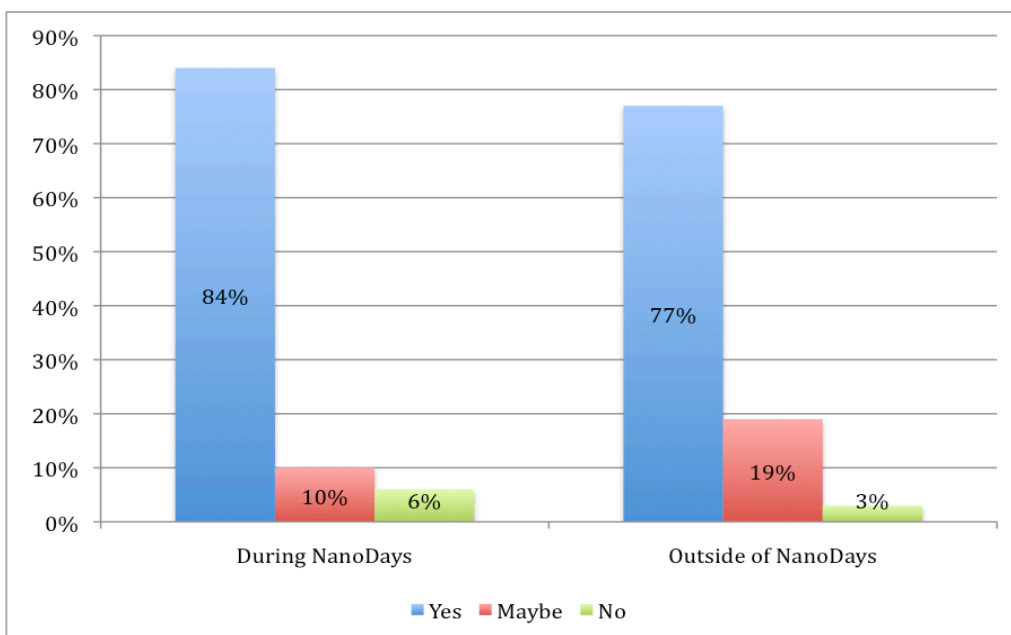
Participants were also asked how prepared they felt to lead NanoDays activities at their institution. As illustrated in Table 9, most of the workshop participants felt at least somewhat prepared to lead NanoDays activities with an audience.

Table 9: Preparedness for Leading a NanoDays Activity (n=31)

| | Percent of participants |
|---------------------|-------------------------|
| Prepared | 48% |
| Somewhat prepared | 42% |
| Somewhat unprepared | 7% |
| Unprepared | 3% |

Participants identified what they planned to do with the information they received from the workshop. As illustrated in Figure 1, most plan to incorporate some of the information from the workshop into programming during NanoDays as well as outside of NanoDays programming.

Figure 1: When Institutions' Plan to Incorporate What They Learned (n=31)



Nineteen people wrote an explanation of how they plan to incorporate some of the workshop information and resources outside of NanoDays. Many of the institutions (90%) commented that NanoDays kit activities would become part of their educational programming which included floor programs, outreach activities, classes, and other events. See Appendix D for participants' individual plans for incorporating kit activities.

Feedback on Workshop Format

The workshop was a weeklong, running from a Wednesday to the following Wednesday. Participants were asked how they felt about the overall length of the workshop. As

illustrated in Table 10, a little over half the participants felt it was the right length. However, close to a third felt the workshop was too short.

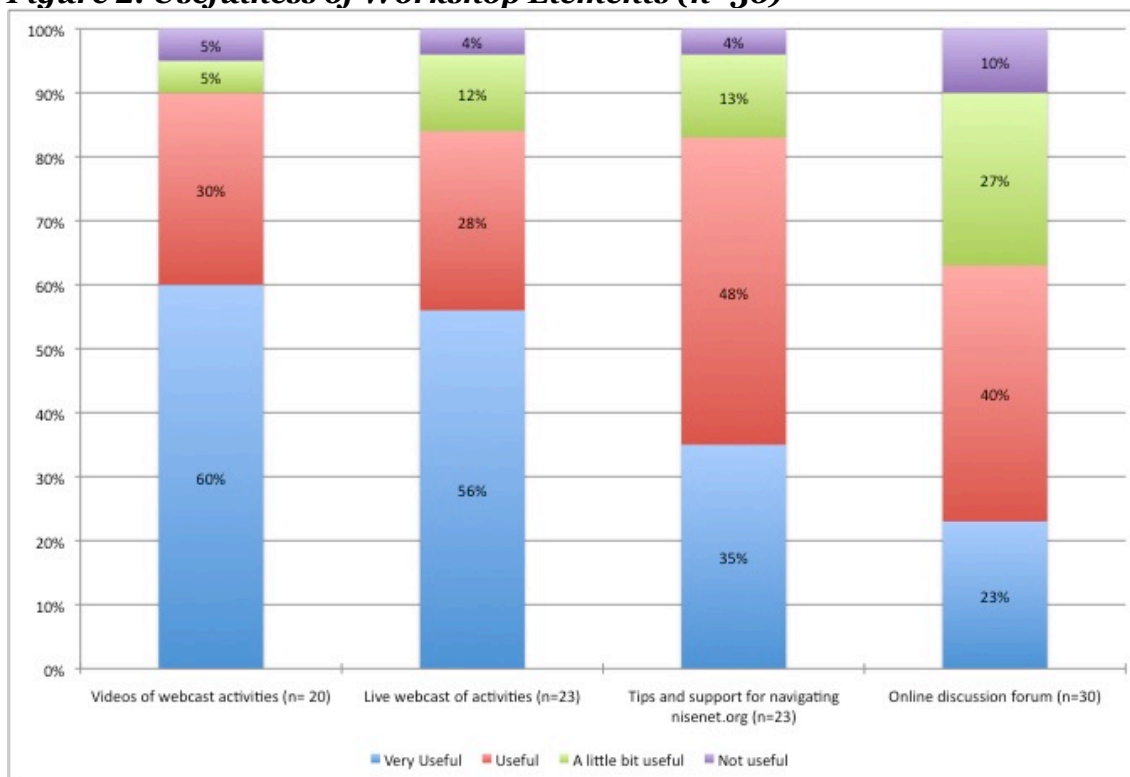
Table 10: Ratings of Overall Length of the Workshop (n=31)

| | Percent of participants |
|-----------------------|-------------------------|
| Just the right length | 55% |
| Too short | 29% |
| Too long | 16% |

The workshop had four main elements. The format included an online discussion forum, live webcast demonstrating three NanoDays activities, videos posted of the webcast after it occurred, and tips and support for navigating nisenet.org. Participants rated the usefulness of the various components. As illustrated in Figure 2, participants found the live webcast and posted videos the most useful, while the online forum was least useful.

Seventeen participants provided comments about the usefulness of the various workshop elements. Participants felt the videos and live chat were useful and liked being able to access the videos online if they couldn't attend the live webinar. One individual was unaware there was an option to have emails sent in digest format, since he/she said it was not useful to get all the individual emails. Three people were unsure what the tips and support for navigating nisenet.org was. See Appendix E for full comments about the usefulness of the various workshop elements.

Figure 2: Usefulness of Workshop Elements (n=30)



Participants were asked if more videos on nisenet.org would be helpful for them. The majority of participants felt that it would be helpful (see Table 11). No one felt additional videos would not be helpful.

Table 11: Would More Videos on nisenet.org Be Helpful? (n=32)

| Percent of participants | |
|-------------------------|-----|
| Yes | 84% |
| No | 0% |
| Maybe | 16% |

Of the NanoDays workshop participants who completed the post-survey, almost all of them had a physical kit. Only two individuals did not have a kit. Of the 23 participants who had a NanoDays kit and participated in the webcast, a little more than half (52%) followed along with the kit.

Participants also discussed how the webcast enhanced their understanding of the kit's contents. Table 12 shows that one-third felt it added extra insight/information "beyond what is included in the kit write-ups." A quarter felt it was useful to see someone doing the activities while a fifth felt it helped increase familiarity with kit activities. See participants' comments in Appendix E.

Table 12: How the Webcast Enhanced Participants' Understanding of the Kit's Contents (n=20)

| Theme | Percent of participants |
|--|-------------------------|
| Added extra insight/information | 35% |
| Useful to see someone doing the activities | 25% |
| Helped increase familiarity with kit activities | 20% |
| Other | 15% |

The nisenet.org site has a digital NanoDays kit available to download. Of the two participants who did not have a physical kit, one downloaded the digital kit to refer to during the workshop. The individual that did not download the digital kit felt it was hard to participate in the workshop without a kit, while the individual with the digital kit didn't think it was difficult to participate.

Only a fifth (19%) of participants said they tested one of the NanoDays activities with an audience during the workshop. These five participants commented on how the workshop helped them prepare to present an activity (see comments below). Two individuals said the workshop didn't help them prepare because they already knew how to do the activities.

- Workshop participants shared their entry points into Nano tech activities during the webcast, which made inviting visitors to participate much easier.
- Gave us other ideas on how to present/other presentation skills and techniques
- Staff explored the kits and tested some of the items to familiarize themselves with the activity.

- It didn't. I already understood how present the kits. I was looking for ways to adapt it to meet the needs of the age group I work with (fifth graders).
- It didn't. Most of the activities we'd done before. I did have a group of 4-8 year olds and putting together the buckyball cut out was too difficult for them, we actually eliminated the demo from our activities.

The participants who did not test an activity were asked to explain why they didn't test one during the workshop. Participants provided a variety of reasons, with some participants naming more than one reason. Scheduling conflicts was most frequently cited (see Table 13). A third of participants mentioned they didn't have an audience available during the workshop period to test activities out with. See Appendix F for full comments.

Table 13: Reasons Participants Didn't Test Out an Activity (n=25)

| Theme | Percent of participants |
|---|-------------------------|
| Scheduling conflicts | 44% |
| No audience to test with | 32% |
| Have used activities before | 8% |
| Didn't have access to the kit | 8% |
| Didn't feel the need to test the activity | 8% |
| Other | 8% |

Participants were asked for suggestions on how the workshop could have been changed to make it easier for them to test an activity. Seven individuals said that nothing would need to be changed about the workshop. Eight participants provided suggested changes. Comments included changing the timeframe to allow more time to test and advanced explanation that testing out activities was one of the components of the workshop. See Appendix G for participants' full responses.

Participants provided feedback on how NISE Network staff could continue to offer them support in carrying out NanoDays activities after the workshop. As illustrated in Table 14, a third of participants said that nothing was necessary. A quarter mentioned that there should be a means of getting assistance from NISE Network staff as the need arises. Additional videos of activities and discussions or workshops were also noted. See Appendix H for full responses.

Table 14: Suggested NanoDays Support from NISE Network Staff (n 20)

| Theme | Percent of participants |
|----------------------------------|-------------------------|
| Nothing is necessary | 35% |
| A means to get help when needed | 25% |
| Additional videos of activities | 20% |
| Additional discussions/workshops | 15% |
| Other | 5% |

One thing NISE Network staff are considering is creating a place to host online conversations around nano education training. Participants were asked how frequently they would want those discussions to be available online. As illustrated in Table 15, over half (54%) would like conversations to be available up to a few times a year and over a third (35%) would be interested in participating at least monthly. There was a small percentage of participants who were not interested in participating in online conversations.

Table 15: Preferred Frequency of Online Conversations (n=32)

| | Percent of participants |
|---------------------------------|-------------------------|
| Continual discussion | 19% |
| Monthly | 16% |
| A few times a year | 38% |
| Once a year | 16% |
| Not interested in participating | 13% |

Participation in Workshop Elements

ASTC Connect usage data was gathered for the 86 participants. The level of participation for the 86 participants was broken down into five categories:

1. Most active: people who go on to ASTC Connect, participate in the webinar, and post at least once.
2. Mixed activity: people who go on to ASTC Connect and either participate in the webinar or post comments/introduction.
3. Lurkers: people who go on to ASTC connect, participate in the webinar, but didn't post anything. Also includes people who go on to ASTC Connect, but didn't participate in the webinar and didn't post anything.
4. Other: Participated in webinar but never visited ASTC connect or posted anything
5. No activity: people who never visit ASTC Connect, didn't participate in the webinar, and haven't posted anything.

Half of the participants (50%) fell within the two highest levels of participation, logging on to ASTC connect and participating in at least the discussion and/or the webinar (see Table 16). Over a third of participants who signed up for the workshop did not actively participate in any of the workshop elements.

Table 16: Participation Level of Participants (n=86)

| | Percent of participants |
|----------------|-------------------------|
| Most active | 17% |
| Mixed activity | 33% |
| Lurkers | 13% |
| Other | 2% |
| No activity | 35% |

Looking more closely at the data, almost two thirds of participants (63%) visited ASTC Connect, less than half (40%) participated in the webinar, and half contributed a post during the discussion forum. However, most of these posts were introductions at the start of the workshop (see Table 17). Only 10% contributed a comment to the discussion. The fourth outcome of the workshop was that participants would post comments about NanoDays activities on nisenet.org. However, none of the participants posted comments, even after NanoDays events occurred in March 2010.

Table 17: Participation in Discussion Forum (n=86)

| | Percent of Participants |
|---|-------------------------|
| Only posted an introduction | 40% |
| Only posted a comment on another topic | 2% |
| Posted both an introduction and a comment | 8% |
| Didn't post anything at all | 50% |

Suggestions for Improving Future Workshops

Participants provided suggestions for improving future online NanoDays workshops. Some participants provided suggestions that fit into multiple categories. As illustrated in Table 18, participants provided suggestions for the webcast, forum discussion, and workshop information/agenda. Suggestions to the webcast included improvements to the content of the video and increasing the number of activities covered in the video. In terms of the forum discussion, participants commented on the number of emails they received during the workshop and suggested using digest format for messages. Although a digest option was available during the workshop, some participants were obviously not aware of the option. A few participants also commented that they would like to see more participation in the online discussion. Participants also had suggestions to improve the workshop information presented to participants. Some participants mentioned providing the agenda ahead of time in addition to letting participants know what to expect during the workshop. Full suggestions for improvement can be found in Appendix I.

Table 18: Suggestions for Future Online NanoDays Workshops (n=17)

| Theme | Percent of participants |
|---|-------------------------|
| Improvements to the webcast | 41% |
| Improvements to the forum discussion | 35% |
| Improvements to workshop information/agenda | 24% |
| Make them less museum-focused | 12% |
| Other | 18% |

Three NISE Network staff also provided suggestions for improvement in their debrief survey. Some of the staff's suggestions echoed those provided by workshop participants.

- I would focus more on the webinar, and maybe have more specific, targeted topics. Maybe the email discussion should be shorter?

- I would spread it out over a longer period. When we're doing an online workshop along with all our other stuff, having to do something every day is hard to fit in. One thing every couple days, even weekly, is easier to fit into a schedule. The video was of minimal helpfulness. The picture quality was too poor to make out most of the important details, and there wasn't much discussion of the various questions people had. The questions that were raised weren't addressed later in the online forum. I think the online forum could have provided most of what the video intended to do. Pre-recorded video could fill the gap of showing how to do various activities, but in a way that actually lets us see what you're talking about.
- One thing that wasn't obvious at first was how to turn on the digest version (it was buried in the advanced section of the settings I think - which took me several tries to find). I think we could make that more clear in the future - since the emails were pretty overwhelming.

Demographics

To gain an understanding of the range of participants the workshop attracted, participants were asked to report the type of organization they work for and their location based on the NISE Net regions. Participants were also from a variety of organizations, with half the participants working for a museum or science center and close to a third working at a college or university (see Table 19). As illustrated in Table 20, participants were spread across the United States and a small percentage were international. The regions of Northeast/DC and Southeast & Puerto Rico had the highest level of participation.

Table 19: Type of Organization Participants Work for (n=32)

| | Percent of participants |
|-----------------------------|-------------------------|
| Museum/Science Center | 50% |
| College/University | 31% |
| K-12 | 9% |
| Library | 3% |
| Industry | 3% |
| Social Science organization | 3% |

Table 20: Location of Participants' Institutions (n=32)

| | Percent of participants |
|-------------------------|-------------------------|
| Northeast/DC | 28% |
| Southeast & Puerto Rico | 22% |
| South | 9% |
| West | 9% |
| Southwest | 9% |
| International | 9% |

| | |
|---------------------|----|
| Midwest | 6% |
| Mid-Atlantic | 6% |

To get a sense of how involved the participants were in the NISE Network before participating in the online workshop, they were asked a series of questions about their prior involvement in the network. As illustrated in Table 21, most of the participants had visited the nisenet.org website. A little over half participated in NanoDays, which means the other participants did not have prior experience with NanoDays before the workshop. Around a third of participants had attended a NISE Network workshop, meeting, or presentation.

Table 21: Participants' Prior Involvement in the NISE Network (n=32)

| | Percent of participants | |
|---|-------------------------|-----|
| | Yes | No |
| Visited the NISE Network website | 91% | 9% |
| Participated in NanoDays | 53% | 47% |
| Attended a NISE Network regional workshop and/or annual meeting | 38% | 62% |
| Attended a NISE Network workshop or presentation at a conference | 31% | 69% |

Conclusion & Recommendations

Conclusion

The workshop was a positive, useful experience for a majority of participants. The webinar was the most valued and useful aspect of the workshop, with participants noting that they liked being able to observe someone doing the NanoDays activities and have their questions answered in real time.

An outcome of the workshop was that participants would “become more familiar with the work of the NISE Network.” Half the participants agreed that it increased their knowledge, while another third somewhat agreed.

The workshop had success at addressing the second outcome, “become familiar with what NanoDays resources are available on nisenet.org and how to find them.” Over half agreed that the workshop made them more familiar with NanoDays resources on the site, with another quarter somewhat agreeing.

The third outcome, “Increase their comfort level using NanoDays activities with their public audiences,” was achieved for the majority of participants. Two thirds felt more comfortable using NanoDays activities with their public audience and more than half felt the workshop increased their enthusiasm for teaching others about nanoscale science, engineering, and technology. Most of the workshop participants felt at least somewhat prepared to lead NanoDays activities with an audience.

The workshop was unsuccessful at addressing the outcome that participants would “contribute to nisenet.org by commenting on NanoDays activities.” None of the participants posted comments during the workshop or after NanoDays events occurred in March 2010.

Recommendations

- One means to help integrate institutions into the network is through a NISE Net profile. Less than half of the workshop participants had a NISE Net profile. For future online workshops, consider this to be an explicit activity of the workshop.
- Although half the participants participated in the online forum, only 10% of these posts were comments beyond introductions. An online discussion wasn't really taking place between most of the participants. A few people even noted in their survey that they would like to see more participation in the online forum. Part of the discussion was supposed to be around trying out activities with the public, but only a small percentage of participants actually tested out activities. This also limited discussions.
- From the beginning of the workshop, stress that participants can subscribe to a digest version of the online discussion. It may be useful to even forewarn participants that there may be a lot of emails coming through during the week and they may want to consider digest form so they are not inundated with emails.
- In future online workshops continue to use live webinars as well as posting the videos online for individuals to use at a later date. These are important workshop elements as evident by the value participants placed on them. Also consider creating more videos as all of the participants felt additional videos would be helpful resources.
- If participants are expected to test something during the workshop, make sure that expectation is clear in any advanced information for the workshop. Only a fifth of the workshop participants who responded to the survey (five people) tested an activity with visitors. Some participants noted that they were unaware this was part of the workshop. Others said testing activities conflicted with their schedule or they didn't have an audience available. If participants know far in advance that this will be part of the workshop, they can possibly try to schedule a time for the activity or line up an audience to work with. A few participants also mentioned that they would like to see the agenda and other workshop information further in advance.
- Over half the participants felt the weeklong workshop was just the right length. However, close to a third felt the workshop was too short. Some participants would have liked a longer workshop so they would have had more time to test an activity with visitors.
- Consider new strategies to get participants to post comments for products on nisenet.org. This is an ongoing struggle within the NISE Network. This was an outcome of regional workshops as well, and was not successfully met then either.
- Participants are interested in receiving additional professional development and support from the Network. They would like to participate in continued online conversations around nano education. They are also interested in future workshops.

Appendix A

What Did You Value Most about Your Workshop Experience? (n=27)

*Some participants mentioned more than one thing they valued.

67% (18) Live Webinar

- My institution, Queens Library, has been a Thinking partner of NISE net for 3 years. However, this is my first year to do the bulk of the nano planning and activities. The activities presented were somewhat familiar to me. Watching an experienced Nano educator go through activities increased my confidence level, especially a time or two when he responded to participant questions more or less as good question, I'm not sure.
- The workshop allowed me to bring my staff and other staff members from different education departments together to view the Nano Days activities at one time. Staff had the opportunity to ask questions in real time, which was a huge benefit of the workshop.
- The video feed workshop where the educator went over how to do the activities and answered everyone's questions.
- The video technology was interesting and the real time ability to ask and answer questions.
- The live video and chat. It was great to hear everyone's experiences with using the activities.
- The video session demonstrating the activities with live Q&A.
- I only found one piece of information valuable and that was the use for Bucky balls in fuel cells. The demo on the exact way to put together the liquid crystal was also helpful and knowing to put a lot of the liquid on the card instead of a thin layer as the description said. We've done this demo before and it wasn't successful, so that was very helpful.
- The chance to see the NanoDays kit activities demonstrated.
- Being able to see how the materials were used.
- Hard to choose just one thing: seeing some of the kits used along with the interpretive context used at the Spark! Lab.
- The webcast training w/ Spark! Lab.
- Actually seeing someone do the activities is helpful to me as I am a very visual learner!
- The video presentation.
- I liked the webcast. I wasn't able to watch it live and ask questions, but I think that it is always valuable to have a visual, real-life demonstration of an activity (even if real-life in this case is filtered through a webcam!).
- I'm not a scientist so actually seeing the three stations and how to use them was great. Also loved ideas about presenting it to various age groups.
- Good review of some of the demos.
- The live video chat, which I was unable to see live, but watched the recording.
- The podcasts...

33% (9) Discussion Forum

- ...and the discussion where people shared their best practices.
- The email discussion. I save all the messages to review them later for useful suggestions.
- But I've read the posts and emails and have found them helpful.
- The comments added by other participants were most helpful to me.
- Reading what others do for their NanoDays activities.
- It was very valuable to see the variety and types of institutions that are participating in NanoDays activities. It was nice to think about the different approaches one might take to talking about Nanotechnology as a science organization, a children's museum, or a history museum.
- Seeing the diverse range of institutions using the materials, and the common challenges among them.
- To network with other people, to get ideas and to bounce ideas off of other participants.
- Learning new ways to introduce Nano to young children/students and what other folks are doing.

7% (2) Other

- Some new info not in the kits or website.
- The information, the engaging style.

Appendix B

What Were Your Expectations Going into the Workshop? (n=30)*

*Some participants' expectations fit under more than one theme.

50% (15) Tips for Presenting NanoDays Activities

- That at the end of the workshop I would have more information on how to do some of the NanoDays activities.
- I believe most of the activities were from the previous year. I had expected more of the newer activities to be presented. Also watching here in Queens was our Discovery Team. They did most of the presentation of activities last year. They were familiar with what was offered in the workshop.
- Receiving more tips on how to use the activities in the kits. To get a little more familiar with the new activities in the kits.
- I expected to observe somebody demonstrating/explaining some of the Nano Days activities. I also expected a forum in which staff could ask questions and receive answers from other museums regarding NanoDays events at their museums.
- Learn about new and/or tried-and-true techniques for leading NanoDays activities
- That I would get to see the NanoDays kit activities demonstrated
- I expected to see how some of the kits were used. Learn how other institutions use the kits.
- That the presenters would provide an overview of the kits and their use with visitors
- That I might learn a little about what was in the kit and get excited about our event
- We'd go through all the demos.
- Perhaps some more information on the existing kit demos.
- I wanted to learn more about the kits.... and I did!
- I expected the workshop would give me ideas about ways to use the activities.
- Sharing ideas of how to use the materials.
- I expected more people who had done NanoDays activities before to share some of their experiences and information. Although I have a lot of informal science teaching experience, I am very new to the world of nanotechnology. I am very aware of demonstration and presentation skills as well as how to bring science concepts to an age appropriate level.

27% (8) Presenting Nano Education Beyond the NanoDays Kit

- I was looking more for ideas in the presentation of nano aside from the kits we already were given and not the strategic planning of a NanoDays workshop.
- Learn more than was in the packages.
- I expected the workshop would give me ideas about how to combine the activities with other things we might be doing, how to expand them, etc.
- Learn how other institutions expand upon the kits.
- I expected to see how people expanded the activities beyond information given in the kits.
- I wasn't really sure what to expect. I had hoped for more guidance on planning/organizing activities outside of the NanoDays kit; the kit itself is great

and the information in it is useful, but it's the other stuff (lectures, big event ideas) that I'm ignorant about! That's a personal lack, though, not a NISE Net issue.

- Discussion about nano education.
- I did not have any particular expectations but that of finding more materials on nanotechnologies and public engagement activities.

17 % (5) More Nano-Related Information

- I expected Margaret or somebody familiar with the history of NISE Net to explain the history of NISE Net, NanoDays and why we should present nanoscience in our institution. Why should our visitors care? Why is nanoscience important?
- I had no real expectations. I was just hoping for a little more information that I could then pass on to the people who participate in our programs.
- To learn more about nanotechnologies and how to introduce it
- To gain an increased depth of understanding about Nano Technology.
- I wanted to learn more about nanotechnology... and I did!

7% (2) Presenting to a Younger Audience

- To learn how to facilitate activities with young children (5 to 10 years of age).
- To learn strategies for presenting Nano conceptually to younger students. I work with younger students than the focus of many discussions

17% (5) Other

- We are just beginning to incorporate nanotechnology units and I was looking for something appropriate for community college level biology students that they would not have done in high school.
- Also hearing how different centers collaborated with local scientists and organizations.
- Learning ways of improving our offerings.
- Get useful advice.
- To learn more from others and to build liaisons between the participants.

10% (3) No Expectations

- Really not sure, just thought there would be a lot of reading material. Chatting back and forth and watching presentations and being able to participate was awesome.
- None, NanoDays is new to me so I really didn't know what to expect.
- None.

Appendix C

How Were Your Expectations Met or Not Met During the Workshop? (n=27)*

*Not all participants provided a written explanation.

Expectations Were Met (n=12)

Techniques for Presenting NanoDays Activities

- All of our expectations were met. I have 2 new staff members who weren't familiar with nanoscience. All staff members felt more knowledgeable and prepared to present Nano Days activities after learning the importance of the NISE Net community and why we promote Nanoscience and NanoDays. Staff discovered they weren't the only ones that had to learn new vocabulary and nanoscience demonstrations.
- The video and audio of the facilitator using the kits as well as the running posts by other viewers both helped the workshop meet my expectations.
- I wish it was over a little more time, so I could have participated more. It seemed to go by so quick!
- By being able to read & respond to virtual colleagues and their ideas.
- By watching the video and by reading the comments in the chat forum.
- The workshop helped me determine how our venue wants to use the kits.
- Even though I was unable to be an active participant, I was able to gain valuable ideas.
- Mostly during the video part.

Presenting Nano Education Beyond the NanoDays Kit

- The video and audio of the facilitator using the kits as well as the running posts by other viewers both helped the workshop meet my expectations.

More Nano-Related Information

- All of our expectations were met. I have 2 new staff members who weren't familiar with nanoscience. All staff members felt more knowledgeable and prepared to present Nano Days activities after learning the importance of the NISE Net community and why we promote Nanoscience and NanoDays. Staff discovered they weren't the only ones that had to learn new vocabulary and nanoscience demonstrations.
- Although I have done many of these activities before I gained some more knowledge and background information. Hearing what others have done that has or has not worked is always helpful.
- The video and audio of the facilitator using the kits as well as the running posts by other viewers both helped the workshop meet my expectations.

Presenting to a Younger Audience

- The online training w/ Spark! Lab.

Expectations Were Partially Met (n=13)

Techniques for Presenting NanoDays Activities

- I really liked that the presentations were made available after the live workshop. I was not able to tune in for the live part, but I looked at some of the presentations, and as NanoDays approaches I want to go back and review the videos. I did feel, though, that the videos were a bit slow in getting started. The first few minutes the presenter spoke slowly and was introducing himself, and I found myself trying to fast forward to get to the meat of the presentation.
- The format gave me high expectations for a great workshop, but by only going over three of the demos, it just didn't live up to my expectations. By only going over three demos, it left a lot of material for us to figure out. The demos had also been part of last year's kit and were therefore familiar to anyone that had last year's kit.
- They were met by having the videoconference. I would have liked to see more discussion of the other activities in the NanoDays kits as well, especially those that are new for this year.
- Fewer topics were covered than I expected and I thought there would be more modeling of audience response, but overall what was covered was done nicely.
- I was anticipating seeing more of the new materials.
- It was interesting to hear how a history museum would emphasize certain aspects of the demo to relate to history, and there were one or two people that brought up how they used or expanded activities.

Presenting Nano Education Beyond the NanoDays Kit

- See Question 3. [I wasn't really sure what to expect. I had hoped for more guidance on planning/organizing activities outside of the NanoDays kit; the kit itself is great and the information in it is useful, but it's the other stuff (lectures, big event ideas) that I'm ignorant about! That's a personal lack, though, not a NISE Net issue.]I did like to hear from NanoDays veterans about their entry-points when doing nano activities with the public, and about the different settings in which NanoDays is going on.
- It was interesting to hear how a history museum would emphasize certain aspects of the demo to relate to history, and there were one or two people that brought up how they used or expanded activities.
- Not much material beyond the packaged stuff.
- There was introduction to other folks doing nano-things -- but I had not anticipated the barrage of emails from everyone.

More Nano-Related Information

- I did not have the chance to test the activities in real, as I was not doing any presentation. Also because of the time difference it was difficult to participate to the discussion. Finally the videos were not working very much from my office so I had to watch it at home after already long days of work.

Other

- I get to know more people from the network, but we do not had the chance to connect further the workshop, yet...
- Learned of other potential activities.
- Most of the ideas and posts seemed to be for general audiences.

Expectations Were Not Met (n=2)

Techniques for Presenting NanoDays Activities

- Not a lot of information I already know or are familiar with, but we've worked with the kits before.

Presenting Nano Education Beyond the NanoDays Kit

- Focus was on logistics.

Presenting to a Younger Audience

- Focus was on older students.

Appendix D

Participants' Comments on How They Plan to Incorporate at Least Some of the Information and Resources from This Workshop Outside of NanoDays. (n=20)

90% (18) Incorporate into Educational Programming

- Our center will use the resources for a variety of public outreach events we have planned this spring and summer.
- Possible incorporation into after-school programs, teacher workshops and summer camp topics.
- We won't be using ferrofluid during NanoDays, but what I learned about it will be very helpful when using it as an explainer activity or in classes.
- The activities after NanoDays will from time to time come up in the normal repertoire of education experiences found at the museum (in a cart program, demonstration, etc) They could show up at a special girls only overnight event, activities for school groups, or other uses at special events.
- Use the materials to regularly present nano to students through the program I work for.
- I have begun to find ways to incorporate a little nano in many of the science programs that we do. For instance I did a workshop on magnets this past week and used the ferrofluids activity with a brief discussion of how the properties change when you get to nano size.
- It is our goal to incorporate Nano Days activities into our regular floor programs and introduce nanoscience to our Learning Labs and Outreach departments. We partnered with 2 physics professors at our local university to assist us in meeting this goal. We met with the directors from each of the departments and they are on board with introducing nanoscience to their audience via Nano Days activities.
- We will apply the resources in a classroom setting as curriculum and time permit.
- I have already used the Buckeyball resources as they relate to our geodesic dome building activities. Many of the activities and resources that will be incorporated into our regular programming.
- We are closed for renovations and couldn't find a host for the event :- (We will use them at other outreach events and will participate when we are open next year!
- Will also incorporate some of the activities from time to time into other non formal programming that we offer on a weekly basis.
- We have scheduled additional Nano activities on days outside of the official NanoDays timeframe.
- We will use the resources outside of NanoDays for our outreach activities to middle and high schools.
- Classroom demos, other outreach events
- I went to talk to a science teacher group from southeast Arkansas. They are very excited about NanoDays stuff. I can't visit them all during NanoDays and some are busy then anyway, so I will be visiting schools through May.
- I probably will - in the past I have been asked by student groups to do presentations, or have partnered with other entities for events, and the NanoDays activities are great for these kinds of things.

- We have several opportunities to talk about nano, for example in Career Day, during the Science Week in Mexico, and for the new museums that we are building around the country who had chosen this topics.
- Typically at the end of our school year we do a big something for all of our schools. Roughly 1500-1600 5th graders. Last year we brought in an astronaut from NASA. This year we are tentatively planning a NanoDays to be set up in one of the gymnasiums where all of the students can come interact with the displays.

10% (2) Other

- The resources are excellent and will be utilized throughout the year any chance we get. They are very professional and easy to use, and have a great wow factor.
- I plan to use the data in class.

Appendix E

Explanations of Ratings of

Every Element Was Useful

- I found everything I participated in to be very useful. In fact I have already contacted our district rep. to see where I can get more supplies for the liquid crystals and such so my students can do this as an ongoing activity in our classroom.

Videos of Webcast Activities (Posted Online After the Webcast Occurred)

- As we all working or engaged in other activities, the access to the recorded webcasts was a relief. (very useful)
- Couldn't participate in webcast due to scheduling conflict, but I can watch it at a later time. (very useful)

Live Webcast of Three NanoDays Activities

- The workshop showed us how others interpret the activities. To learn the presenter was from a history museum surprised us! We never thought of nanoscience in that particular venue. The online workshop allowed staff to discuss what was being done and not interrupt the presenter. They learned from watching and discussing the activity, already knew a lot of the content. (Very useful)
- I liked the live webcast both because the video allowed us to see the activities and because getting to talk to everyone live allowed for better conversations than the discussion forum. (Very useful)
- I'm a kinetic learner and seeing the experiments helped. (Very useful)
- Live webcast problem of time difference. (not useful)

Tips and Support for Navigating nisenet.org

- Some reference was made to materials on the website, I did not feel that there were really any clear tips given. A separate post clearly labeled as tips for the website might have been more helpful and also would be easy to come search and find at a later date when I needed a reminder of those tips. (Or to pass on easily to a new coworker interested in resources) (A little bit useful)
- I didn't participate in the tips and support for nisenet.org both because I wasn't sure when that occurred/how to see it and because I had seen demonstrations of nisenet.org at previous NISE Net events. (Didn't participate)
- I guess I didn't see the tips for navigating nisenet.org. (Didn't attend)

Online Discussion Forum

- I gained a little bit of help from peoples responses on things that they were doing at their museum to add to the nano kits. (A little bit useful)
- The online discussion forum was a good idea, but the way it was set up to email each email to our inboxes was extremely annoying! A digest form would have made much more sense - my inbox became clogged with these emails, and in the end to manage it I just deleted them without reading them. I knew I could read

them on the website. If they had come in a digest, I could have scrolled through them all at once. This is my one real complaint about the workshop. (Not useful)

Appendix E

How the Webcast Enhanced Participants' Understanding of the Kit's Contents (n=20)

35% (7) Added Extra Insight/Information

- Not so much seeing the person using it, but hearing about little side things they might say. That got me thinking what I might want to do and I also started forming questions that I will want to be able to answer by the time I start my event.
- Added extra background information about the topics beyond what is included in the kit write-ups.
- I didn't have the kit at the time of the webcast. The advanced insight helped
- I did like listening to the explanation that was given, as it was a slightly new way for me of presenting the information.
- It provided suggestion about how to use it.
- The facilitators explained more about each of the elements in the kits than the information that came in the kits did. Also, they shared tips on best ways to use things (like, when making a liquid crystal card, put the sticky part of the business card holder on the back of the card, not the front over the liquid crystals).
- Only the order of doing the liquid crystal take-aways. I was actually doing them wrong, so the workshop helped fix that.

25% (5) Useful to See Someone Doing the Activities

- I only followed along with the written portion, not the physical materials. It is always good to see someone else model how to do an activity or how to use materials.
- I don't think you could have gotten the full understanding or excitement of the experiments if you didn't use the kits. That was the coolest part. Further, kids learn best by seeing and doing. A typical teachers response, I know
- I opened the kits and placed them in front of staff. Before the workshop, staff outside of our museum were able to examine the kits. As the activities were explained, staff interacted with the kit's contents. This allowed for familiarity and a visual of what was being demonstrated.
- Walked us through some activities.
- Always good to hear/see someone else perform a lesson, if not for a different perspective or take

20% (4) Helped Increase Familiarity with Kit Activities

- It got me to actually do the activities instead of read the material.
- It reduced the amount of time it took to understand the potential of the kit.
- Made the fear factor of new activities go away!
- YES!!!! It also made me actually open them and think about them enough ahead of time to be ready for NanoDays

15% (3) Other

- It was very didactic, step by step, and clear

- Positively, but again, not too far beyond what was already in the kit.
- I was already familiar with the kit contents, and I didn't feel I needed to follow along during the presentation.

Appendix F

Reasons Participants Didn't Test Out an Activity (n=25)*

*Percent do not equal 100 as participants provided multiple answers.

44% (11) Scheduling Conflicts

- Well, we are in the middle of accreditation; I was finishing up four grants and we've had more than 40 hours of programming planned in the last month. Plus I am the only education AND communications person on staff.
- It was a very busy time here at CMOST and we had many scheduled events already taking place as well as large crowds every day. it just could not fit into our schedule. It was school break week in our area.
- The timeframe was not conducive to it. We are working on the activities this week.
- Didn't fit with the rest of my schedule.
- Too busy with regular floor responsibilities.
- I didn't have the time.
- Timing and scheduling.
- Busy at work.
- I was busy with other engagements.
- Timing - I am not at the proper place in my course until April.
- I couldn't be available at that time.

32% (8) No Audience to Test with

- I am just one of 4 teachers in our program in the state of CT. We have 2 teachers in Hartford in 2 in Waterbury. The week of the NanoDays Seminar, kids were on school vacation. Also I would not have presented to an audience until I tested it privately to make sure it worked well.
- We are not a science museum, we are a research center at a university, so I didn't really have an audience to test with.
- I didn't have an audience available, but I will test out the kits with an audience before my event.
- Didn't have an appropriate audience.
- I did not have an available audience during the workshop period.
- Not a time that students were here.
- Had to do the workshop from home.
- I am not in the museum, I work remotely

8% (2) Have Used Activities Before

- Had already tested them before.
- I have tested the previous nano kits.

8% (2) Didn't Have Access to the Kit

- Was not 'at home' to access my kit at the time.
- As stated above, we didn't have the materials in our position.

8% (2) Didn't feel the need to test the activity

- Video seemed to suffice
- I viewed the workshop as professional development that preceded leading a group.

8% (2) Other

- I wasn't able to participate in the webcast.
- Problem of language

Appendix G

Participants' Suggestions about How the Workshop Could Have Been Changed to Make it Easier for Them to Test the Activity (n=8)

Timing

- Not really, I thought it was fine the way it was. I would prefer to test out the kits a little closer to the actual event, though, so I don't forget everything by the time it comes around.
- It was presented during AAAS Conferences and Workshops that I had a prior commitment to participate in.
- A longer window between the videoconference and the end of the workshop.
- Give me help or more time!
- Just the timing :)

Advanced Notice

- Provide a better understanding of what comprised the workshop and that there was an expectation of testing an activity in the course of it ahead of time. If that was done, it was not apparent until the broadcast.
- If there was a list of the activities to be covered in advance (missed it if there was one), that would be most helpful.

Other

- The workshop was awesome, and the reason that forbid me to apply the activity is my particular working situation. I'm off campus, therefore, I do not have the opportunity to test, and I didn't participate at that forum in particular contributing, just reading amazing outcomes from the others.

Appendix H

What Could NISE Network Staff Do Either During or After the Workshop to Support You in Carrying Out NanoDays Activities? (n=20)

35% (7) Nothing is Necessary

- To continue doing what they are already. I love the NISE Network. At my museum, part of my duties are coming up with the hands-on activities to be done at special events. NanoDays is the easiest event to plan because all of the kits are shipped fully prepared, I can literally unpack them and they are almost ready for presentation. And there is a wealth of info at nisenet.org to add more activities to the program.
- I would like to spend more time watching the videos, and then I will feel more prepared. The cards that come with the activities I think do a good job of helping the person presenting the activity. I can't think of anything the staff can do to be more supportive - just having access online to resources when we need them is helpful.
- Nothing off the top of my head, but if/when I need something I will certainly let someone know.
- I think that the way the Nano Days Kit is assembled, the activities well written and precise, and now with the videos of the activities, that's enough help.
- NISE Net staff is extremely useful!
- You are doing great. This workshop was a great idea.
- You do so much! We feel like we have access to resources as we need them.

25% (5) A Means to Get Help When Needed

- I think it is more a matter of me finding time to work with the materials, and then relaying my experience to others on the staff. It would be useful to be able to ask for help after the fact, which I assume we can.
- Continued availability to answer questions when I have a problem would be great.
- Maybe an email line for questions about activities.
- Availability for support, as needed.
- Answer questions as they arise.

20% (4) Additional Videos of Activities

- Make a video of each kit.
- Post more activities.
- The workshop didn't really prepare me for NanoDays. It simply covered two few of the activities in the nanokit.
- Show the demo being performed in front of an audience.

15% (3) Additional Discussions/Workshops

- Continue with online workshops and offer a couple of nanoscience discussions throughout the year to encourage the use of the activities in our museums. This would really be helpful in early spring when summer camp programs are being created.

- What you are doing is fine. Maybe it would help if there was explicit support on how to integrate various components into other exhibition or program topics not specific to nano science . . .
- Offer discussions that are applicable outside museum education.

5% (1) Other

- Anybody want to come do a live demonstration @ our NANO Days in June?????

Appendix I

How Can We Improve Future Online NanoDays Workshops? What Would You Change? (n=17)*

*Percents do not equal 100 as participants provided multiple answers.

41% (7) Improvements to the Webcast

- I loved the video webcast and that could have been a tiny bit longer (allow for more questions, discussion time). Perhaps letting us actually talk via a conference call would be beneficial?
- Keep the Q & A portion! Very helpful! Maybe tape an activity with a real audience to demonstrate how visitors may engage in the activity.
- Quality of the video feed was marginal. Others noted the same thing.
- Speed up the presentations a bit.
- More live interaction.
- Make more videos of all the kits.
- Too much independent work and too little demos.

35% (6) Improvements to the Forum Discussion

- Also, the discussion board conversations were great, but also overwhelming. I don't really know how to solve that problem, but as the workshop went on, I got more and more behind with those emails.
- For the forum, allow people to have a digest option instead of getting each email individually.
- Too long in terms of number of emails that came in. html-formatting of everyone's introduction made it less amenable for reading, and also having them all posted to email one by one was not helpful
- I would encourage people to participate in the forum more. There were very few posts to the questions asked other than the introductions. I don't know if it was because, like me, more people were looking for information than actually had information to share, but it would be nice if there was some benefit to sharing any experiences or extension of activities that one has.
- More conversation prompts, or topic sections on the forum to encourage conversation.
- Maybe let us little organizations have a place to discuss running NanoDays on a shoestring and with few or no people!

24% (4) Improvements to Workshop Information/Agenda

- I would just improve the prep for participants - I wasn't entirely certain what to expect or what was expected of my participation.
- Having an agenda ahead of time. Since we are planning our nano activities 2 weeks from now, I really have not yet found the time to delve into the materials. I've got to get busy on that. I read several of the follow-ups in the email exchanges and gleaned a few ideas that we may be able to employ here.
- Summarize each day somehow. There were a couple days I had to travel and missed some of the activities and discussions. Playing catch up was kind of

difficult. Possibly a summary or list of what went on each day so participants could pick and chose what they wanted to read/review/watch.

- It went by very quickly--maybe give us two weeks to try activities with an audience instead of just one? In our university setting, time is of the essence, and it's difficult for me to plan/get something done with only 1 week notice.

12% (2) Make Them Less Museum-Focused

- Adding opportunity for non-museum educators to get more information and ideas how to adapt to presenting such a complex concept to concrete thinkers.
- Be less museum-oriented. There are many participants that do not work at museums.

18% (3) Other

- I would love to have the opportunity to do more of the kits.
- More about general NanoDays planning in addition to specific activities.
- Have a branching section by subject and grade level with different activities in each so I as a general biology instructor will not have the same activity as the anatomy and physiology or chemistry instructor. I would have liked to have a branching that would have placed participants into different categories by subject and level and then offered different ideas for each. The participants would have the ability to visit all of the branches. Participants in each branch would know the ideas were for them only and have confidence if others in their school, who taught different subjects, were participating in the workshop everyone would not be getting the same ideas

NanoDays Online Workshop Survey - February 2010

Hello NanoDays Workshop Participant!

Thank you for participating in the first NISE Network Online Workshop! Now that the workshop has concluded, the NISE Network Evaluation Team would like to find out how successful the workshop was in meeting its goals and how we can improve future online workshops. To gather this information, we are using data from this online survey and discussions that took place during the workshop.

Survey

The survey will ask about your experience with the workshop. What did you find valuable? How well did we do in meeting our goals? What could we have done better? Your feedback, both positive and negative, will help us improve future online workshops. The survey will take around 15 minutes to complete. If you can't complete the survey in one sitting, you can save the survey and come back to it later. If you agree to participate in the survey, please complete the survey by Friday, March 12. Your responses will be anonymous so please answer openly and honestly.

All individuals who complete the survey will have their name entered into a drawing for one of four \$25 Amazon.com gift certificates.

Discussion Posts

The discussion posts will add to our understanding of who participated in the workshop and your experience during the workshop. Some of the evaluation team members will also be looking at the posts to gather information about why you, as educators or managers, choose to deliver different nanotechnology activities or activity formats during NanoDays. They will be using this information to develop a survey for all NISE Network members that will go out in June, 2010. In any evaluation report that uses data from the discussion, your name will not be associated with any of your discussion posts. All posts will be reported anonymously.

If you have any questions about the survey or the overall evaluation, please don't hesitate to contact me. I can be reached at 651-221-4575 or agnelson@smm.org.

Thank you in advance for your time!

Amy Grack Nelson on behalf of the NISE Network Evaluation Team

Your participation in this evaluation study is voluntary. You are welcome to quit the survey at any time. Please indicate below if you are interested in participating in the survey and/or allowing your discussion comments to be used for the evaluation purposes described above.

I agree to participate in the survey. (Required)

Yes

No

I agree to allow my discussion posts to be used as part of the evaluation. (Required)

Yes

No

Please include your name so we know which discussion posts are yours. As a reminder, your name will not be associated with any of the survey data to ensure your survey responses remain anonymous. (Required)

Overall Experience

1. How would you rate the overall workshop?

Not useful

A little bit useful

Useful

Very useful

2. What did you value most about your workshop experience?

3. What were your expectations going into the workshop?

4. Were your expectations met by the workshop?

Yes

No

Partially

5. How were your expectations met or not met during the workshop?

6. Please rate the extent to which you disagree or agree with the following statements.

| | Disagree | Somewhat disagree | Somewhat agree | Agree |
|---|----------|-------------------|----------------|-------|
| a) As a result of the workshop, I have a greater understanding of the work of the NISE Network. | | | | |
| b) I am now more familiar with the NanoDays resources available on nisenet.org. | | | | |
| c) I am more aware of how to find resources on nisenet.org. | | | | |
| d) I feel more comfortable using NanoDays activities with our public audiences. | | | | |
| e) The workshop increased my enthusiasm for teaching others about nanoscale science, engineering, and technology. | | | | |

7. Please comment on any of your ratings above. We particularly want to know why you disagreed with a statement so that we can make improvements for future workshops.

8. Do you plan to do any of the following after the workshop?

| | Yes | No | Maybe | Not Applicable |
|---|-----|----|-------|----------------|
| a) I plan to incorporate at least some of the information and resources from this workshop into my institution's programming *DURING* NanoDays. | | | | |
| b) I plan to incorporate at least some of the information and resources from this workshop into my institution's programming *OUTSIDE OF* NanoDays. | | | | |
| c) I plan to follow up with someone I met through the workshop. | | | | |

9. Please comment on any of your ratings in Question 5. How do you plan to use the resources outside of NanoDays? If you don't plan to use the resources, why not?

10. Please rate the usefulness of each element of the workshop.

| | Not useful | A little bit useful | Useful | Very useful | Didn't participate |
|---|------------|---------------------|--------|-------------|--------------------|
| Online discussion forum | | | | | |
| Live webcast of three NanoDays activities | | | | | |
| Videos of webcast activities (posted online after the webcast occurred) | | | | | |
| Tips and support for navigating nisenet.org | | | | | |

11. Please comment on any of your ratings above. What made something particularly useful or not useful for you? If you didn't participate in an element of the workshop, was there a particular reason why?

12. If more videos of NanoDays activities were available on the nisenet.org website, would they be helpful for you?

- Yes
- No
- Maybe

13. Do you have a physical NanoDays kit? (This does not include the digital kit)

Yes

No

14. Did you follow along with the kit during the webcast?

Yes

No

Didn't participate in webcast

15. How did the webcast enhance your understanding of the kit contents?

16. Did you download the digital NanoDays resources to refer to during the workshop?

Yes

No

17. Did you feel like it was difficult to participate in the workshop without access to the physical kit?

Yes

No

Kind of

18. Did you test out one of the NanoDays activities with an audience during the online workshop?

Yes

No

19. Was there a particular reason you didn't test out an activity during the workshop?

20. Was there anything that could have been changed about the workshop that would have made it easier for you to test the activity?

21. How did the workshop help to prepare you in presenting a NanoDays activity with your visitors?

22. How prepared do you feel to lead NanoDays activities with your audience in the future because you participated in this workshop?

Unprepared

Somewhat unprepared

Somewhat prepared

Prepared

23. What could NISE Network staff do either during or after the workshop to support you in carrying out NanoDays activities?

24. How would you rate the overall length of the workshop?

- Too short
- Too long
- Just the right length

25. How can we improve future online NanoDays workshops? What would you change? (Aspects to consider: the format, content presented, topics discussed, interactions with workshop facilitators, participants involved, etc.)

26. If there was a place to have online conversations around training on nano education, how frequently would you want those discussions to be available to participate in? Please select the option that interests you most.

- Once a year
- A few times a year
- Monthly
- Ongoing discussion
- Not interested in participating

27. Do you have any remaining questions about the NanoDays kit activities or NanoDays in general that were not answered during the workshop?

Regional Questions

28. Where is your institution located? Indicate the region below.

- Northeast/DC (New England & NY)
- Mid-Atlantic (PA, NJ, MD, DC, DE, OH)
- Southeast & Puerto Rico (VA, NC, KY, TN, LA, MS, AL, GA, FL)
- South (TX, AR, OK)
- Midwest (ND, SD, NE, KS, MN, IA, MO, WI, IL, MI, IN)
- West (AK, WA, OR, ID, MT, WY, CO, UT, NM)
- Southwest (CA, NV, AZ, HI)
- International

29. Which category best describes the type of organization you work for?

- Museum/Science Center
- K-12
- Library
- Industry
- College/University
- Government and policy organization
- Social Science organization
- Other (please specify)

30. Before this workshop, had you done any of the following?

| | Yes | No |
|--|-----|----|
| Visited the NISE Network website | | |
| Participated in NanoDays | | |
| Attended a NISE Network regional workshop and/or annual meeting | | |
| Attended a NISE Network workshop or presentation at a conference (ASTC, AAM, MRS, VSA, ACM, etc) | | |

NanoDays Online Workshop Debrief Survey

Hello Subawardees,

To help inform the evaluation of the NanoDays Online Workshop, I'd like hear your thoughts about the workshop from a subawardee perspective. This short debrief survey asks about your overall impression of the workshop, how well the goals were met, and suggestions you have for improvement. The survey should only take around 10 minutes to complete. Please respond by Monday, March 8.

Thank you in advance for your time!

Amy Grack Nelson

Overall Experience

1. What are your overall impressions of the workshop?

2. What do you feel worked well about the workshop?

3. Below are the goals for the workshop. To what extent do you feel the goals were addressed?

| | Goal not addressed | Goal minimally addressed | Goal moderately addressed | Goal fully addressed |
|--|--------------------|--------------------------|---------------------------|----------------------|
| Goal 1: Integrate new and existing partners into the NISE Network. | | | | |
| Goal 2: Introduce participants to a limited number of NanoDays activities. | | | | |
| Goal 3: Demonstrate navigation and use of the nisenet.org catalog, specifically in relation to NanoDays resources. | | | | |
| Goal 4: Encourage participants to deliver one or more of the modeled activities to a test audience. | | | | |
| Goal 5: Provide a forum for reflective discussion about the test activity experience. | | | | |

4. Please comment on any of your ratings above. We particularly want to know why you felt a goal was not addressed or minimally addressed so that we can make improvements for future workshops.

5. How would you rate the overall length of the workshop?

Too short

Too long

Just the right length

6. How can we improve future online NanoDays workshops? What would you change? (Aspects to consider: the format, webinar, content presented, topics discussed, interactions with workshop facilitators, participants involved, etc.)