NISE Network Bilingual Design Guide

for Educational Experiences in Museums

NISE network
NANOSCALE INFORMAL SCIENCE EDUCATION

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www.nisenet.org

The Nanoscale Informal Science Education Network (NISE Net) is a national community of researchers and informal science educators dedicated to fostering public awareness, engagement, and understanding of nanoscale science, engineering, and technology.

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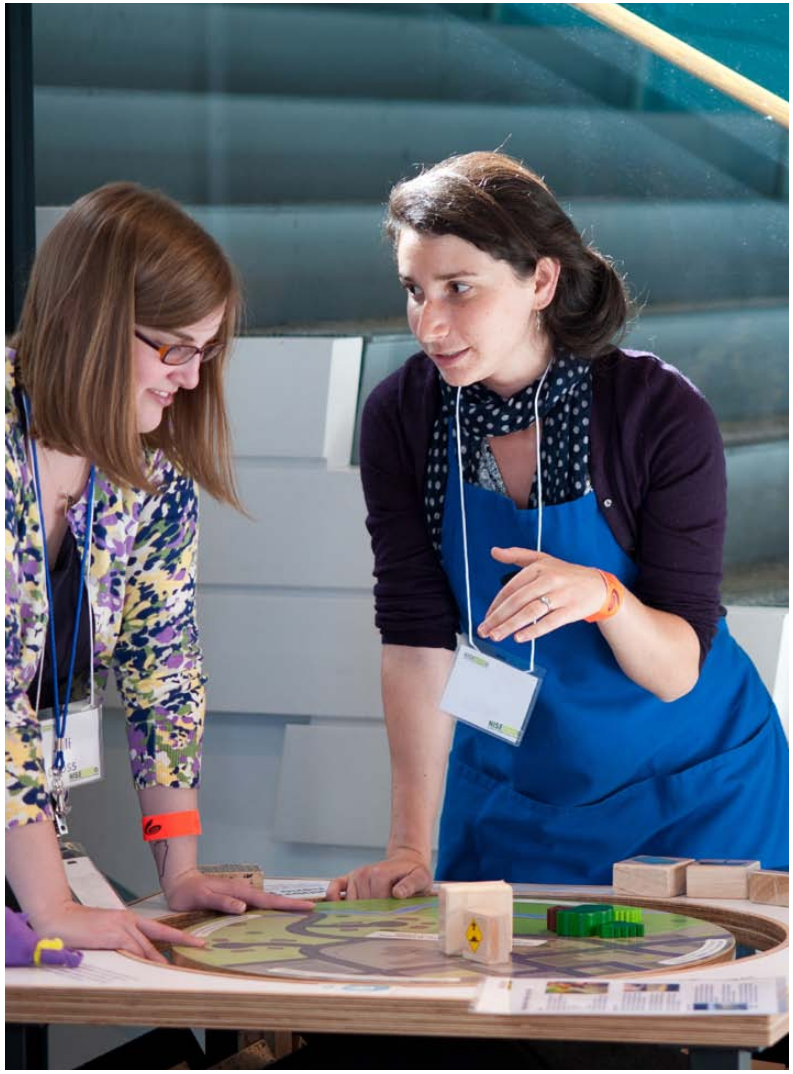
Contents

About the Guide

The NISE Network is committed to creating educational experiences that are inclusive of broad public audiences, including Spanish-speaking audiences in the United States. Many of our educational products are available in both English and Spanish, including NanoDays activities, exhibits, videos, and our public website.

This guide presents the variety of interpretive and design strategies we used for different bilingual products, and explains some of the choices and trade-offs we made to implement those strategies. While this guide focuses on NISE Net educational experiences presented in English and Spanish, the considerations and solutions presented are generally applicable to bilingual or multilingual museum programs, exhibits, and media.



The NISE Network

The Nanoscale Informal Science Education Network (NISE Net) 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). The goals of NISE Net are to create a national community of partners to engage the public in nano, to develop and distribute educational experiences that raise public awareness and understanding of nano, and to generate knowledge about public and professional learning through evaluation and research.

The NISE Net online catalog *www.nisenet.org/catalog* includes over 100 educational products designed to engage the public in museums and other informal education contexts. These educational experiences include programs (presentations, demonstrations, hands-on activities, and theater), media products (including films, videos, graphics, and multimedia experiences), and exhibits. The catalog also includes dozens of tools, guides, and other resources for professionals.

The Network develops our educational products collaboratively, taking advantage of the talents of educators and experts from science museums and research institutions across the country. Our development process includes peer review by educators, prototyping and testing with the target audience, and review by scientists and other experts.

NISE Net bilingual products

In order to help our partners serve the growing Hispanic/Latino demographic in the United States, NISE Net is committed to creating public educational experiences in both English and Spanish. Our catalog includes a variety of bilingual educational products, including exhibits, programs and activities, multimedia experiences, videos, and websites.

Instead of using one uniform approach for the educational products that we offer in both Spanish and English, we have used different interpretive and design strategies to suit the educational context and the nature of the experience. Some of our products are fully bilingual: both English and Spanish are presented together and treated equally throughout all elements of the experience (for example, in the *Nano* exhibition). Other products have separate English and Spanish versions: there are two versions of the product, and visitors typically encounter them in one language or the other (for example, NanoDays activities). Finally, some of our bilingual products are experienced primarily in English but include Spanish supporting materials to make them accessible to a Spanish-speaking audience, as in the *Nanotechology: What's the Big Deal?* exhibition.

This guide explains why the Network chose different design strategies for different public educational products, and shares some of the design choices and trade-offs we made to implement those strategies. We've found that there's no one "right" way to design bilingual experiences. A variety of strategies will work for different experiences, and within different constraints. To decide on a strategy for our educational experiences, we've taken into account the goals of the product, the audience and context in which it will be experienced, and the nature of the product itself. We've also considered practical constraints such as the resources—time, money, and expertise—that we can allocate to each project. The one constant is that it's always helpful to define the bilingual strategy early on so that all the elements of a product can be developed and designed with it in mind.

Creating bilingual experiences

There are many considerations related to creating a bilingual experience. Based on our experience, NISE Net offers the following perspective and recommendations.

Inclusive approach

NISE Net's bilingual design strategy is part of a more general inclusive approach to program and exhibit design. We seek to make the language, images, and interactive elements of our educational experiences comprehensive to a broad public audience, including our target bilingual audiences. NISE Net's universal design guidelines help ensure that our exhibits and programs are inclusive and accessible:

http://www.nisenet.org/catalog/tools_guides/universal_design_guidelines_exhibits

http://www.nisenet.org/catalog/tools_guides/universal_design_guidelines_programs

Equitable approach

The visitor experience in both languages should be as equitable as possible, with the same quality, integrity, and perceived importance.

Development process

There are a variety of ways to go about developing bilingual educational experiences. One model is to co-develop the experience in two languages, working on all elements in both languages throughout the process. A second model is to develop the experience primarily in one language and then translate it into the second language. NISE Net has used a translation model for the development of bilingual products, the process of which is documented in our Translation Process Guide, available at:

http://www.nisenet.org/catalog/tools_guides/translation_process_guide

Prototyping and formative evaluation

Prototyping and evaluation require special consideration, whether you're working within a co-development or a translation model. Will you prototype and evaluate the product in both languages? Do you need to evaluate it with a bilingual audience? Will you have it reviewed by bilingual staff, scientists, and others? If so, you'll need to figure out how to make changes throughout the prototyping process, yet still have an acceptable and equivalent version of both languages available to visitors.

Expert advisors and reviewers

A number of experts can be helpful as advisors and reviewers at different stages in the development process. They can help you shape and refine your ideas at key points in the project. Examples of the experts you might include are: members of your target audience; professionals who have expertise creating educational experiences for your target audience; experts in universal design; and bilingual staff, scientists, and others who have an insider perspective on your project and your target audience.

Design

Various elements of the experience—including written or spoken information, images, physical design, and graphic layouts—all need to work in two languages and be inclusive of a broad audience. This guide provides many examples of the design solutions NISE Net has used for different products.

Timeline and budget

Creating a bilingual product will take more time and money than creating a single-language product. Be sure to take this into account!

More resources

NISE Net has many Spanish-language education products, just a few of which are featured in this document. The complete list of our Spanish-language products is available here:

www.nisenet.org/catalog/spanish

At the end of the *NISE Network Translation Process Guide* mentioned above, there is a selection of additional resources relevant to bilingual design of educational experiences in museums.

Exhibits

NISE Net exhibit projects include *Nano*, a 400-square-foot exhibition, and *Nanotechnology: What's the Big Deal?*, a 2,500-square-foot collection of exhibits. These two projects apply different bilingual design strategies. *Nano* is fully bilingual, with all exhibition elements presented in both English and Spanish in an equitable design. *Nanotechnology: What's the Big Deal?* is presented primarily in English, with supporting materials providing access to Spanish-speaking visitors.

Bilingual design for exhibits

Titles, logos, and design elements

In a bilingual exhibition, titles and logos must work well in both languages and for both cultures. Since your title and logo are integral to your marketing efforts, be sure that they're inclusive of your target audiences. The same goes for titles of individual exhibit components and any design elements you use in the exhibition.

- Titles should sound natural in both languages, and accurately reflect the concepts and values of the exhibition or component.
- Logos and design elements should be culturally relevant and appealing to speakers of both languages.
- Some concepts can be expressed briefly in one language but not in another, creating a variety of marketing and design challenges. A title that's snappy in one language may be awkward or unwieldy in another.
- Titles that rely on idiomatic expressions or puns may be exclusive to one language.

Graphic headers and copy

Text should be inclusive, with concepts and vocabulary that are relevant and accessible to a diverse public audience. An equitable design will give both languages similar presence and treatment (e.g. same font size and weight). Your design should also make it easy for visitors to navigate signage, so that they can find their preferred language(s) and make sense of the information presented.

- If both languages are presented together, your design can appear text-heavy, since all the words appear twice. To alleviate this problem, write concisely and stick to essential concepts. Consider choosing images rather than words to convey content.
- To help visitors navigate bilingual exhibition graphics, it's helpful to place the two languages in the same relative position (e.g., English always on the left and Spanish on the right). However, it's not always possible to place text consistently across all the different elements of the exhibition, so you may have a secondary scheme (e.g. English appears above and Spanish below).
- Some languages require more words to express the same concept. For example, Spanish tends to be about 20% longer than English. It can be challenging to treat the two languages equally and still have a balanced design.

Exhibit instructions

There are special challenges related to instructions for hands-on exhibits, multimedia experiences, and other exhibit components that visitors manipulate in some way. As you weigh the different demands of ADA requirements, universal design principles, ergonomic design, and bilingual design, you may need to make tough choices, identifying where you can and cannot compromise.

- Mechanisms, buttons, and screens can have limited space for instructions, whether presented through images or text. It's not always possible to enlarge the space available for instructions, because exhibits must remain physically accessible and ergonomic. As a result, you may face significant challenges keeping instructional text legible.

- As a general design principle, strive to create hands-on experiences that are intuitive and easy to use. This will minimize potential difficulties with instructional information.

Images

Images are important to creating a usable and appealing design. Photographs and illustrations can open up design options and help overcome some of the challenges of providing text in two languages throughout an exhibition. It's important to use images that are recognizable and accessible to diverse public audiences.

- By using informative images, you can reduce the amount of text you need to repeat in two languages.
- Drawings or photographs can replace or complement written instructions for some hands-on components.
- Illustrations and photographs can also convey important content information. Keep in mind that some images will need captions.
- Images can send a powerful message about the values and attitudes of your exhibition and institution. They should be meaningful to and respectful of a broad public audience. Including images of diverse individuals can help create an inclusive environment.

Promotional materials

Your promotional materials should make it clear to your target audiences that your exhibition accommodates their needs and meets their interests.

- Promotional materials should signal the language or languages included in the exhibition.
- Promotional images should be inclusive, accessible, and relevant to the target audiences.

Nano exhibition

STRATEGY: Fully bilingual

1. All aspects of the exhibition are presented in both English and Spanish. This strategy allows it to be experienced equally by visitors who prefer English or Spanish.

2. Exhibition concepts, images, and text were created and chosen with the bilingual strategy in mind.

3. To provide more in-depth information for interested visitors, supplementary materials such as reading boards were created.

Nano is a 400-square-foot interactive exhibition that engages family audiences in nanoscale science, engineering, and technology. Hands-on exhibits present the basics of nanoscience and engineering, introduce real world applications, and explore the societal and ethical implications of new technologies.

The *Nano* exhibition was designed for wide distribution to Network partner museums across the United States, where it will engage millions of people. It complements NanoDays events and other NISE Network educational experiences.

Nano exhibition

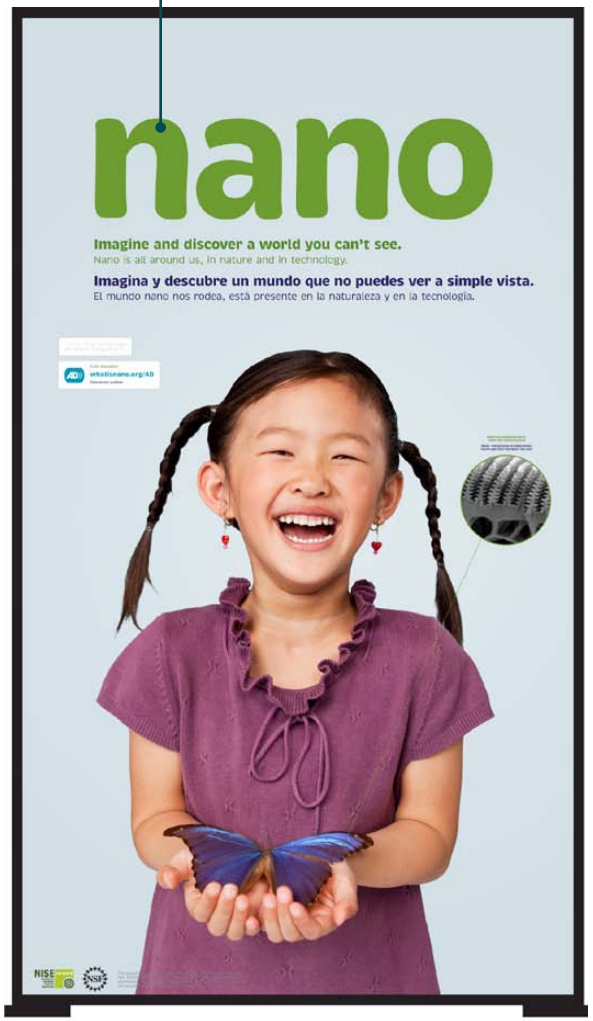
Nano exhibition

Exhibition title and concepts

Exhibition concepts, vocabulary, and images are accessible and meaningful to a broad audience. The exhibition is simply titled *Nano*, in part because this prefix is the same in English and Spanish. We added a tagline, "Imagine and discover a world you can't see," to provide more meaning and context.

Nano logo

The exhibition title, *Nano*, is the same word in English and Spanish



Nano exhibition

Graphic elements

People featured in the exhibition graphics are diverse in terms of ethnicity, age, and other characteristics.

Type treatment is equitable, with both languages set in the same font and size.

Different colors signal different languages. English is in green and Spanish is in purple.

Diverse people featured throughout

Same type treatment for both languages. Color distinguishes English and Spanish

Nano exhibition

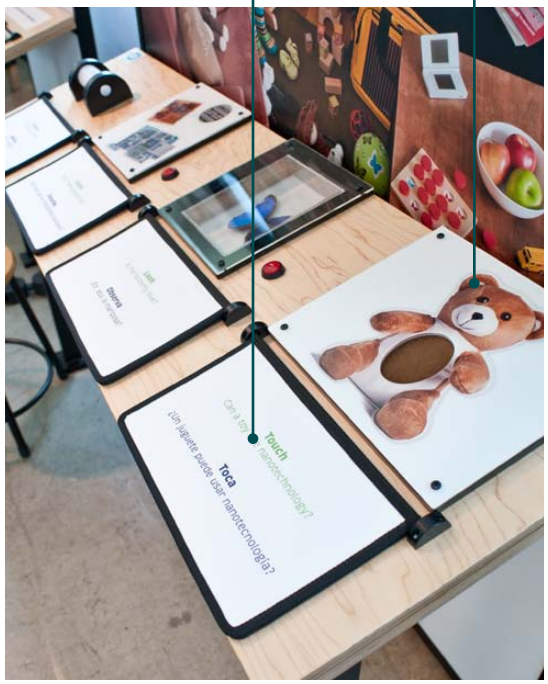
Graphic elements

Titles are repeated below in English and Spanish

All images carry content

Appealing imagery

Succinct text



Several strategies were used to avoid a text-heavy appearance. Throughout the exhibition, the text is succinct to accommodate both languages. Photographs and scientific images work together with text to communicate information.

Languages are placed as consistently as possible. On the large graphics, English is on the left and Spanish is on the right. On the flip panels, English is above and Spanish is below.

Nano exhibition

Exhibit components

Images provide important information. Photographs help visitors use the exhibit, while scientific images help explain the content.

Images show how to use exhibit

Scientific images convey information

Nano exhibition

Exhibit components

Images show how to use exhibits

Scientific illustrations help explain content

Nano exhibition

Supplemental materials

Nano is accessible to visitors with disabilities. English and Spanish audio descriptions, large-print books, and other features were created for blind and low-vision visitors.

Visitor using audio description

Nano exhibition

Supplemental materials

Reading boards allow visitors to explore further. They're located in a comfortable seating area. On the reading boards, English is on one side and Spanish on the other.

English reading boards

Spanish reading boards

Nano exhibition

Lessons learned

1. Decide on a bilingual design strategy early on so that all the elements of the exhibition can be developed and designed with that strategy in mind.

2. Use a consistent design scheme with visual cues to help visitors find the information they need in their preferred language.

3. Choose informative images and place text strategically to avoid creating overwhelming blocks of written information.

4. Be flexible and creative. Different design solutions may be necessary for different elements of an exhibition.

5. Visitor feedback and expert review can help you create an equitable and accessible design.

The decision to make the *Nano* exhibition bilingual affected nearly all aspects of the exhibition's design, from the furniture to the graphics and supporting materials. We made this decision at the outset, allowing us to develop all the elements of the exhibition with this strategy in mind.

Both languages are offered throughout the exhibition. As much as possible, we placed the languages consistently to help visitors navigate graphics. In order to place text strategically and logically, however, we had to find different design solutions for different elements of an exhibition. To help visitors quickly find information, we used color to differentiate between languages.

We used several strategies to convey information without creating text-heavy, unappealing graphics. (When two languages are presented side-by-side, the amount of text in any location is, of course, doubled.) The interactive components were designed to be relatively easy to use and require few instructions. Contextual information was layered through a variety of resources, including large graphics, flip panels, and reading boards. The most important and general concepts were covered in the large graphics, while additional detail and information was provided in the flip panels and reading boards. In all of these media, images and text were used together to convey information, avoiding dense blocks of text.

Our team used a translation model, developing the exhibition in English and translating it into Spanish. Some bilingual exhibitions are created using a co-development model, where the exhibits are developed simultaneously in both languages. Without bilingual developers, our team found it challenging to do rapid prototyping while keeping the English and Spanish text equivalent, so at certain points in the development process, we put "placeholder" labels over the Spanish text.

Our development and design process included evaluation with bilingual visitors, a cultural review of text and images by experts, and a universal design review by experts. The exhibition's concepts are intended to be accessible and meaningful to persons of diverse backgrounds. Its design accommodates both languages and presents them equally.

Nanotechnology: What's the Big Deal?
Exhibition

STRATEGY:
Bilingual supporting materials

1. The exhibition is presented primarily in English.

2. Supporting materials provide Spanish interpretation.

Nanotechnology: What's the Big Deal? is a 2,500-square-foot interactive exhibition exploring a range of concepts and applications related to nanoscale science, engineering, and technology. Exhibit components explore fundamental concepts related to nanoscale forces and properties; how researchers study and make nanoscale things; connections between nanotechnology and nature; nanomedicine applications; and news on current and emerging research. The entire exhibition tours a museum network in the state of Arkansas, while portions of the exhibition are on permanent display at several science museums across the country.

Nanotechnology: What's the Big Deal? exhibition

Nanotechnology: What's the Big Deal?

Exhibit components

English and Spanish audio descriptions provide instructions and interpret the exhibit graphics for blind and low-vision visitors, English speakers who don't read (such as young children), and Spanish-speaking visitors. Audio content was included to make the exhibition more accessible to specific audiences, but was appealing to all visitors.

Nanotechnology: What's the Big Deal?

Exhibit components

Videos and multimedia components are available in both English and Spanish. Visitors choose a language using clearly labeled buttons or on-screen navigation.

Nanotechnology: What's the Big Deal?
Exhibition

Lessons learned

1. Supporting materials can make an exhibition accessible to specific visitor groups.

2. All visitors can benefit from additional materials such as audio descriptions.

Reflections on the development process

The audio content provides a description of the components in English and Spanish. While the audio descriptions were intended to make the exhibition accessible to specific audiences, the headsets turned out to be appealing to a variety of visitors.

The Spanish audio content was tested with visitors to ensure that it adequately explained the interactive elements in a comprehensive way. The team also considered the gender and dialect of the narrator when recording the descriptions.

Audio content is a possible solution if more than one language cannot be accommodated on exhibit graphics. Audio content could also be added to an existing exhibition (such as an incoming traveling exhibition) to make it accessible to audiences who don't read English or prefer another language.

Programs

The NISE Network has translated a variety of our educational programs and activities into Spanish, focusing on the products that have the broadest appeal and potential for implementation by our partners. In particular, we have committed to providing our NanoDays educational products in both English and Spanish.

NanoDays is a national festival of educational programs about nanoscale science, engineering, and technology hosted at over 200 sites annually. The Network's bilingual design strategy for programmatic materials has been to create separate English and Spanish versions, to provide maximum flexibility for educators implementing the programs.

Bilingual design for programs

Program materials

Bilingual programs should present visitors with an inclusive educational experience. Program titles, concepts, images, and design elements should work well in both languages and for both cultures. The specific design strategy you adopt for your program materials will likely depend on whether you will deliver the program bilingually or in one language at a time, the nature of your materials, and your presentation space.

- If you plan to deliver programs bilingually to accommodate visitor groups who speak both languages, you may find it more convenient to create bilingual program materials so that you don't have the clutter of duplicate supplies. On the other hand, many program materials are relatively small in size, so it can be difficult to include a lot of text in more than one language.
- If you plan to deliver programs primarily in one language at a time, it may be more convenient to create separate versions of program materials. This will allow visitors to experience the program in their preferred language. (You can still keep materials in another language on hand for visitors who might like to refer to them.) But many presentation areas have limited room for props and materials, so having duplicate versions of materials in different languages can present problems for the presenter.
- Consider whether your educators are proficient in both languages. Will you need to provide behind-the-scenes information for educators in both languages, or can those materials be in one language only?

Promotional materials

Your promotional materials should make it clear to your target audiences that your programs are accessible and intended for them.

- Promotional materials should signal the language or languages the programs will be presented in.
- Program titles and promotional images should be inclusive, accessible, and relevant to the target audiences.

NanoDays

STRATEGY:
Available in two languages

1. Separate English and Spanish versions are available for NanoDays educational products.

2. Materials for public use are available in both languages, while materials used solely by facilitators are available only in English.

3. Promotional materials and signage indicates which languages are offered at a NanoDays event or activity station.

NanoDays is a nationwide festival of educational programs about nanoscale science, engineering, and technology. NanoDays events are organized by participants in the NISE Network, and take place at over 200 science museums, research centers, and universities across the country from Puerto Rico to Hawaii. The first nationwide week of events took place in 2008. NanoDays engages people of all ages in learning about this emerging field. The Network estimates that around 500,000 members of the public participate in NanoDays each year.

Bilingual NanoDays event

NanoDays

Program delivery and materials

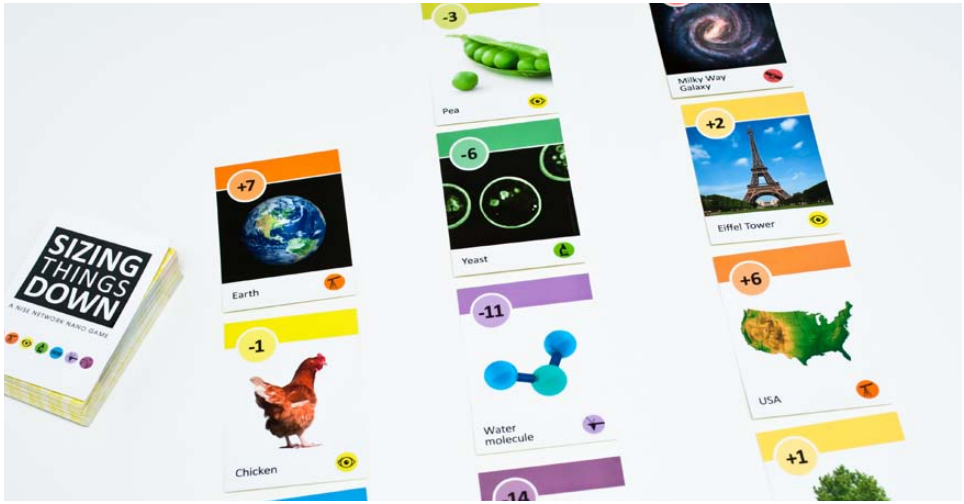
Separate English and Spanish versions of NanoDays activities allow for flexibility in setup and presentation. At a bilingual event, English and Spanish activities can be presented side-by-side or at separate tables.

NanoDays activities use concepts, examples, and analogies that are common to many visitors' experiences. The text and images are accessible and meaningful to a broad audience.

NanoDays

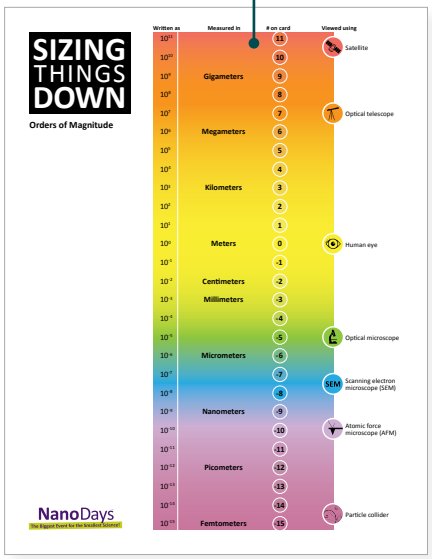
Program materials

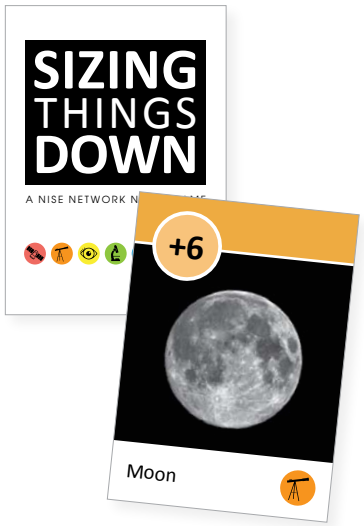
In this game, visitors put objects in order of size. The game cards use images and other graphic elements to communicate information, allowing text to be minimal.



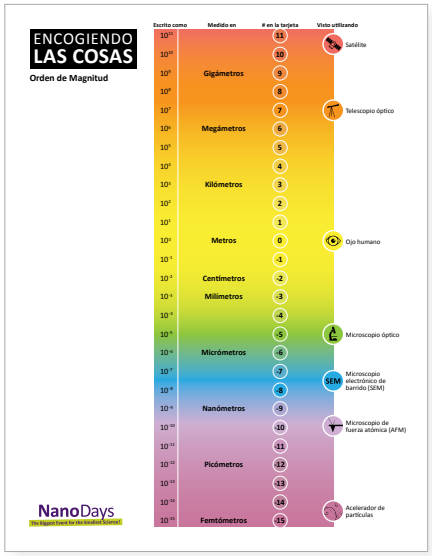
Sizing Things Down game

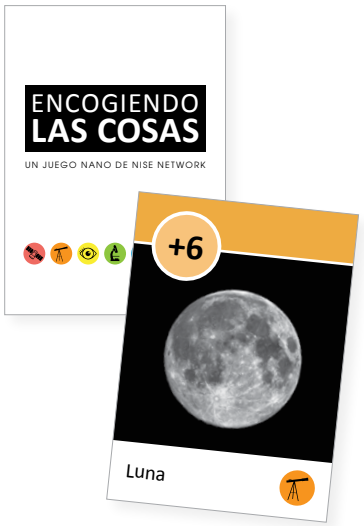
Colors, numbers, and icons all give visitors clues to the relative size of objects





English poster and game cards



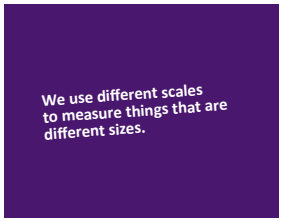


Spanish poster and game cards

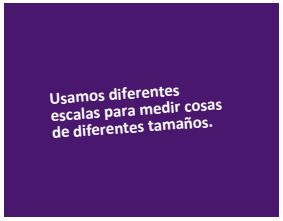
NanoDays

Program materials

In this game, visitors try to find hidden objects. Separate English and Spanish game cards are provided. The game boards have images only (no text), so they can be used to play the game in either language.

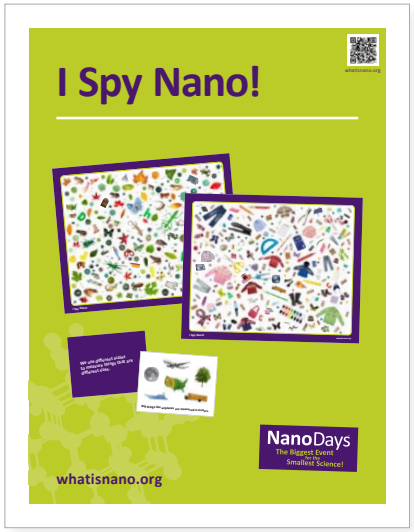


English deck of cards



Spanish deck of cards

Game boards



English sign

Spanish sign

I Spy Nano! game

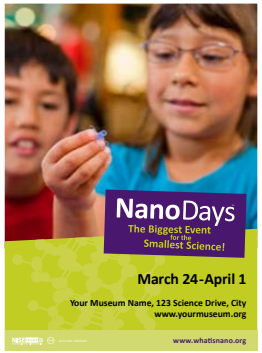
NanoDays

Promotional materials

NanoDays promotional materials indicate which langauges are offered at an event or activity. There are two versions of the NanoDays promotional banner, one in English and one in both English and Spanish. This allows hosts to market an English or bilingual event. Activity signs are available in two versions, English and Spanish. Educators can display one or both signs to indicate which languages they offer. NanoDays promotional materials feature a diversity of people.

English promotional banner

Bilingual promotional banner



English and bilingual promotional ads

English and Spanish activity signs

NanoDays

Lessons learned

1. An inclusive approach to concepts, text, and images helps make program materials accessible to a broad audience.

2. Separate versions provide flexibility for educators, who can choose to use English materials, Spanish materials, or both.

3. Separate versions are convenient for visitors because the materials are easy to navigate and manageable in size.

4. Images and text can be used together to convey concepts and information.

Reflections on the development process

NanoDays is an annual event, and new materials are created each year and distributed to over 200 partners. It's challenging for the team to get everything translated, produced, and in the kits on a tight timeline. Good communication and a clear, well-established process for the translation and review are essential on a deadline!

To reduce translation time and reproduction costs, we only translate materials meant for public use. Materials used solely by educators (such as presentation tips and background information) are only available in English.

All NanoDays educational materials are reviewed by experts in bilingual educational experiences and universal design. This helps to ensure that the content and language are culturally accessible and relevant to most visitors.

Video and Multimedia Experiences

The NISE Network offers a selection of multimedia experiences and videos in both English and Spanish. Our design strategy for these products has been to create two versions of the products, one in each language. This provides the audience with the best experience with the products. While considerations of cultural relevance and sensitivity are always critical in bilingual educational products, videos and multimedia experiences raise particular issues.

Bilingual design for video and multimedia experiences

Production

Bilingual video and media products should present visitors with an inclusive educational experience. All aspects of the experience—including concepts, characters, images, and design elements—should work well in both languages and for both cultures. Production concerns, content, and delivery plans will influence the bilingual strategy you adopt for your product.

- Consider whether visitors will select their language, or if it will be predetermined (e.g. through different show times for different languages). This will affect how you design the experience.
- Some media experiences, such as websites, can be designed to allow visitors to switch between languages at any point during their experience, while others are less flexible.
- When producing multimedia and video products in more than one language, keep in mind that your talent directors, audio and video editors, and other team members will need to be proficient (if not fluent) in each language.
- Decide early on whether you will produce entirely different versions of the product, or whether you will record a voice-over for your product in a second language. (If you're creating a video, will you film once and record a voice-over in two languages, or will you film it two times, once in each language?) The nature of the product, the cost of production, and other factors will influence your decision.
- In order to make an audio or audiovisual product meet ADA guidelines, you'll need to provide captioning in both languages.
- Some languages take more words to convey the same meaning. For example, Spanish can be 20% longer than English. This makes it challenging to do a Spanish voice-over for an English language video. For videos that will be voiced in more than one language, it's helpful to leave a few extra seconds of footage at the end of each scene, to provide extra time for the voice-over if it's needed.
- As always, as you choose your strategy, aim to make the experience in each language as inclusive and equitable as possible. Consider issues such as the ethnicity, gender, and dialect of your talent and featured experts.
- During the development process, it's important to review the content of bilingual products for cultural appropriateness to speakers of both languages.

Nanomedicine Explorer
multimedia kiosk and website

STRATEGY:
Available in two languages

1. The experience is available in both English and Spanish. Visitors choose the language they prefer.

2. Produced in English, then translated and a voice-over recorded in Spanish.

"Nanomedicine Explorer" is a multimedia product that can be experienced as a kiosk within a museum exhibit gallery or as a web-based interactive. Visitors can explore a variety of topics and research areas in cancer nanomedicine. Features include animations, research stories, games, and polls.

English version

Spanish version

Nanotechnology: What's the Big Deal?
Video

STRATEGY:
Available in two languages

1. The video is available in both English and Spanish. Visitors choose the language they prefer.

2. Produced in English, then translated and a voice-over recorded in Spanish.

"Nanotechnology: What's the Big Deal?" is a short video that explores the tiny scale of nanotechnology and surveys the challenges and opportunities presented by nanoscale science. It is included as an introductory component in the exhibition *Nanotechnology: What's the Big Deal?* and can also be used as a stand-alone experience.

English version

Spanish version

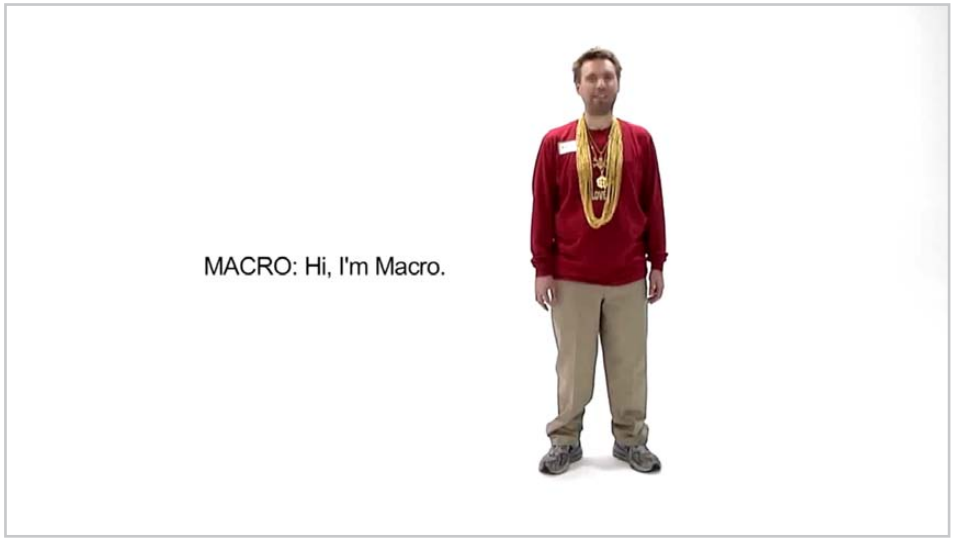
Nano and Me
Videos

STRATEGY:
Available in two languages

1. Separate English and Spanish versions of the video are available. Visitors choose the language they prefer.

2. English and Spanish versions were produced independently.

"Nano and Me" is a series of humorous 30-second video clips that introduce fundamental concepts of nanoscale science.



English version

Spanish version

whatisnano.org
website

STRATEGY:
Available in two languages

1. Separate English and Spanish versions are available for whatisnano.org, the NISE Net public website. This allows visitors to the site to choose whether to experience it in English or Spanish.

2. The Spanish version of the website does not provide a fully Spanish-language experience. As there are fewer nano-related resources available in Spanish, the Spanish web page includes links to both English- and Spanish-language sites.

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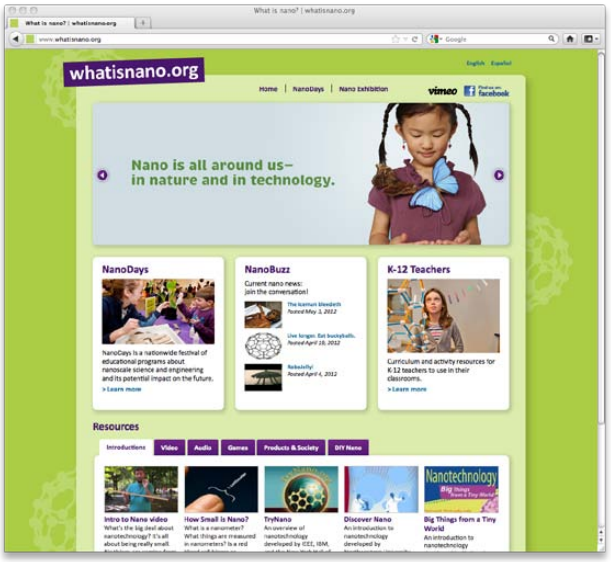
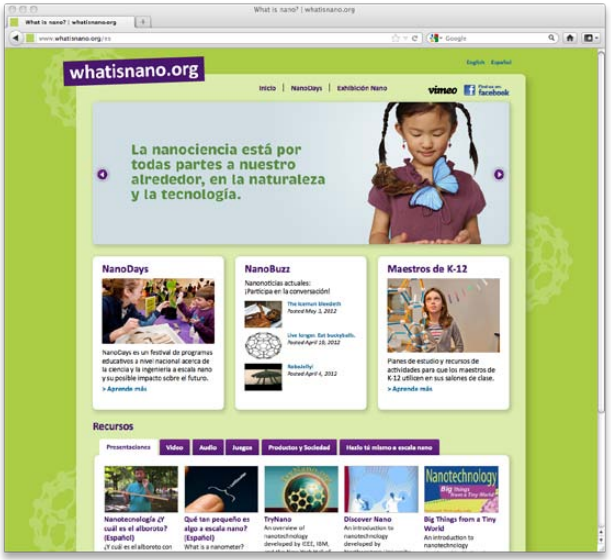
whatisnano.org is the NISE Net public website. It provides the general public with an overview of nanoscale science, engineering, and technology, primarily by linking to suitable resources available through the Network and others.



English version



Spanish version

Video and Multimedia

Lessons learned

1. Separate versions are convenient for visitors, who can choose to experience media in either English or Spanish, or both.

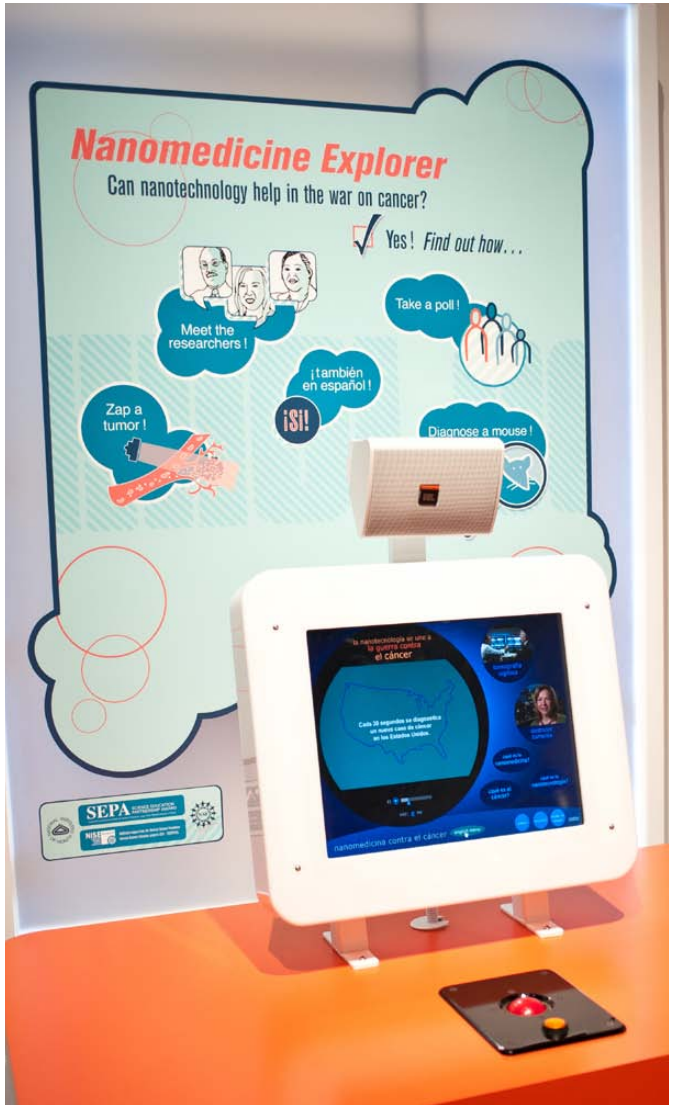
2. Media experiences are not always translatable because they may not work well in different languages or for different cultures.

3. Media experiences cannot always accommodate voice-overs. Instead, they may need to be produced separately in each language.

Reflections on the development process

During the development process, it's important to review the content of bilingual products for cultural appropriateness to speakers of both languages. When producing multimedia and video products in several languages, keep in mind that your talent directors, sound and video editors, and other team members will need to be proficient or fluent in those languages.

Some videos and media experiences work well in any language. Other media products cannot easily be translated from one language to another because their concepts are less relevant or accessible to another culture. Additionally, some media products will be more successful if they can be produced independently in each language, rather than utilizing voice-overs.



Additional Resources

Association of Science-Technology Centers Equity and Diversity Toolkit: *www.astc.org/resource/equity/toolkit.htm*

Multilingual Interpretation in Science Centers and Museums: A landscape study performed by the Association of Science-Technology Centers, Inc. and the Exploratorium: *www.astc.org/resource/equity/Multilingualism%20Report_Final.pdf*

NISE Network Translation Process Guide: *www.nisenet.org/catalog/tools_guides/translation_process_guide*