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Program Evaluation • Consultation • Market Research

Formative Evaluation of GeeGuides: Educational Technology to Enhance Art Exploration

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EXECUTIVE SUMMARY

In November 2004, GeeGuides contracted with Goodman Research Group, Inc. (GRG) to conduct formative evaluation of two of their educational technology products: 1) the sayART program, designed to take place on a computer in a classroom or at home, and to introduce children to the language of art, and 2) the seeART program, delivered on handheld devices (GeeGuides) in museums, and designed to facilitate children's experience of artwork.   The formative evaluation was designed to answer the following questions:

- How appealing are the GeeGuides programs to the target audience?
- How do children use the GeeGuides programs?
- In what ways do the programs enhance children's art exploration, appreciation, and education?
- How could the GeeGuides programs be improved to better meet the needs of the target audience?

This Executive Summary provides a concise explanation of the evaluation methods, description of the key findings, and presentation of the recommendations based on the findings. We refer the reader to the full report for a comprehensive discussion of the findings and recommendations.

METHOD

The study took place between December 2004 and February 2005 at three museums: the Jack S. Blanton Museum of Art at the University of Texas at Austin, the Vancouver Art Gallery (British Columbia), and the Seattle Art Museum. A total of 213 children participated in the evaluation. The majority of children were from school groups who participated in sayART and seeART, while the remainder of the sample visited the museum with their families and participated in seeART only. The average age of participants was 10 years, a slight majority was girls, and four out of five had experience visiting art museums. Data collection included observations, and written surveys or interviews with children in classrooms (sayART) and museums (seeART).

KEY FINDINGS

- Appeal of programs: Both sayART and seeART programs were very appealing to children: 67% of sayART users and 86% of seeART users found the program either *fun* or *really fun*.

- Appeal of activities: Students were most engaged by activities that allowed them creative control or expression and gave them something in return, and were less interested in or disappointed by activities that gave them no feedback. Children liked the Movement module and activities best. Most children found the GeeGuides characters appealing.

- **Parents' opinions of GeeGuides:** Parents indicated their support for seeART, with 88% indicating they would rather go through another museum with a GeeGuide than without one. Parents indicated a willingness to pay a maximum fee of about $5.00, and 74% said they would consider renting a GeeGuide for themselves.

  - Parents confirmed their children's enjoyment of GeeGuides, and believed the tool helped their children enjoy and learn from the museum experience. Parent opinion was split regarding the GeeGuide's helpfulness to parent-child interactions in the museum; about one-third thought it helped, one-third were neutral, and one-third thought it hindered interaction.

- **Use of activities:** Children followed most of the suggestions made by the sayART and seeART programs. In the museum, some children tried all the activities for a particular module, while others spent more time on fewer activities. In both school and family groups, children often selected a painting and began watching the accompanying movie before they arrived at the artwork.

  - Children became too tired and restless standing during the GeeGuides activities. They were more comfortable sitting on the floor or a bench, although this sometimes resulted in their not facing the art work. In general, children or families that were physically removed from the artwork appeared more passive and less engaged with the artwork.

  - Most children were thoughtful about the activities; however, some were more interested in exploring the capability of the technology, suggesting they were constructing meaning about the technology rather than the art.

- **Understanding of concepts:** Children demonstrated good recall and understanding of the concepts covered in sayART and seeART, including artists' use of lines to guide the eye and express emotions, that pig bladders, shells, and bottles were used to store paint prior to the invention of paint tubes, and the difference between stillness and movement in a work of art. After using GeeGuides, children demonstrated aesthetic, narrative, logical/quantitative, and foundational responses to the artwork they viewed. In particular, they used the fundamental principles of art featured on the GeeGuide to organize their descriptions of paintings they viewed.

- **Navigation:** Both in classrooms and museums, children often sought approval or direction from adults before continuing, and occasionally needed prompting to go on. On the laptop, some children were confused about what to do after hearing the welcome, and did not intuitively gravitate toward the left-hand menu. Moving from the Intro to the modules also was confusing for some students. Some clicked on the images of the paintings, and some cycled back to the beginning of the Intro. Once started, most students found the program easy to use, and used it in its entirety. Small groups usually

explored each module and did each activity in a given module, sometimes in order and other times at random.

- On the GeeGuide, students were uncertain whether there was an order to the activities that followed each movie; they had a little bit of difficulty initially following the directions, and exiting modules or activities; and they often pressed too many buttons or pressed them prematurely. All of these situations improved with practice. Children preferred to navigate the GeeGuide using a stylus rather than tapping with their fingers.

- Exploring the artwork: The main concern from the first round of testing at the Blanton Museum of Art – that children did not look up from the GeeGuide to the artwork – appeared to have been reasonably resolved in the latest version of the GeeGuide. The balance of their time was still spent focused on the GeeGuide, which concerned at least one of the museum educators who observed the testing.

  - In the classroom, sayART users initially skipped exploring the artwork and proceeded directly to the movie. When they did explore the artwork, they found the zoom in option most appealing. The limited exploration of the artwork reduced discussion among students about it.

- Interaction: Both sayART and seeART supported a medium level of interaction among school children, and between children and parents with respect to the GeeGuide. Students posed questions aloud to their groups, helped each other, and negotiated their navigation together. Co-participants shared information about their progress through the program overall, and through specific activities, questioned each other, helped each other, looked at what was on each others' screens, showed each other their screens, and pointed to and tapped on each others' screens. In the museum, they were more likely to interact over the GeeGuide than the paintings on the walls.

  - In the museum, some parents used the GeeGuide as a springboard for asking their children questions about the artwork, or making suggestions, sometimes connecting the seeART experience to their children's lives. In addition, children asked for and parents offered clarification about GeeGuides information. Sometimes, parents attempted to move their children through the experience more quickly than the children desired.

- Suggestions: Children had similar suggestions for improving sayART and seeART, including more content, more creative activities, and larger-scale movies. With regard to the GeeGuides themselves, children wanted less talking and an attached stylus.

RECOMMENDATIONS

sayART

- Orient the students to what they will do in sayART: see and explore paintings, and do related activities. Include visual examples.

- Use a consistent term for items on the left-hand menu, and label them accordingly. If the terms art or artwork are used, menu items should be accompanied by the same images featured in the movie.

- Provide a visual link between the instructions at the end of the movie and the left-hand menu.

- Give students feedback during activities, to fulfill their expectations and enhance the interactivity of the experience.

- Allow students to alter their work during activities, to enable them to build on the meaning they have made from an initial interaction.

- Add specific instructions for students to explore the art, including objectives for doing so.

- Limit what students are able to do with the technology, to focus them on understanding and applying the principles of art.

- Fully develop the menu, artwork, and museum and artwork information parts of the screen, then consider the size of the movies.

seeART

- Shorten the "look at the painting" segments or embed suggestions to look at the painting into the activities.

- Attach the stylus to the GeeGuide.

- Ensure that those facilitating children's experiences with GeeGuides understand that the tool is for use in the presence of artwork.

- Take into account bench location relative to featured artwork when selecting the artwork with partnering museums.

- Prioritize development of materials to support teachers in engaging their students in more meaningful discussions about the art work and accompanying GeeGuides content.

NEXT STEPS

GeeGuides has a clear mission – to enhance children's exploration of art – and the formative evaluation supports the company's initial direction. Both sayART and seeART were implemented successfully in their classroom and museum settings, respectively. Children, parents, and teachers found the programs appealing, and children had the types of aesthetic, narrative, logical/quantitative, and foundational responses to the artwork that GeeGuides intended.

The evaluation does point to some areas for improvement, as noted in the recommendations. Perhaps the most important next step for GeeGuides is to work from their mission to further develop their goals and objectives for their programs. They have already made some progress in this area, having drafted their desired effects for children who use their programs. They are now in a position to develop specific and measurable objectives, based on the goals. From the objectives will follow indicators (measurable evidence) that can be used to assess the effectiveness of their programs. They will then be in a good position to conduct an outcomes study, a study in which observed effects can be attributed to GeeGuides.

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