

THE HEURISTIC EVALUATION OF A CULTURALLY-SPECIFIC GRAPHIC FOR CROSS-CULTURAL COMMUNICATION

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ABSTRACT

In spring 2007, multicultural users evaluated the usability of a graphic design exemplar—a culturally-specific graphic designed for cross-cultural communication. The graphic—an HIV/AIDS awareness and prevention campaign poster—was designed three years prior in a participatory manner with third world laypeople and first world educators. The intent of the campaign poster was to effect behavior change among other Kenyans (and potentially other cultural groups around the world) in regard to unsafe sex. As a result of feedback generated from the cross-cultural, heuristics evaluation, we developed a web-based interactive poster that aims to allow first and third world users to customize the poster and distribute it to others via email, cell phone, or print. This paper presents a case study analysis of the usability testing of a culturally-specific poster and its redesign into a cross-cultural, interactive poster.

1. INTRODUCTION

During Spring 2006, a multidisciplinary team of educators and graduate students tested the usability of two iterations of a graphic design exemplar. The first iteration of the exemplar, a culturally-specific poster, was designed Summer 2003 with third world laypeople situated in Kenya and first world educators situated in the United States. This transnational, collaborative workshop was facilitated by a virtual design studio constructed out of existing instructional and communication technologies for synchronous and asynchronous dialogue and interaction. Bennett, et. al describes this workshop and research methodology as participatory in that it allowed Kenyans complete control of the final outcome—a poster that aimed to promote awareness of HIV/AIDS among Kenyans and potentially other cultures of people around the world (2006). After undergoing a first round of usability testing with Jakob Nielsen's heuristics (1994), the print poster was transformed into a web-based interactive poster following feedback from a multicultural group of users. Targeting a cross-cultural audience this time, the interactive poster underwent a second phase of usability testing according to a revised set of heuristics derived from Nielsen's but more representative of technological influences on communication design and execution over the past decade. This paper analyzes a two-phase, heuristic evaluation and iterative redesign of the poster.

2. EXEMPLAR 1, A PRINT CAMPAIGN POSTER

In 2003, a small group of Kenyan laypeople participated in a US sponsored design workshop to design the poster in Figure 1 below. The intent of the workshop was to raise awareness of the HIV/AIDS epidemic among Kenyans and encourage them to take action and change risky sexual behaviors.



Figure 1 Example of campaign poster designed by Kenyans in a summer participatory design workshop. [The face of the person has been disguised at the subject's request. It was not censored in the local version of the design.]

The participatory design workshop was conducted in a community resource center in Kenya with a US graduate student—a native Kenyan studying abroad in the United States. US educators situated in the United States participated in the workshop by way of a virtual design studio constructed out of existing instructional and communication technologies for synchronous and asynchronous dialogue and interaction. The outcome of the workshop is Figure 1, a culturally-specific graphic.

Assessing visual appeal and cultural resonance

There is an intellectual chasm that exists within the art and design disciplines between theorists who posit that meaning is created by visual stimulation and those who posit that meaning is created by social consensus (Csikszentmihayi, Mikhail 1991). Graphic art that relies on visual stimulation to communicate meaning typically are created by design professionals and represent high design grounded in the traditional visual design and typographic theories like Meggs (1992), Bringhurst (1992), Lupton (2005), Clair and Busic-Snyder (2005) among others. Graphic art that relies on social consensus to create meaning tend to be designed in a research-oriented manner with laypeople and represent user control. In assessing the effectiveness of the culturally-specific poster in Figure 1 for cross-cultural communication, we need to consider both perspectives. In other words, it should be evaluated according to its visual appeal and cultural resonance. Its

visual appeal includes a combination of globally-distributed features (e.g. airplane emergency instructions) and formal/explicit characteristics (e.g. a stop sign) while, its cultural resonance includes culturally-specific features (e.g. graphic symbols like a red circle) and implicit/embedded characteristics (i.e. visual coding systems that lie within an aesthetic like color). In this research project, the heuristic evaluation of the graphic in Figure 1 also reveals its visual appeal and cultural resonance across cultural divides.

2.1 PHASE ONE TESTING PROTOCOL

The seminar in which this heuristic evaluation was conducted comprised an instructor, 5 visiting lecturers, and over a dozen local and distance graduate students majoring in technical communication, communication and rhetoric, or human computer interaction. Distance graduate students participated in bi-weekly seminar meetings via *Elluminate*. Local students, the instructor, and visiting faculty members participated, face-to-face, in a conference room equipped with technologies for distance and local communication and instruction. The instructor managed the course—providing a syllabi and course schedule. She also worked closely with a testing team—comprised of one visiting lecturer and two graduate students—to develop the testing protocol for all heuristics evaluation, derive an appropriate set of heuristics, and seek approval from Rensselaer’s internal review board. Then, the testing team worked with four sub-teams of one visiting lecturer and two or more graduate students each to develop their exemplars and find suitable evaluators for two successive heuristic evaluations.

The first heuristic evaluation consisted of three people: an evaluator (i.e. user), a tester (e.g. a graduate student enrolled in the course, a test team member, or faculty member), and an observer (e.g. a graduate student enrolled in the course, a test team member, or faculty member). This initial heuristic evaluation was conducted face-to-face primarily with graduate students from the seminar. Some external undergraduate and graduate students were evaluated by way of Survey Monkey, a web-based surveying software. Other students were evaluated by way of Elluminate, a web-based software for collaborative learning between local and remote users. The user group for our HIV/AIDS poster comprised:

- 1 African-American, face to face
- 1 African (Nigerian), face to face

- 1 Malaysian undergraduate external to the seminar, via survey monkey
- 3 Asian undergraduates external to the seminar, via survey monkey
- Many Caucasian graduate students, face to face and at a distance via Elluminate with some telephone support

2. 2. NIELSON'S HEURISTIC EVALUATION

Nielsen's heuristic evaluation (Nielsen, Jakob 1994) is a method used by interdisciplinary researchers to find usability problems in interfaces designed for use by laypeople. The heuristic evaluation process entails asking a small number of users, called evaluators, to complete a set of pre-determined tasks commonly associated with using the interface. Typically, the tasks are compliant with Nielsen's ten usability principles (Nielsen, Jakob 1994). A tester takes the evaluator step-by-step through the tasks. Simultaneously, an observer documents each evaluator's responses to the tasks. The problems identified during heuristic evaluation are then remedied in subsequent iterative redesigns of the interface for greater ease of use and meaningful experience.

Designed specifically for the evaluation of website interfaces, we experimentally applied Nielsen's heuristics to the evaluation of a printed poster's interface. Our reason for doing this is based on the premise that users can interact with a poster the same way that they do with a webpage on the World Wide Web. Thus, for exemplar 1, a printed poster, our team derived the following tasks to ask evaluators:

- If you saw this poster on a wall, would you go over to it to read it?
- Tell me what this poster communicates to you.
 - Describe what you see.
 - What does the red ribbon mean to you?
 - What does the image of Kenya mean to you?
 - What does the image of the woman mean to you?

- What emotions do you feel as you look at this? Which parts of the poster make you feel that way?
- Can you read the words?
- If you were working in a health office and this image was given to you, what would you do?
 - Who would you tell about this poster?
 - Could this poster influence your behavior?
 - Could this poster influence the behavior of others?

2.3 TESTING RESULTS FROM EVALUATORS

The reaction to the poster during the first phase of testing was mostly negative. While evaluators understood the message was about HIV/AIDS in Africa, few had a very strong emotional response to the poster. Most of the evaluators said that they would not go over and read the poster. Strongest emotions seemed to be for the overall message of poster—HIV/AIDS. Evaluators seemed to notice and feel most strongly about the image of the woman, followed by the red ribbon, and then the map of Kenya.

The woman's face being blurred was a big issue among evaluators. Testers did not understand it or misconstrued its purpose. Some thought it represented shame or social stigma about being HIV positive. Other testers felt that the woman talking first goes along with the verbal message: "let's talk about it". Though, one tester did not know what the woman would talk about. Ironically, some evaluators thought it contradicted the message of "let's talk about it." One tester felt the woman's hand gesture made a strong emotional impact.

Most of the respondents got some meaning from the red ribbon: it stands for HIV/AIDS awareness. Others did not necessarily think the ribbon looked like an AIDS ribbon. One of the most memorable responses came from a Nigerian graduate student studying in the United States, who did not know that the red ribbon represented HIV/AIDS. He interpreted it as serving to wrap up Kenya like a gift.

It is important to remember that this exemplar was created by Kenyan laypeople who felt it would be effective among their peers. While our team attempted to choose evaluators from diverse

backgrounds, most lived in this country and did not have a connection to Africa. Therefore, in most cases, the map of Kenya did not mean very much to them. Most evaluators felt that they could not relate to the map of Kenya because they did not have knowledge of Kenya and felt others like them would recognize the shape on the map to be the country Kenya. A few evaluators, however, made the connection from the map that Kenya has an HIV/AIDS problem. Though, some were confused by the purpose of the cities on the latter. In addition, the text was small and difficult to read. While some testers like the colors used, others felt that they were too heavy, especially the dark blue used with the map of Kenya. One tester questioned whether these colors would be difficult for someone who was colorblind to see.

Overall, it seemed all evaluators did not understand how they were supposed to “Act Now” and what to talk about. The call to action seems to need more detail and clarification. Without more information, it is hard to act. In the context of the health office, evaluators said that they would show more interest in it, and possibly hang it up and share with others. Some of the evaluators said that they would tell others. Though, some felt there was not enough information to pass along. One African-American evaluator said she would talk to family members about it. Others were either not sure if they would tell anyone, or they would if there was more information. Almost all of the evaluators said this poster would not influence their behavior. However, interestingly, most evaluators felt that it would somehow influence the behavior of others.

2.4 TESTING RESULTS FROM TESTING TEAM

The testing team also offered the following feedback about the poster:

- “Find a more gripping image. People’s gaze is automatically drawn to faces, so blurring the face is a mistake.”
- “Add a call to action. People need to know what the first step is in taking action. If you’re saying that the first step is to talk about it, then say who to talk to. Or if the first step is to get tested or start a community program or something, then make it clear exactly how to do that.”
- “Try beginning with one person’s experience in a way that’s very emotional (but fast), and then introduce the statistics afterwards. This is emotionally compelling, but then introduces the scope of the statistics with each one of those infections feeling real and compelling.”

- “One way to ensure that people will read the emotional story first is to make it in a larger and more eye-catching font.”
- “Another useful trick is to use some second-person language. Say something along the lines of ‘every time you have unprotected sex, there’s a 10% chance you’re getting HIV’—where the word you is the differentiator.”
- “The white background, the quality of the image of Kenya and of the ribbon, and something about the font all make it look amateurish. You need the confidence and trust of your audience. Find some way to make the image look more professional.”

2.5. VIOLATIONS OF NIELSEN’S HEURISTICS

The first heuristic evaluation revealed that the original exemplar violated the following three Nielsen heuristics:

- “The system should speak the users’ language, with words, phrases and concepts familiar to the user, rather than system-oriented terms; and, follow real-world conventions, making information appear in a natural and logical order (Nielsen, Jakob 1994).” Some testers had questions or were confused about some elements of the poster (the woman’s face being blurred, the shape/style of the ribbon). This may have been due to cultural differences between Kenyans and the evaluators. Since, the poster was created by native Kenyans, the verbal/visual content more accurately reflects their experience.
- “Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility (Nielsen, Jakob 1994).” This heuristic brings into question the relevance of the cities within the map of Kenya. There is no additional information about these cities in relation to the message of the poster. Also, there are no statistics specifically associated with the cities, and no additional relevant information about the cities is offered. Finally, in the summer 2003 participatory design workshop that generated exemplar 1, the Kenyans noted no special reason why are some cities are typeset in a larger pointsize than others.

- “Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large (Nielsen, Jakob 1994).” We can interpret from this heuristic that, ideally, the poster should be able to get its message across on its own without verbal support from us. Realistically, AIDS/HIV awareness is a very large issue, and while an image can get a user's attention and begin to create awareness, there is no way to fit everything the user needs to know about the subject on one poster. This poster gives no reference to where a user could find supplemental information (a Web site or even a phone number to call). It gives specific commands to the user, act now and talk about it, but does not provide any information on how the user can do that.

2.6. HEURISTICS FOR TECH-MEDIATED COMMUNICATION

Each exemplar team and the testing team evaluated the effectiveness of Nielsen's heuristics and found that Nielsen's heuristics were insufficient in evaluating *all* of the user's potential experiences interacting with interfaces in a tech-mediated world. For instance, our exemplar should have guided evaluators through the communication process and explain the context, function, and form of what they see. Evaluators may have then been able to answer the following questions with ease:

- What is the poster about?
- Who is the poster from?
- Who is the poster for?
- Why is the poster designed this way?
- What can you do with the poster?
- Explain how you can change or modify what you see?
- Which image would you use?

Our original exemplar could have given the user control over what they took away from the interpretation experience thereby making the process of interpretation more participatory. Had we provided interactive tools and guidelines for effective design, evaluators could have modified the poster to their liking. Then, with a more participatory dissemination process as well, evaluators could have distributed the final poster to anyone a variety of different ways, that is, had we also given them electronic distribution options like cell phone, email, printer for posting hard copies in public.

After the testing had completed, the seminar class met to discuss the derivation of new heuristics for tech-mediated communication like our poster. The following are the new set of heuristics applicable to our exemplar and their implications for its redesign:

Welcome

- **Extend a Welcome.** Evaluators did not understand who created the poster or for whom it was intended. Thus, they did not feel compelled to go over, read it, or explore it further. Our goal in the redesign phase was to provide an introduction to the project describing its origin and instructions for what the user can do with it.
- **Set the Context.** It was necessary to explain the context of the poster to the evaluators because there was nothing on the poster to do this. When the evaluators were presented with a scenario, the health office, they said they would go over and read it, and maybe even share it with others. Our goal in the redesign phase was to provide an introduction to the project describing its origin and instructions for what the user can do with it.
- **Make a Connection.** Most of the evaluators could not make a connection to the poster because they did not have knowledge of Kenya. They also had trouble making a connection with the woman in the image because they were distracted by her blurred face. Our goal in the redesign was to provide images of people from a variety of different ethnic groups to allow users to choose images they can relate to. Also, it would be useful to provide different maps and other geographical images.

Exploration and Connectedness

- **Design for Diverse Audiences.** The poster was designed initially with only one audience in mind—Kenyans. Therefore, the evaluators did not feel a connection to the poster

because they could not relate to it. For some, there was little to no emotional attachment because they did not know a lot about Kenya. Thus, our goal in the redesign phase was to target a multicultural audience and include an option of images to which evaluators could choose.

- **Design for Usability.** While this version of the exemplar was not electronic, and there was no way for users to make errors, there were some visual problems that became apparent during testing. The yellow text for the cities was difficult to read. Also, some evaluators mentioned that they did not understand the purpose of the cities on the map, and why some were a larger point size than others. Our goal then in the redesign phase was allow users to create their own posters, where they can decide on the size and color of text.
- **Give Control.** The evaluators did not have any control over their interaction with this exemplar, except for their own internal response to it. Some provided recommendations as to how they would change it, but there was no way for them to implement those changes. Our goal in the redesign was to design an online, interactive poster applet that would allow users to modify the poster or create their own.
- **Facilitate Movement.** No navigation was required for this exemplar, as it was a one-page, two-dimensional image. Our redesign goal was to design a website where tools are easy for the user to recognize and use without needing additional instructions. We also planned to provide easy-to-access help documentation for the website.

Sharing

- **Build Community Among Users.** The initial exemplar does not provide a way to interact with other users. Most evaluators were not sure how to “Act Now” and would have liked further instruction, such as a link to visit a website, or information on attending a program about the subject. Our goal in the redesign phase was to provide links to sources where users can find more information, including statistics that they can add to the posters. We also aimed to allow users access to a blog where they can discuss their designs. Finally, we wanted to provide functionality for users to save and share their posters.
- **Plan to Continue the Engagement.** The exemplar does not really offer a way for the user to continue to interact with it. Some evaluators said they may make copies of the poster, or talk to others about it, but that is all that can be done. As mentioned above, the poster

says, “Act Now,” and “Let’s talk about it,” but it does not help the user to reach that next level. Our goal in the redesign phase was to provide links to sources where users can find more information, including statistics that they can add to the posters. The poster should also allow users access to a blog where they can discuss their designs.

3. EXEMPLAR II, A WEB-BASED, INTERACTIVE POSTER

Heuristic evaluation revealed that emotional response was directly related to the cultural experiences of the audience. Recipients have a stronger response to colors and images that have meaning from their cultural perspective, as well as photos that depict people who are from the same ethnic background. Therefore, we decided to build an interactive poster which would allow visitors to modify the poster or create a new one and then distribute it to their peers. Users of the interactive poster could choose from a variety of images and styles to create their own message about AIDS awareness, in a way they would want to tell it. An interactive poster is a good choice for the next phase of this project because its users are not meant to be graphic designers. Therefore, it presents the challenge of giving users more control without compromising the tenets of effective design. It allows us an opportunity to assess what instructional tools can be provided to laypeople to help them design powerful, effective messages without requiring graphic design skills or additional training.

Based on the results of the initial heuristic evaluation, our team developed an interactive poster. In summary, our goals in this iteration, based on the aforementioned discussion of heuristics for tech-mediated communication, were as follows:

- Design an interactive poster that allows users to modify it or create their own.
- Target a multicultural audience.
- Provide an introduction to the project describing its origin and instructions for what the user can do with it.
- Provide images of people from a variety of different ethnic groups to allow users to choose images, including maps and other geographical images, that they can relate to.
- Provide links to sources where users can find more information, including statistics that they can add to the posters.

- Provide tools that are easy for the user to recognize and use without needing additional instructions.
- Provide easy-to-access help documentation.
- Allow users access to a blog where they can discuss their designs.
- Provide users with a way to share what they have created with others.

We derived the interactive poster in Figure 2 below.

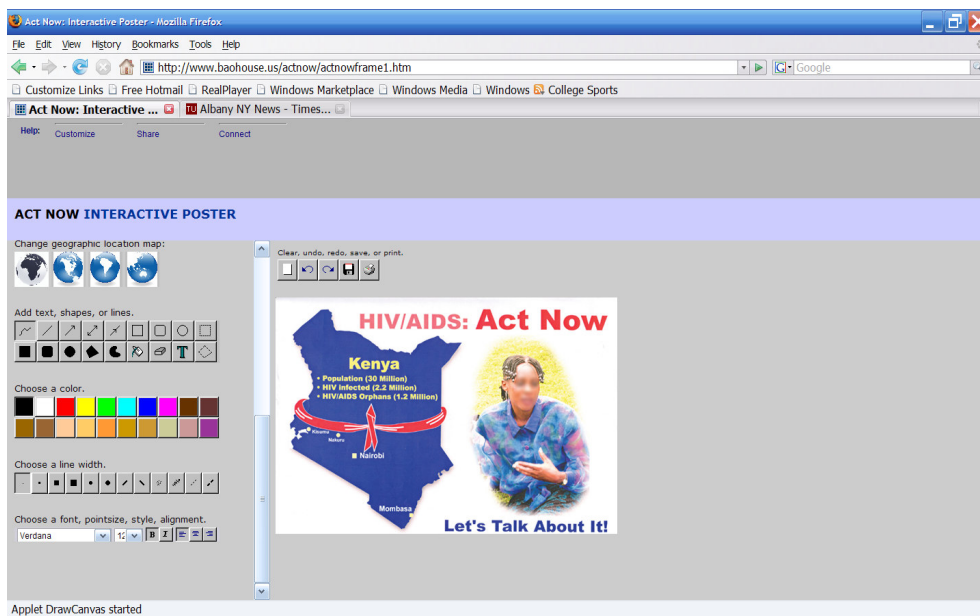


Figure 2 Hi-fidelity prototype of interactive poster designed for Phase III testing

3.1. PHASE TWO TESTING PROTOCOL

During the second phase of the testing, the exemplar team conducted tests on both the original and the new, redesigned exemplar. The purpose of testing in this way was to compare results between the two exemplars using a similar protocol. There are some limitations in the comparison, in that the new, online exemplar allowed the evaluator to perform observable tasks. This was not possible with the poster exemplar.

The protocol for the online exemplar was as follows:

- The evaluators were asked to sign a consent form as well as a pre-test survey.
- Evaluators were presented with the exemplar opened to the interactive poster in the Firefox browser.
- The evaluator was then asked to take 2-3 minutes to look over the exemplar and to explore using the tools. During this portion of the test, the evaluator was asked the following questions to explore their initial reaction to the poster, and their sense of being welcome and connected to the site's purpose:
 - This site is designed with several different audiences in mind. Do you feel that you are an appropriate user?
 - What are your first feelings about this site? Does it seem welcoming or not? What makes it feel that way?

After the evaluators had a chance to explore the site on their own, they were presented with a specific task. For this exemplar, the evaluator was asked to create a poster using the images and tools available. As evaluators chose images or colors, the exemplar team member asked them why they made those choices. After the evaluator created the poster, they were asked how they would share it. Because the exemplar was still a prototype, the functionality did not exist to save the evaluator's creations as PDF files, or allow them to e-mail the posters. Therefore, instead of observing this task, the evaluators were asked to describe how they would like to share it, and who, if anyone, they would share it with. The evaluators were asked if there is any other action they would take now that they are familiar with the exemplar. They were also encouraged at this point to make any additional comments. After the test was concluded, evaluators were asked to complete a post-test survey.

The protocol for the print exemplar was similar, but, as stated earlier, it could not mirror exactly the protocol used with the online exemplar because exploration of this exemplar is not necessarily an observable task. Instead, actions that can be taken include noticing, reacting, determining meaning, etc. The only way to "observe" these actions is through conversation with the evaluator similar to the way testing was conducted during the first phase.

To compensate for this, this portion of the protocol was altered from the Web-based version so that when evaluators were asked to explore the poster, they would describe the images and colors, and how the different elements of the poster affected them. This was accomplished by using similar questions from phase one of testing. One exception to this is that we did not include the question from phase one of testing creating the scenario of someone working in a health office. We did not feel that this scenario was appropriate for the redesign goals of the exemplar, which is meant to target a universal audience.

During phase two of testing, the 10 evaluators were separated into two groups. There were 6 participants that used the interactive poster and 4 that observed the original printed poster. The evaluators ranged in age from 17 to 55 and were divided equally among gender. There were five different ethnic groups represented:

- 4 Caucasians
- 1 Indian
- 1 Latin American
- 1 Bosnian
- 2 African Americans

3.2. PHASE TWO RESULTS

All of the participants indicated they had no physical disabilities, and used the Internet every day and had a minimum of six years experience. There were five users that indicated they were somewhat proficient with technology and four that considered themselves very proficient. Over half of the users belong to online communities, but only four belong to RSS/news feeds. Eight out of the ten users indicated they have shopped online and six users said they belong to an online community.

Figures 3 and 4 below summarize the results of the pre- and post-test surveys. Because the original exemplar was not Web-based, the exemplar team did not feel that the questions in the post-test survey were relevant for the evaluators' experiences. Therefore, the post-test survey was administered only to evaluators of the interactive poster.

	Web site						Poster			
	Test 1	Test 2	Test 3	Test 4	Test 5	Test 6	Test 7	Test 8	Test 9	Test 10
age	26-40	26-40	18-25	18-25	18-25	12-17	18-25	41-55	18-25	18-25
gender	male	female	female	female	male	female	male	male	female	male
ethnic group	caucasian	caucasian	indian	puerto rican	not spec.	afr. amer.	bosnian	afr. amer.	caucasian	caucasian
internet usage (years)	12	10	8	15	8	6	6	10	7	19
tech. proficiency	somewhat	somewhat	somewhat	very	very	somewhat	very	somewhat	very	very
disabilities	no	no	no	no	no	no	no	no	no	no
WWW frequency	daily	daily	daily	daily	daily	daily	daily	daily	daily	daily
WWW ent. (per week)	daily	daily	few	few (month)	daily	daily	few	few	daily	daily
Online communities*	yes	yes	yes	no	yes	yes	no	no	yes	yes
news, rss feeds**	yes; 1	yes	no	no	yes; 3	no	no	no	no	yes; 5
shopping (per month)***	yes; 1	yes; 2	no	yes; 2 (year)	yes; 1	yes; 3	yes; 1	no	yes; 1	yes; 1

Figure 3. Pre-test survey results.

	1= Strongly Disagree						7= Strongly Agree	
	Test 1	Test 2	Test 3	Test 4	Test 5	Test 6	Average	
age	26-40	26-40	18-25	18-25	18-25	12-17		
gender	male	female	female	female	male	female		
ethnic group	caucasian	caucasian	indian	puerto rican	not spec.	afr. amer.		
interested in site	3	2	2	4	6	2	3	
enjoyed site	5	6	1	4	6	6	5	
likely to visit next 3 mos.	3	2	1	2	4	1	2	
interest in subject changed	4	5	2	4	6	5	4	
gained knowledge	2	5	2	2	5	6	4	
likely to suggest to friends	3	2	1	3	6	2	3	
made a connection	4	4	3	2	4	3	3	
engaging	4	2	5	4	7	5	5	
difficult to navigate	5	2	1	5	2	2	3	
easy to see what to do next	4	5	4	3	7	4	5	
homepage	4	5	5	3	6	6	5	
relate to other users of site	3	5	2	3	7	4	4	

Figure 4. Post-test survey results.

The exemplar team did notice some improvements in the evaluator's reactions to the Web site in comparison to the poster. However, testing revealed that more improvements were needed. Below is a chart that shows a statistical breakdown of positive and negative responses during different components of the tests.

Testing Component	Comments:	Positive	Negative	Neutral
Welcome	Poster	0%	50%	50%
	Web site	50%	50%	0%
Explore and Connect	Poster	42%	42%	16%
	Web site	33%	33%	33%
Sharing	Poster	50%	50%	0%
	Web site	43%	43%	14%

Figure 5 Phase III evaluator responses.

Regarding the original printed poster, the feedback closely resembled the feedback from phase one of testing:

- **Welcome.** Most evaluators claimed they would not go over to the poster and read it if they saw it hanging on the wall. They did seem to understand the meaning of the poster—it was about HIV/AIDS, but they did not understand the context of the poster or its target audience. One evaluator felt it was not really meant to solve the problem, but to get people talking about it.
- **Exploration/Connectedness.** Evaluators seemed to notice the image of the woman before anything else. What they were most interested in was the fact that her face was blurred. There were different interpretations as to what this meant. Three evaluators did not really understand what she had to do with HIV/AIDS. One evaluator said he thought it would be more effective if she were talking with someone. All evaluators understood the meaning of the red ribbon as an AIDS ribbon. However, most were confused by the map of Kenya, especially the cities on the map. They did not understand why those cities were included, and why they were represented with different font sizes. One evaluator said the cities were distracting, while another asked why the map was only of Kenya. While some evaluators said they did feel sad or concerned for people with AIDS, most said that they did not have a strong emotional response to the poster. Some evaluators were college students who felt they already had some knowledge on the subject. This really did nothing to increase their awareness, and because they were inundated with other, more effective messages on a daily basis, this particular poster would not influence them. All evaluators thought this poster could influence others, if used in the right context. In addition, as in phase one of testing, evaluators felt that they needed some more detail in the call to action, other than just “Act Now”.
- **Sharing.** Two evaluators said they would share the poster, and had some unique ideas for doing that (e.g. post on Web sites, change language, post in buses and cabs). The other two evaluators did not think they would be interested in sharing the poster.

The testing results of the redesigned exemplar as an interactive poster are as follows:

- **Welcome.** College students and those associated with a college setting thought that they would be appropriate users. In a few cases, they mentioned a scenario of using the exemplar for a class project or for promoting a campus HIV/AIDS awareness event. This is

a scenario that should be considered during future design iterations of the exemplar. Other evaluators also said they felt they were appropriate users because they could use images that represented someone from their ethnic background. Despite this, most evaluators still felt they could use more explanation of the site's purpose.

- **Exploration and Connectedness.** All of the evaluators seemed to like the concept of an interactive poster. They could see the benefit of having tools and images available to them to create a message, without having to hunt for these items in different places on the internet. There were some usability problems with the tools which did detract from the total experience for most users. In particular, the evaluators were frustrated that they could not edit or remove images and text after it had been placed on the poster without either starting over or using the erase tool. It also seemed that some evaluators had more interest in creating the poster during the actual test than others. It seemed the college students were more interested in the design capabilities that were available, and focused on playing with the tools. Others, especially those that identified with the exemplar as representing their ethnic background, focused more on creating a specific message about HIV/AIDS. Some evaluators said they would have liked to have seen examples of what others had done.
- **Sharing.** As with the original exemplar, sharing was an action that was discussed more than observed, due to the fact that the redesign was still a prototype and did not have this functionality available. However, some evaluators were creative, copying the image and saving it in Paint. Others said they would print it or e-mail it. One evaluator said she might post it online on her MySpace page.

While there had been improvement since the first version of the exemplar, most evaluators felt there needed to be more of a welcome and an explanation of the context of the exemplar. The structure and functionality of the site also needs to be improved—so images load faster. More exploration needs to be done to find ways to build a community among users. Finally, functionality needs to be created to allow users to more easily share their posters with others.

We determined that the following summary of considerations need to be made during the final iterative design:

- There should be a welcome or description, so that users immediately understand the site's purpose, and what they are supposed to do with it.

- The design should be intuitive, so that non-graphics experts can easily create a poster that looks professional and can send a powerful message.
- More options for images and graphics should be available that appeal to people from all ethnic backgrounds.
- Functionality for sharing the poster should be created, so that the user can easily e-mail the poster, or save it and print it out.
- A blog or other online user forum should be created to allow users to share and comment on each other's posters and to collaborate on topics related to HIV/AIDS.

Figure 6 below shows the next iteration of the interactive poster:

Interactive Poster
LANGUAGE
🏠

HIV/AIDS: Act Now



Let's Talk About It!

The poster above was designed by Kenyans to raise awareness of the HIV/AIDS epidemic among their peers and encourage them to take action.

After testing this poster among diverse audiences, it was determined that cultural perception was directly related to the emotional response of the audience. Recipients have a stronger response to colors and images that have meaning from their cultural perspective, as well as photos that depict someone who is from the same ethnic

Stop the spread of AIDS, share this poster with someone you know.

📧
📱
🖨️
📌

Or, customize it first.

Change Identity



Change Location



Change Header



Change Ribbon



Change Subhead



Change Statistics



Then, connect with other activists.

+ -

Figure 6 HIV/AIDS interactive poster.

4. CONCLUSION

This case study has shown the applicability of Nielsen's heuristics and heuristic evaluation to assessing the cross-cultural usability, visual appeal, and cultural resonance of the graphic design convention of an HIV/AIDS campaign poster. While Kiwanuka-Tondo and Snyder (2002) confirm the effectiveness of informational and promotional document design as tools for HIV prevention and awareness in Africa, this research project contributes an understanding of how HIV/AIDS prevention graphics should be designed to appeal to an international, multicultural audience. Whereas a universal aesthetic tend to be unattainable by way of traditional, high design methods, this research project reveals heuristics for effective, cross-cultural, graphic design. It discloses how technology can elicit input from the audience and give them more control over the final outcome.

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