Assessing Website Redesign with Website Usability Testing

TCEC
Tobacco Control Evaluation Center

Introduction

The key to effective website design is that users can find what they are looking for quickly and easily (National Educational Association, 2002-2015). Design elements and clear labeling enable users to scan the site and navigate through the content to the information they are seeking. Plus, if the appearance is eye-catching and relevant, visitors are likely to stay longer on the site (Rosen & Purinton, 2004).

For a statewide technical assistance provider like the Tobacco Control Evaluation Center (TCEC), its website is a crucial means for communicating information to client users. As the evaluation capacity-building center for over 100 community-based organizations and local health departments, TCEC generates a wide variety of how-to documents, recorded trainings and webinars, data collection instruments, newsletters, reports, research briefs, and other materials. With over 250 resources to archive and make accessible, it is important that the website displays content in a logical manner that makes sense to site visitors.

However, anecdotal evidence indicated that clients were finding it hard to locate what they were looking for. So in late 2013 the evaluation center embarked on a website redesign, aiming for a fresher appearance and more accessible organization of web content. The new look incorporated elements of good design such as gestalt, clean lines, repetition, contrast, alignment, and visual hierarchies (Lynch & Horton, 2009; Laja, 2012). To enliven text-heavy content, photos and icons were added to provide graphic interest to pages and to serve as indicators of content type (Rosen & Purinton, 2004). Much of the description accompanying each link was removed from pages and changed to hover text that appeared when needed. Drop-down menus directed users to subpages and lines separated descriptive text and links into digestible visual chunks.

To assess the functionality and appeal of this redesign, TCEC conducted website testing with users before going "live" with the site. Such testing is crucial, especially for sites promoting the adoption of new knowledge or skills (Hinchliffe & Mummery, 2008). Exploring components of Peter Morville's User Experience Honeycomb (US Dept. of Health & Human Services), the evaluation center specifically wanted to find out:

> I. Could users find what they were looking for?

> II. Which elements were effective or appealed to users and which needed improvement or clarification?

> III. Which TCEC services and resources were users familiar with and which required additional promotion and marketing?

Methods

The website testing was conducted in two phases. In phase I, TCEC staff did an internal beta test of two alternate schemes for categorizing and organizing content on the site's primary, secondary and tertiary pages. The first version organized web pages and links by content type (recorded webinars on one page, "how-to" documents on another, etc.). The second version organized content by topic – mirroring the stages of evaluation which clients followed with each new contract period (evaluation planning, data collection, analysis and reporting, etc.). The latter format was deemed more logical for users and this organizational approach was applied to all of the content imported from the old site.

In phase II, the aim was to test the user experience. Because TCEC wanted more than just self-reported

satisfaction responses from testers, a moderated remote usability test design was adopted that allowed test administrators to observe how users interacted with the site and where they encountered any difficulty. Following a "concurrent think aloud" protocol, testers were to describe their expectations, logic and reactions as they considered where to find a specific resource (US Dept. of Health & Human Services; Hinchliffe & Mummery). To check the test procedure and technology, a trial run was conducted with several TCEC staff who were somewhat less unfamiliar with the website redesign project or the site content.

Once the kinks were worked out, a purposive sample of six test subjects who were representative of the various types of users who interact with our site were recruited. The sample remained small as research indicates that as few as five users can typically identify 85% of usability problems, whereas larger numbers can make it more difficult to interpret results (Hinchliffe & Mummery, 2008). Test participants included project directors as well as health educators and evaluators from county health departments, community-based organizations and state-wide service providers, including the central funding agency. Participants ranged from veteran personnel who frequently used our website in the past to new hires fresh on the job who knew little about the services and resources that TCEC offers. All participants were volunteers who received no incentive to participate.

Because testers were based all over the state, the test utilized web conferencing technology to share screens and record each session. Each participant was contacted in advance by email or phone so that the purpose and method of the study could be explained, their cooperation sought, and an appointment for the test scheduled. At the arranged time, individuals were emailed a set of instructions and directed to log into the web conference session. This allowed the test administrator to see the subject's screen and hear their comments as they completed the set of seven tasks requiring them to navigate through the site and find specific types of resources. Participants were encouraged to think aloud and describe their decision-making process as they followed instructions and searched the web pages. When needed, the test administrator asked follow up questions – concurrent probing – to get more clarity or richer detail. Recordings were used to take notes on where testers reacted to design elements, hesitated or had questions, or thought content would be found somewhere else.

Findings

In reviewing test results, several patterns emerged. Overall, testers reacted quite favorably to the redesign. There were, however, a few areas where the organizational logic or labeling was not clear, making difficult for some test subjects to find what they were looking for. Testers experienced some difficulty knowing where to find resources under the Data Collection tab – specifically, the coalition survey, the mobile device lending service, and the instrument database. Surprisingly, a few users were unaware of the two search boxes in the customary top right of the screen. It also became apparent that the hover text was not functioning as expected; most testers did not discover it.

Test subjects identified a number of things that could be improved about the new site. There were 45 instances of uncertainty or suggestions for improvements. These qualitative data were coded thematically into categories: Design (which included appearance, layout, style, font, color, and general readability; Functionality (whether the links and search features work as expected); Navigation (whether labeling of tabs and links made sense, organizational logic of content, and whether items were found where expected; and Desired Content (resources users desired but did not find on the site).

Themes	Description	Counts	Examples
Design	appearance, layout, readability	7	Links embedded in a paragraph need bolding. Some text colors don't stand out enough. What's New section would be more noticeable on left than right.
Functionality	features work as expected	12	A few broken links were identified. Some problems with search results. A strange pop up box opened when clicked on instrument link. Did not notice hover text (due to time delay).
Navigation	labels, organizational logic, items easy to find	25	Misunderstood length of webinars. Difficulty in finding mobile device lending section. Coalition survey service and device lending should be in Evaluation Resources. Need a section on tested instruments on Developing Instruments page. Not sure what to find in Laying the Groundwork page. confused that Presentations page is just a list, not links. Not sure if Developing Instruments includes existing instruments. Need more explanation for how to search instruments database.
Desired Content	resources not found on site	3	More sample plans. Somehow identify instruments in the database that have been tested. Include protocols in the instrument database.
Discovered Services/ Resources	items testers were unaware of	5	Online coalition survey service (2). Instrument database (1). Sample evaluation plans (1). Cultural guides (1).

From this a list of needed fixes was compiled. All but a few suggestions were implemented, however some were deemed unnecessary.

On the positive side, all of the test subjects really liked the new design of the website, finding it eye-catching, colorful, and easy to navigate. They found the organization of the homepage content into tabs inviting, clear and succinct. Testers familiar with the old website thought the redesign was a huge improvement.

> "It looks 10 times better than the old site. It's a fantastic visualization of resources!"

> "I like the categories on the home page. It makes it much easier to find things."

> "The color scheme looks great and content is professionally organized."

> "There's so much good stuff here! I need to start utilizing this website so I can make my life easier."

> "It's very easy to navigate through the site."

> "I like it visually much better. It makes me want to look at it."

Interestingly, both new and veteran users of TCEC services discovered services or resources on the site they were unaware of previously. Two of the six users didn't know that TCEC offers a free online coalition survey service. One each was also unaware of the searchable archive of data collection instruments, set of cultural guides for working with priority populations or sample evaluation plans. In fact, one longtime fan of TCEC services recommended we advertise these products on the statewide listserv so more projects can know about them.

Conclusion

The website usability testing showed that overall, the site redesign was a success. Testers were pleased with the look and organization of site content. The test was very useful in identifying where internal logic was not apparent to users, where functions were not working as intended, and where testers expected to see certain content. This allowed us to make additional improvements to the site before making it public.

As for the testing methodology, in future, we would recommend tracking the first click and time it takes for testers to complete each task. This can provide additional and quantifiable data to triangulate administrator and self-reported observations about where difficulties and confusion occur. Lastly, using a Likert scale on the satisfaction questions at the end of the test followed by open-ended probing will allow for quantifiable ratings and comparisons across individual tester. This will strengthen the holistic picture gathered by the data.

References

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