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**Baseline Usability Evaluation of the
American Community Survey Web site with Novices
and Expert Users**

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Baseline Usability Evaluation of the American Community Survey Web site with Novices and Expert Users

Abstract

The Census Bureau's Usability Lab conducted two baseline studies of the existing American Community Survey (ACS) Web site in 2009. A baseline study with novice participants was conducted in July 2009, and a baseline study with expert users was conducted in October 2009. Eight participants were recruited for the novice baseline study, and seventeen participants were recruited for the expert baseline study. All participants completed pre-determined Web site tasks while using the current ACS Web site. Tasks were designed by the Usability Lab and the ACS redesign team to reflect the type of questions that novice and expert users might use the ACS Web site to answer. Testing determined that both novices and experts found the site organization to be unclear, terminology and labels to be confusing, the search unhelpful, and dense text difficult to read. These and other findings from the two baseline usability studies done on the ACS Web site will be discussed in this report.

Executive Summary

The Census Bureau's Usability Lab conducted two baseline studies of the existing American Community Survey (ACS) Web site in 2009. A baseline study with novice participants was conducted in July 2009, and a baseline study with expert users was conducted in October 2009. The studies were completed before the ACS development team began work on re-designing the Web site. The results of the baseline will be used as a measure to gauge improvement during the redesign.

Purpose. The primary purpose of the baseline studies was to identify elements of the user-interface design that were problematic and led to ineffective and unsatisfying experiences for both novices and experts while using the current ACS Web site. In addition, the experiences and performance of participants on these baseline studies can be compared to later usability tests conducted on the new design of the ACS Web site, due in late 2010.

Method. Eight participants were recruited for the novice baseline study, and seventeen participants were recruited for the expert baseline study. All participants thought-aloud while completing pre-determined Web site tasks using the current ACS Web site. Tasks were designed by the Usability Lab and the ACS redesign team to reflect the type and difficulty of questions that novice and expert users might ask and use the ACS Web site to answer. After completing each task, participants rated the difficulty of the task question on a scale from 1 to 9 with 1 being easy and 9 being difficult. At the end of the session, participants completed a satisfaction questionnaire and answered debriefing questions.

Novice baseline study. All novice participants were unfamiliar with the ACS Web site. Participants performed nine pre-determined tasks on the Web site which were presented in random order.

Results. The high-priority issues identified during the novice baseline study were:

- Confusing terminology and labels
- Unclear content organization
- Difficult to find features such as ACS Alerts and Foreign Language Brochures

Expert baseline study. All expert participants were familiar with the ACS Web site and used it on a regular basis. Participants completed eight to eleven pre-determined tasks—as time allowed—on the Web site which were presented in random order.

Results. The high-priority issues identified during the expert baseline study were:

- Unclear organization
- Indistinct tab labels on the top navigation
- No distinction between active and inactive tabs
- Lack of guidance on main page
- Dense text

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1.0 Introduction and Background

The user interface is an important element in the design of an informational Web site. For a data-dissemination Web site to be successful, its user interface must support the user in finding target information in an efficient, effective, and satisfying way. The Census Bureau's Usability Lab conducted two baseline studies of the existing American Community Survey (ACS) Web site. A baseline study with novice participants was conducted in July 2009, and a baseline study with expert users was conducted in October 2009. A presentation of major findings and video highlights was given to the ACS redesign team after each baseline study. The studies were completed before the ACS development team began work on re-designing the Web site. The results of the baseline will be used as a measure to gauge improvement during the redesign and post the release of the new ACS Web site.

1.1 Purpose

The main purpose of the baseline usability studies was to record expert and novice participant performance on the current version of the ACS site. Additional goals were to identify areas of the existing Web site that were problematic and frustrating to the user, and to provide preliminary recommendations for these issues. The baseline measurements serve as a point of comparison for future versions of the ACS Web site.

2.0 Method

This section describes the participants involved in the study, how and where the testing was conducted, and the materials used in the study.

2.1 Participants

Before actual testing occurred, usability staff conducted dry-runs (i.e., pilot testing) of the usability testing procedure. Based on these pilot sessions, the methods and procedure of the usability test were refined to ensure an effective usability test. The dry-run sessions followed the same procedure as the actual usability sessions, and results from those that ran smoothly were included in the usability findings.

Based on participants' self-reported information, the researchers made the following assumptions about novice and expert participants:

- Participants had at least one year experience using a computer and the Internet.
- Participants had prior knowledge of how to navigate a Web site.
- Participants had no known disabilities.

2.1.1 Novice Participants

Eight external novice participants (i.e., not Census employees) were recruited via a database maintained by the Usability Lab. The participants were self-reported to be experienced in navigating the Internet and using a computer (see [Table 1](#)) and had little to no experience with the American Community Survey Web site. There were four male and four female participants, ranging from 22-64 years of age with the mean age at 44.86 years. The average level of education was 15.22 years, with the majority of participants reporting at least some college.

Table 1. Novice Participants' Self-reported Computer and Internet Experience

Participant	Scale: 1 (no experience) – 9 (very experienced)		Scale: 1 (not comfortable) – 5 (comfortable)			Scale: 1 (never) – 5 (very often)			
	Hours per day on the Internet	Overall experience with computers	Overall experience with Internet	Comfort in learning new software applications	Comfort in manipulating a window	Comfort in using and navigating the Internet	How often working with data through a computer	How often working with complex analyses of data through a computer	How often using the Internet or Web sites to find information
Participant 1	5	7	7	5	5	5	5	5	5
Participant 2	7	7	8	5	5	5	2	2	5
Participant 3	2	5	9	5	5	5	3	1	5
Participant 4	2	9	9	5	5	5	3	2	4
Participant 5	5	4	5	3	3	3	3	3	4
Participant 6	2	9	9	5	5	5	2	1	4
Participant 7	2	7	8	4	5	5	3	1	5
Participant 8	7	6	6	5	5	5	5	3	5
Average across all participants	4	6.75	7.625	4.625	4.75	4.75	3.25	2.25	4.63

2.1.2 Expert/Intermediate Participants

In total, there were 15 experts and two intermediate users who participated in the study. Six were recruited internally with the aid of the American Community Survey Office (ACSO), who provided us with a list of potential participants for the study. Based on their background and prior knowledge with ACS content, two of these participants were considered intermediate users of the site, and four were considered expert users. In addition, we recruited nine expert users from the State Data Center (SDC) annual meeting. We were able to classify users as experts or intermediates based on their level of experience and familiarity with the American Community Survey. Expert users who participated in this study were either Census Bureau employees (internal) or were members of the State Data Centers (SDCs). The intermediate users were recent college graduates who had worked as interns in ACSO and had recently transitioned into permanent positions. All of the expert participants were very familiar with the ACS Web site. Some expert users commented that they had worked on writing the content that currently appears on the site (e.g., handbook materials). The SDC participants used the ACS or the American FactFinder Web site regularly in their work.

There were ten male and seven female participants ranging from 22 to 62 years old, with a mean age of 41.24 years. All participants reported attaining a Bachelor's degree or higher. All participants were self-reported to be experienced in navigating the Internet and using a computer (see [Table 2](#)).

Table 2. Expert/Intermediate Participants' Self-reported Computer and Internet Experience

Participant	Hours per day on the Internet	Scale: 1 (no experience) – 9 (very experienced)	Scale: 1 (not comfortable) – 5 (comfortable)	Scale: 1 (never) – 5 (very often)					
		Overall experience with computers	Overall experience with Internet	Comfort in learning new software applications	Comfort in manipulating a window	Comfort in using and navigating the Internet	How often working with data through a computer	How often working with complex analyses of data through a computer	How often using the Internet or Web sites to find information
Dry Run 2	0-1	9	9	5	5	5	5	5	4
Dry Run 3	1-3	7	7	4	5	5	5	5	5
Participant 1	1-3	8	8	5	5	5	5	5	5
Participant 2	4-6	7	8	5	5	5	5	5	5
Participant 3	4-6	7	7	4	4	4	4	3	5
Participant 4	1-3	6	6	5	5	5	5	4	4
Participant 5	1-3	7	7	4	4	4	5	5	5
Participant 6	1-3	6	5	4	5	4	5	5	4
Participant 7	4-6	8	8	5	5	5	5	3	5
Participant 8	1-3	7	7	5	5	5	5	4	5
Participant 9	4-6	9	9	4	5	5	5	4	5
Participant 10	4-6	9	9	5	5	5	5	5	5
Participant 11	4-6	7	7	3	5	4	4	2	5
Participant 12	1-3	9	9	5	4	5	5	5	5
Participant 13	4-6	9	7	4	5	5	5	5	5
Participant 14	1-3	8	8	5	5	5	5	4	5
Participant 15	4-6	7	7	3	4	4	5	5	5
Average across all participants		7.61	7.50	4.41	4.76	4.71	4.88	4.35	4.82

2.2 Procedure

Each usability session lasted about sixty minutes. Following security procedures, participants reported separately to the visitor's entrance at the Census Bureau Headquarters and were escorted to the Usability Lab. Upon arriving, each participant was seated in the testing room. The test administrator greeted the participant and read the general introduction ([Appendix A](#)) explaining the purpose of the session, the testing procedure, and the importance of participant contribution. Before beginning the usability study, the participant read and signed the consent form ([Appendix B](#)) explaining that all information gathered during the study was confidential and that the session would be videotaped and used solely for research purposes.

Next, the test administrator asked the participant to do a practice task using a familiar site (e.g., Craigslist.com) to practice thinking aloud. During testing, the think-aloud technique was used to understand the participant's cognitive processes as he or she interacted with the interface. Think-aloud is modeled on Ericsson and Simon's (1993) approach to collecting verbal protocols, which was used to maintain a running verbal commentary of the participants' task-related expectations and reasoning. A participant engaging in think-aloud verbalizes his or her available, conscious thoughts and decisions while performing the tasks. If at any time a participant became quiet for more than 10 to 15 seconds, the test administrator encouraged the participant to continue to think-aloud, using prompts such as, "What are you thinking?", "Can you tell me your thoughts?" and "Keep talking."

After the practice task, the test administrator placed the task questions ([Appendix C](#) & [Appendix D](#)) and Satisfaction Questionnaire ([Appendix H](#)) on the desk beside the participant and left the testing room. The test administrator proceeded to the control room and did a sound check while the participant completed the Questionnaire on Computer Use and Internet Experience and Demographics ([Appendix G](#)). Upon the participant's completion of the questionnaire, the test administrator began the video recording.

Participants completed pre-determined tasks designed specifically for the ACS Web site using the current, live site (<http://www.census.gov/acs>). The test administrator instructed participants to perform the tasks as if they were at home. Participants were given a "soft" time of five minutes to complete each task. After roughly five minutes, participants were asked if they would like to continue looking for the information. Some of the participants chose to keep looking and others chose to move on at this time. After the participant completed each task question, the test administrator would ask the participant to rate the difficulty of the task on a scale from 1 (easy) to 9 (difficult). See [Appendix F](#). After completing all tasks, the participant filled out the Satisfaction Questionnaire ([Appendix H](#)) and the test administrator asked the participant debriefing questions ([Appendix I](#)), allowing for a conversational exchange about the Web site.

2.3 Facilities and Equipment

Testing took place at the Usability Lab at the Census Bureau in Suitland, MD, room 5K509.

2.3.1 Testing Facilities

The participant sat in a room, facing one-way glass and a wall camera, in front of an LCD monitor that was on a table at standard desktop height. The monitor screen setting was set to 1024 by 768 pixels. During the usability test, the test administrator sat in the control room on the other side of the one-way glass. The test administrator and the participant communicated through microphones and speakers. The participant's workstation consisted of a Dell personal computer with a Windows XP operating system, a standard keyboard, and a standard mouse with a wheel.

Eye-tracking equipment was used during the novice baseline study. The participant sat in front of a 17" Tobii LCD monitor equipped with cameras for eye tracking. Using the ClearView 2.0 software program, the Tobii eye-tracking device monitored the participants' eye movements and recorded eye gaze data. Eye tracking was not used during the expert baseline study because the equipment was down for maintenance.

Observers from the ACS redesign team were invited to watch a live feed of the usability sessions in a separate room from the test participant and test administrator. At the end of each session, the test administrator and observers discussed the findings from that session and compared them to findings from other sessions.

2.3.2 Audio and Video Recording

Video recording was used for both baseline studies. The wall-mounted camera recorded the participant's face and non-verbal behaviors. In addition, video of the participant's monitor was fed through a PC Video Hyperconverter Gold Scan Converter, mixed in a picture-in-picture format with the camera video, and recorded with a Sony DSR-20 Digital Videocassette Recorder on a 124-minute, Sony PDV metal-evaporated digital videocassette tape. Audio for the videotape was picked up from a desk microphone and a ceiling microphone. The audio sources were mixed in a Shure audio system to eliminate feedback, and then fed to the videocassette recorder.

2.4 Materials

All session materials were prepared beforehand and standardized to maintain consistency across sessions. Copies of the materials used during testing are available in the appendices.

2.4.1 General Introduction

The test administrator read the background material and explained several key points about the testing at the beginning of each usability session. The purpose of the general introduction was to assure the participants that they were contributing to the development of a Web site and that they were not being personally evaluated. This also allowed the participants the opportunity to understand the purpose of usability testing and the value of their feedback. See [Appendix A](#).

2.4.2 Consent Form

Prior to beginning the usability test, each participant completed a consent form. The purpose of the form was to explain the rationale of the study and to obtain permission to videotape the session. See [Appendix B](#).

2.4.3 Questionnaire on Computer Use and Internet Experience and Demographics

Prior to the usability session, the participant completed the Questionnaire on Computer Use and Internet Experience. See [Appendix G](#).

2.4.4 Tasks

Members of the ACS Web site development team and the Census Bureau's Usability Lab created tasks designed to capture the participant's interaction with and reactions to the design and functionality of the ACS Web site. Each task establishes a target outcome (goal) for the user but does not tell the user how to reach the target. The tasks were developed by the ACSO team in collaboration with Usability team members of the Statistical Research Division (SRD), with the goal to assess the ease of use and accuracy of finding information on the ACS Web site. A different set of tasks was completed by novice and expert participants. The tasks were intended to replicate real-life tasks that novice and expert users of the ACS might need to complete. A typical novice task involved finding information about the ACS such as "The survey is long and detailed, and you don't want to fill it out unless you have to. Find out if the survey is mandatory." A typical expert task involved finding information about the ACS such as, "List at last 3 differences in methodology between the American Community Survey and the Decennial Census." The tasks were designed to capture the participant's interaction with and reactions to the design and functionality of the existing ACS Web site.

Novice participants performed nine pre-determined tasks on the Web site. See [Appendix C](#). More difficult tasks were prepared for expert participants because they were more familiar with the ACS. Eleven tasks were developed for expert users. See [Appendix D](#). Due to time constraints and an unforeseen power outage, expert participants typically could not complete all eleven tasks. For both baseline studies, tasks were presented in random order. However, dry run participants received the tasks in sequential order. See [Appendix E](#) for a complete listing of the task order for expert participants.

All participants began each task from the ACS home page and received no additional assistance from the test administrator. Unattempted tasks were not included in the analyses.

3.0 Performance and Satisfaction Measurement Results

The next section reports participant accuracy, efficiency, satisfaction, and task difficulty ratings. Results are presented for the novice baseline study, followed by the expert baseline study.

3.1 Novice Baseline Study

3.1.1 Novice User Accuracy

The overall successful task completion rate for novices was 29 successes out of 65 task attempts, or 44.62%. The average task success rate across all participants was 45%. The range of accuracy scores was 0% for the lowest performing participant and 89% for the highest performing. The average success rate for novice tasks ranged from 13% for Task 6 to 100% for Task 5. For detailed task completion information, see [Table 3](#). Figure 1 and Figure 2 displays success rates by task and by participant.

Table 3. Accuracy data for the novice baseline study by participant and task.

Participant	Task Number									Average by Participant
	1	2	3	4	5	6	7	8	9	
1	1	1	1	0	1	0	0	1	0	56%
2	0	1	1	1	1	0	1	0	0	56%
3	0	0	0	-	-	0	0	-	0	0%
4	0	0	0	-	1	0	0	0	0	13%
5	1	0	1	1	1	0	1	0	0	56%
6	0	1	0	0	1	0	1	0	1	44%
7	1	1	1	1	1	1	1	0	1	89%
8	0	0	-	-	-	0	0	0	1	17%
Average by Task	38%	50%	57%	60%	100%	13%	50%	14%	38%	45%

Task failures are shaded.

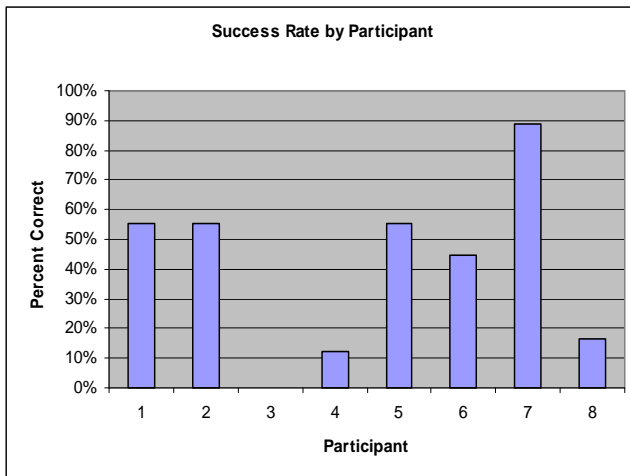


Figure 1. Success rate for novice baseline study by participant.

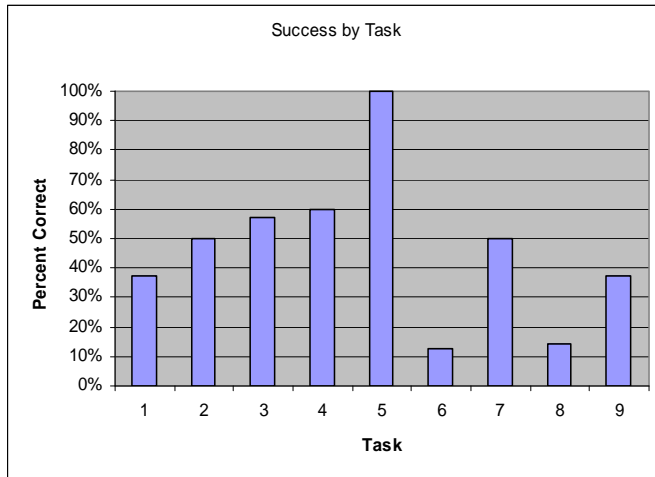


Figure 2. Success rate for novice baseline study by task.

3.1.2 Novice User Efficiency

The average time to complete tasks across all participants was 3 minutes 22 seconds. Successful task completion times ranged from 21 seconds to 9 minutes 11 seconds. For failures, task times averaged 4 minutes 35 seconds, and ranged from 27 seconds to 8 minutes 50 seconds. After spending five minutes on a task, some participants indicated that they would like to continue finding a solution, which resulted in some high task times, both for successes and failures. As can be seen in Figure 3 below, tasks 1, 2, and 4 were completed successfully more quickly than the task failures. In contrast, tasks 6 and 9, among others, stand out as taking longer for a successful completion. See [Table 4](#) for detailed times-on-task.

Table 4. Time on task.

Participant	Task Number									Average by Participant
	1	2	3	4	5	6	7	8	9	
1	3:30	8:21	1:52	4:55	0:24	0:32	3:43	4:58	6:59	3:54
2	3:53	4:21	1:00	0:50	0:55	5:08	2:25	3:20	3:54	2:51
3	7:31	3:12	4:50	-	-	6:26	2:45	-	8:14	5:29
4	4:01	5:29	0:27	-	0:45	5:27	2:49	5:45	5:38	3:47
5	3:03	6:35	5:03	2:20	0:49	8:30	1:20	6:18	8:50	4:45
6	5:17	0:21	1:55	-	0:58	2:28	3:08	4:34	0:50	2:26
7	5:18	5:08	1:34	0:51	3:40	5:50	9:11	4:03	4:09	4:24
8	2:47	-	-	-	-	4:52	3:48	4:54	1:51	3:38
Average by Task	4:25	4:46	2:23	2:14	1:15	4:54	3:38	4:50	5:03	3:52

Task failures are shaded. Dashes indicate task was not attempted.

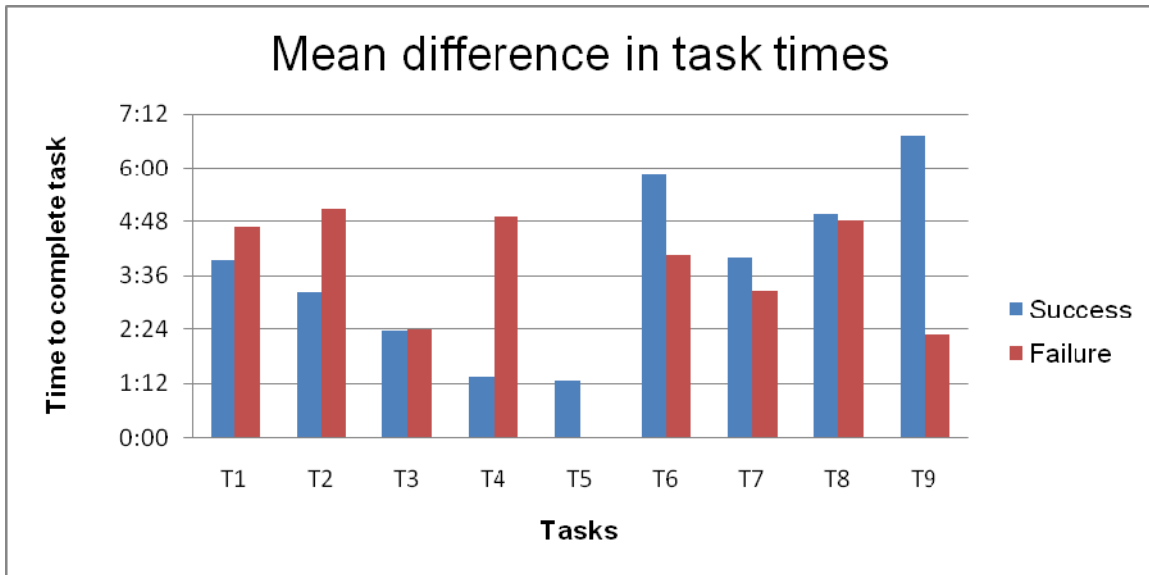


Figure 3. Mean difference in task times for success versus failures.

For task 5 there were no failures.

3.1.3 Novice User Satisfaction

The average satisfaction score for novice participants was 5.94 out of 9 (1 low and 9 high). The aspect of the Web site to score the highest satisfaction rating was “Forward Navigation: Hard – Easy” at 7.38. The lowest scoring aspect of the Web site was the “Arrangement of information on screen: illogical – logical” and “Organization of information on the site: confusing – clear”, both scoring at 4.88. While the overall mean satisfaction score is above the median rating of 5, some previous research has shown that users may give higher satisfaction ratings than might be expected from their accuracy scores (Andre & Wickins, 1995; Beck & Murphy, 2008; Malakhoff, 2007; Romano & Murphy, 2008). Given the performance of the participants on the tasks, these satisfaction ratings should be interpreted with caution. While participants seemed to rate their satisfaction as moderate, they performed poorly on most tasks (with an accuracy of 60% or lower on all tasks except for one). Figure 4 charts the mean satisfaction ratings for various Web site elements. See [Table 5](#) for detailed user satisfaction results.

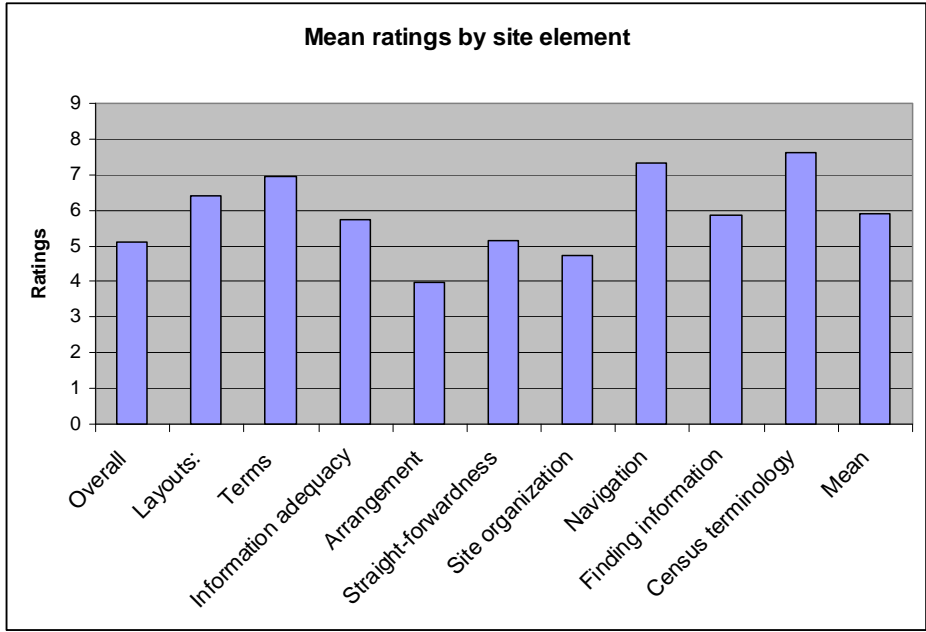


Figure 4. Mean satisfaction ratings for various Web site elements.

Table 5. User Satisfaction (1 = low, 9 = high)

Satisfaction Questionnaire Items											
Participant	Overall reaction to site terrible - wonderful	Screen layouts confusing - clear	Use of terminology throughout site inconsistent - consistent	Information displayed on the screens inadequate - adequate	Arrangement of information on the screens illogical - logical	Tasks can be performed in a straight-forward manner never - always	Organization of information on the site confusing - clear	Forward navigation impossible - easy	Overall experience finding information difficult - easy	Census Bureau specific terminology too frequent - appropriate	Mean rating by participant
1	7	7	8	9	7	6	7	7	7	7	7.20
2	2	5	8	2	6	5	1	8	1	6	4.40
3	6	5	5	5	6	4	5	5	5	5	5.10
4	7	8	4	6	7	8	4	8	5	3	6.00
5	7	9	8	8	2	7	8	9	7	7	7.20
6	5	8	9	7	1	7	7	8	7	9	6.80
7	7	8	7	5	3	3	4	7	6	6	5.60
8	3	3	5	5	7	5	3	7	5	9	5.20
Mean rating by question across all participants	5.50	6.63	6.75	5.88	4.88	5.63	4.88	7.38	5.38	6.50	5.94

3.1.4 Novice Task Difficulty Ratings

Participants rated each task for difficulty immediately after completing it (see [Appendix F](#)). According to these ratings, the easiest task was Task 5, rated at 3.14, while the hardest task was Task 7, rated at 6.63. Task 5 had the highest success rate among all tasks, at 100%. However, Task 7 did not have the lowest success rate. Its success rate of 50% is substantially higher than that of Task 6, which was completed successfully only 13% of the time. Participants' difficulty ratings were not necessarily matched by their performance, with successful completion of tasks rated almost as difficult as unsuccessful completion of tasks. For a breakdown of the difficulty ratings, see [Table 6](#). Figure 5 charts the average difficulty ratings by task.

Table 6. Difficulty ratings by task.

Participant	Task Number								
	1	2	3	4	5	6	7	8	9
1	2	3	8	8	1	1	9	4	6
2	9	6	4	4	2	9	7	5	8
3	7	2	8	8	5	5	5	-	7
4	6	1	8	8	9	7	7	3	7
5	2	9	6	6	1	5	9	7	4
6	9	1	4	4	1	4	7	4	1
7	6	8	2	2	3	4	6	9	7
8	3	-	-	-	-	2	3	9	3
Average rating by task	5.5	4.29	5.71	5.71	3.14	4.63	6.63	5.86	5.38

Task failures are shaded.

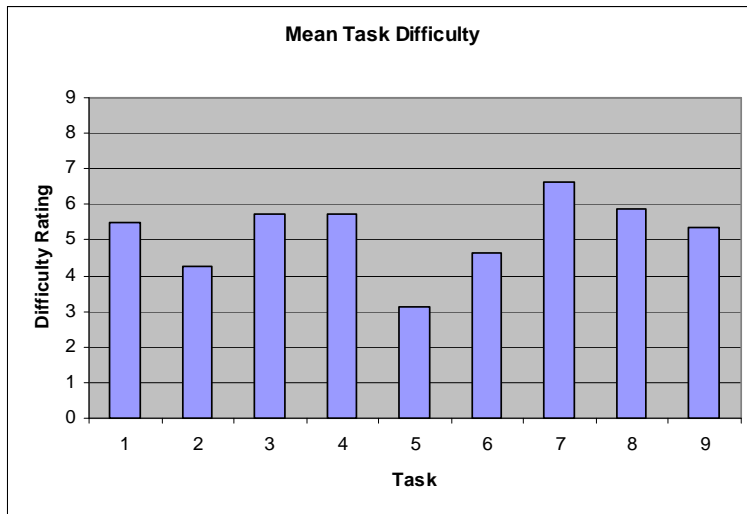


Figure 5. Mean task difficulty.

3.1.5 Novice Eye-tracking Data

Eye-tracking data was collected for the novice baseline study but not for the expert baseline study. The eye tracker was being repaired when the expert baseline study was conducted. Eye tracking can reveal what participants look at and what they do not look at.

Figure 6 shows a heat map. Heat maps display the amount of time that users spend looking at various portions of the Web page, aggregated across all participants for the duration of the experiment. Red areas indicate more user time spent focusing on those areas, whereas green areas are places that users focused on less. On the heat maps of the main ACS front page, it can be seen that users overwhelmingly attended to the navigational elements across the top, the ACS overview bullets, and the boxed contents on either side of the screen. These data illustrate that despite focusing on the appropriate navigational elements on the screen, the participants were still unable to find the correct information more than half of the time. This observation suggests, in turn, that the problem may lie in how these navigational elements are worded and organized, not how they are placed.

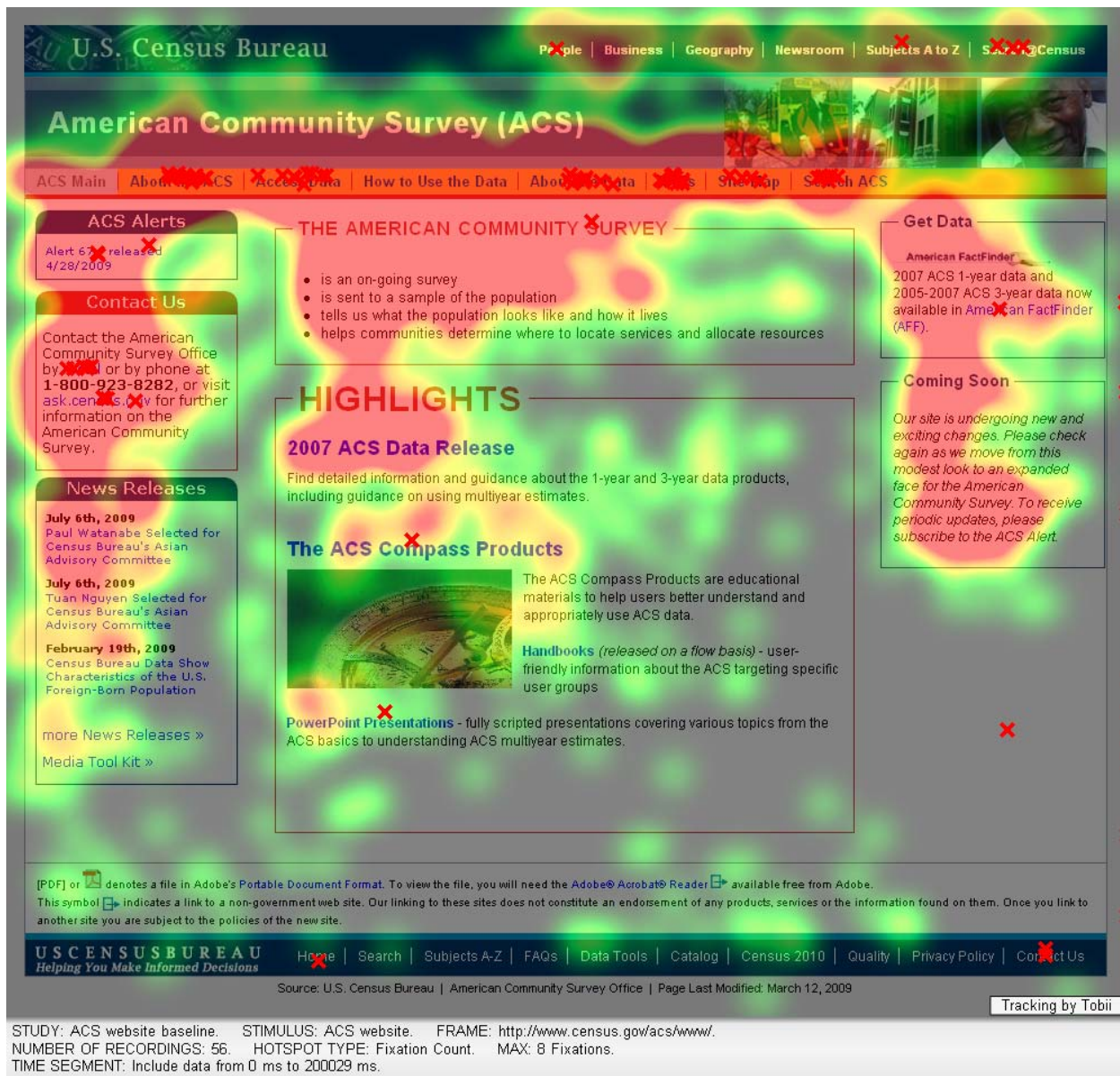


Figure 6. Heat map of user focus on the main ACS portal. Red Xs are mouse clicks. Even though users attended to the navigational elements, they were frequently unable to find their target. This may indicate problems with terminology as opposed to layout.

3.1.6 Novice User Comments

During debriefing, participants were explicitly asked for their opinions on various elements within the site (see [Appendix I](#)). For the novice baseline study, these comments were recorded, and verbal comments were transcribed. The comments were then categorized by the test administrator according to the site feature that they reference (e.g. navigation, style and formatting, etc). The process for categorizing the comments and subsequently naming the categories was essentially a card sorting analysis (Maurer & Warfel, 2010). See Figure 7 for a graphical breakdown of negative user feedback by category. Some additional comments that do not fit into any of the categories have been omitted for clarity.

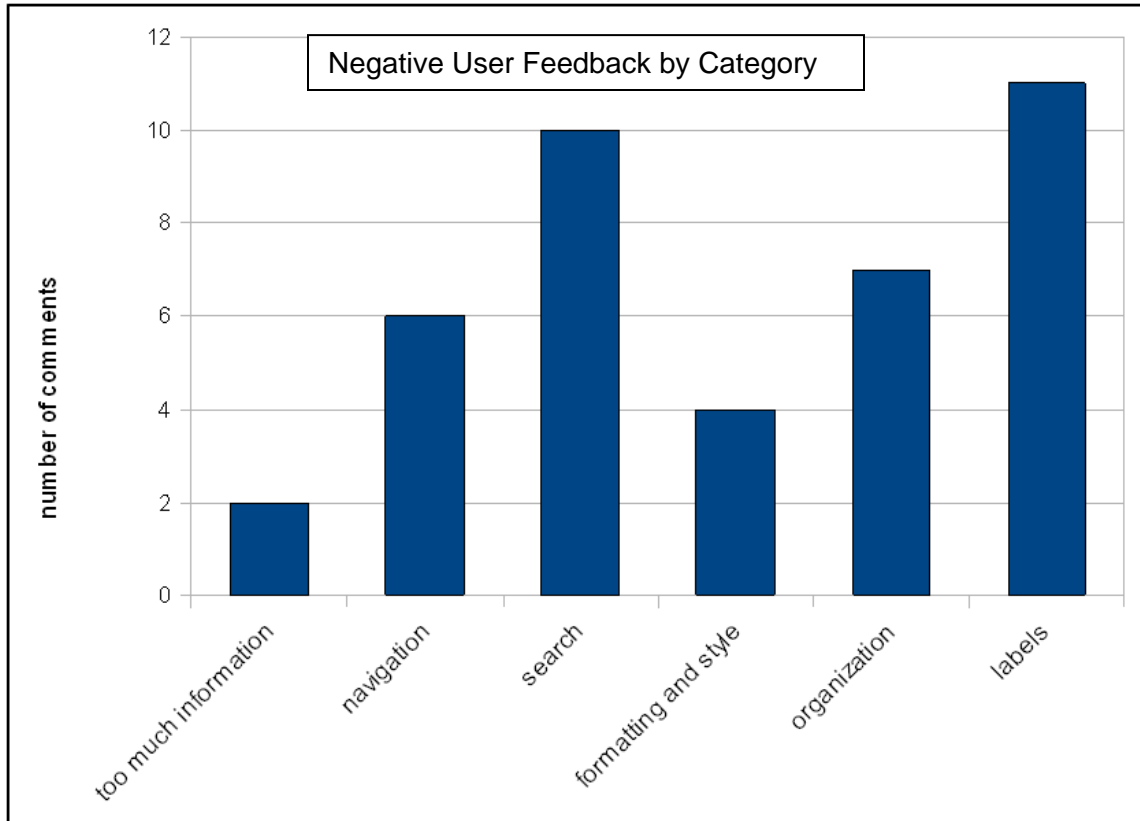


Figure 7. Negative user feedback by category.

See [Appendix J](#) for a list of user quotations on the six categories identified above. A similar analysis was not conducted for the expert baseline study.

3.2 Expert Baseline Study

3.2.1 Expert User Accuracy

The average task success rate across all expert participants was 59%. The range of successful task completion was 3% for the lowest performing participant and 98% for the highest performing participant. The success rate for tasks across all participants ranged from 20% for Task 1 to 82% for Task 2. For detailed task completion information, see [Table 7](#) which charts success rates by task and participants.

Table 7. Accuracy Data by Participant and Task for Expert Baseline Study.

Participant	Task Number																			Average by Participant
	1	2a	2b	3a	3b	4a	4b	5	6a	6b	7	8	9a	9b	10a	10b	11a	11b	11c	
DR2	0	1	1	1	1	1	1	0.33	0	0	0	0	1	1	1	1	1	0	0	60%
DR3	0	1	1	0	0	1	1	0	1	1	0	1	0	0	-	-	-	-	-	50%
1	1	1	1	1	1	1	1	0.67	1	1	1	1	1	1	1	1	1	1	1	98%
2	0	1	1	1	1	1	1	0.33	1	1	1	1	-	-	1	1	-	-	-	88%
3	0	-	-	-	-	0	0	0.33	-	-	0	0	-	-	0	0	0	0	0	3%
4	0	1	1	0	0	0	0	0	0	0	-	0	1	1	-	-	-	-	-	31%
5	1	1	1	1	1	1	1	0	-	-	0	1	-	-	1	1	1	1	1	87%
6	1	-	-	1	1	0	0	0.33	-	-	0	1	0	0	1	1	-	-	-	53%
7	0	1	1	1	1	1	1	-	1	1	1	1	-	-	1	1	-	-	-	92%
8	0	-	-	0	0	0	0	1	-	-	-	0	0	0	0	1	1	1	0	29%
9	0	-	-	0	1	0	1	0	1	1	1	-	1	1	1	1	-	-	-	69%
10	-	-	-	1	1	1	1	0	1	-	-	-	1	1	-	-	0	0	0	64%
11	0	0	0	0	0	1	0	1	0	0	0	0	-	-	-	-	-	-	-	17%
12	0	-	-	-	-	0	0	0	1	1	0	1	1	1	1	1	1	1	1	67%
13	0	1	1	0	0	1	0	1	-	-	0	0	1	1	0	0	-	-	-	43%
14	0	1	1	-	-	1	1	0	1	1	-	1	-	-	1	0	1	0	0	64%
15	-	0	0	1	1	1	0	1	-	-	0	0	-	-	1	1	*	*	*	55%
Average by Task	20%	82%	82%	57%	64%	65%	53%	37%	73%	70%	31%	53%	70%	70%	77%	77%	75%	50%	38%	59%

0 = failure, 1 = success, value between 0 and 1 indicates a partial success. Task failures are shaded. Dashes indicate task was not attempted.

3.2.2 Expert User Efficiency

The average time to complete expert tasks was five minutes and seven seconds across all expert/intermediate participants. See [Table 8](#) for detailed task completion times for each participant. As can be seen in Table 8, although participants may have spent a short amount of time on a task, they were not necessarily successful with finding the correct information on the site. Another view of the time participants took on tasks is highlighted below in [Table 9](#) which shows task completion times in ascending order by task. Table 9 highlights the many instances in which participants exceeded the five minute “soft” time for task completion. Task completion times over five minutes in length are shown in shaded cells. Participants took over five minutes to complete a task 48.95% of the time. Lengthy task completion times (e.g., anything over five minutes) highlight the difficulty participants experienced in finding information in an efficient manner. Also see Figure 8 for a graphical representation of mean task completion times by task.

Table 8. Average Task Completion time (min:sec) for Expert Baseline Study

Participant	Task Number											Average by Participant
	1	2	3	4	5	6	7	8	9	10	11	
DR2	6:05	4:19	1:30	7:58	7:07	8:08	4:57	1:06	4:00	8:54	8:00	5:38
DR3	9:05	8:08	7:32	3:00	6:06	5:42	3:41	2:20	6:30	-	-	5:47
1	1:10	3:00	1:44	5:34	1:29	1:12	3:08	1:13	2:51	1:03	9:29	2:53
2	6:53	2:25	5:46	5:12	5:31	2:26	6:09	3:07	-	5:35	-	4:47
3	11:44	-	-	8:34	5:53	-	4:10	1:00	-	5:55	6:40	6:16
4	6:18	3:50	12:26	5:11	8:10	4:34	-	1:42	4:58	-	-	6:29
5	1:29	10:43	9:14	1:22	9:40	-	4:51	1:01	-	2:30	6:07	5:13
6	3:12	-	6:15	7:14	11:51	-	7:22	4:53	4:07	5:09	-	6:15
7	6:30	2:17	7:01	4:49	-	4:10	4:04	1:37	2:40	-	-	4:08
8	3:48	-	7:28	8:24	4:28	-	-	3:40	4:11	5:33	7:24	5:37
9	3:55	-	6:51	4:32	6:20	5:23	4:55	-	3:51	3:11	-	4:52
10	-	-	3:35	6:21	9:20	-	-	-	5:20	-	8:37	6:38
11	2:33	4:36	7:59	2:52	5:44	6:13	4:01	1:21	-	-	-	4:24
12	6:54	-	-	7:22	7:23	4:50	9:00	1:55	1:43	2:09	7:31	5:25
13	5:40	3:32	9:01	5:18	0:48	-	5:59	2:30	2:43	6:01	-	4:36
14	8:56	4:45	-	6:23	6:15	3:21	7:38	1:16	-	-	7:09	5:42
15	-	3:46	1:56	4:05	1:38	-	9:06	2:34	-	3:37	4:19	3:52
Average by Task	5:36	4:40	6:18	5:32	6:06	4:35	5:38	2:06	3:54	4:30	7:15	5:07

Shaded cells = Participants failed to complete all task parts correctly or were moved on to the next task. Dashes indicate task was not attempted.

Table 9. Task Completion Times (min:sec) for Expert Baseline Study

Task Number										
1	2	3	4	5	6	7	8	9	10	11
1:10	2:17	1:30	1:22	0:48	1:12	3:08	1:00	1:43	1:03	4:19
1:29	2:25	1:44	2:52	1:29	2:26	3:41	1:01	2:40	2:09	6:07*
2:33	3:00	1:56	3:00	1:38	3:21	4:01	1:06	2:43	2:30	6:40*
3:12	3:32	3:35	4:05	4:28	4:10	4:04	1:13	2:51	3:11	7:09*
3:48	3:46	5:46*	4:32	5:31*	4:34	4:10	1:16	3:51	3:37	7:24*
3:55	3:50	6:15*	4:49	5:44*	4:50	4:51	1:21	4:00	5:09*	7:31*
5:40*	4:19	6:51*	5:11*	5:53*	5:23*	4:55	1:37	4:07	5:33*	8:00*
6:05*	4:36	7:01*	5:12*	6:06*	5:42*	4:57	1:42	4:11	5:35*	8:37*
6:18*	4:45	7:28*	5:18*	6:15*	6:13*	5:59*	1:55	4:58	5:55*	9:29*
6:30*	8:08*	7:32*	5:34*	6:20*	8:08*	6:09*	2:20	5:20*	6:01*	-
6:53*	10:43*	7:59*	6:21*	7:07*	-	7:22*	2:30	6:30*	8:54*	-
6:54*	-	9:01*	6:23*	7:23*	-	7:38*	2:34	-	-	-
8:56*	-	9:14*	7:14*	8:10*	-	9:00*	3:07	-	-	-
9:05*	-	12:26*	7:22*	9:20*	-	9:06*	3:40	-	-	-
11:44*	-	-	7:58*	9:40*	-	-	4:53	-	-	-
-	-	-	8:24*	11:51*	-	-	-	-	-	-
-	-	-	8:34*	-	-	-	-	-	-	-

* = Task completion time over 5 minutes. Dashes indicate task was not attempted.

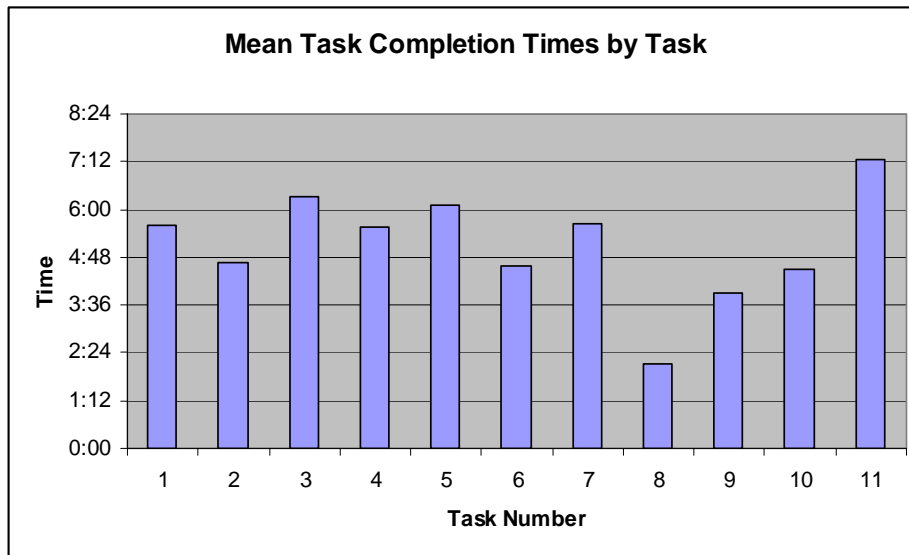


Figure 8. Mean task completion time across all Expert/ Intermediate participants

3.2.3 Expert User Satisfaction

As demonstrated in [Table 10](#), the average satisfaction score across all expert participants was 4.81 out of 9 (1 low and 9 high). This average falls under the median rating of 5 and demonstrates that overall, users were not highly satisfied with the site. The use of terminology (inconsistent - consistent) scored the highest satisfaction rating at 6.22. The lowest scoring aspect of the Web site was the overall experience of finding information (1 difficult – 9 easy) at 3.78. Figure 9 charts the mean satisfaction ratings for various Web site elements. See [Appendix K](#) for additional comments that participants provided on the Satisfaction Questionnaire.

Table 10. User Satisfaction (1 = low, 9 = high) for Expert Baseline Study

Participant	Satisfaction Questionnaire Items										Mean rating by participant
	Overall reaction to site: terrible - wonderful	Screen layouts: confusing - clear	Use of terminology throughout site: inconsistent - consistent	Information displayed on the screens: inadequate - adequate	Arrangement of information on the screens: illogical - logical	Tasks can be performed in a straight-forward manner: never - always	Organization of information on the site: confusing - clear	Forward navigation: impossible - easy	Overall experience of finding information: difficult - easy	Census Bureau specific terminology: too frequent - appropriate	
Dry run 2	5	3	4	5	6	5	3	5	4	4	4.40
Dry run 3	7	7	8	7	3	6	6	9	6	8	6.70
1	3	2	5	6	1	3	1	4	2	7	3.40
2	5	8	9	8	6	5	5	6	6	8	6.60
3	6	6	5	5	5	3	4	5	3	5	4.70
4	8	8	6	5	5	4	7	9	5	4	6.10
5	6	6	8	8	3	5	5	5	5	7	5.80
6	5	5	8	6	5	3	2	5	2	7	4.80
7	4	3	5	4	8	5	4	**	4	2	4.33
8	5	4	7	6	4	5	4	7	4	4	5.00
9	4	3	7	2	3	2	2	3	2	8	3.60
10	7	4	6	4	4	4	6	5	5	7	5.20
11	3	3	5	5	3	4	1	4	3	5	3.60
12	4	4	8	5	5	4	4	7	4	9	5.40
13	3	3	5	4	8	3	3	3	4	5	4.10
14	6	7	8	7	4	5	6	7	5	7	6.20
15	2	2	5	4	2	2	2	1	1	4	2.50
Mean rating by question across all participants	4.78	4.67	6.22	5.22	4.61	3.89	3.67	5.41	3.78	5.89	4.81

** indicates participant did not give a rating.

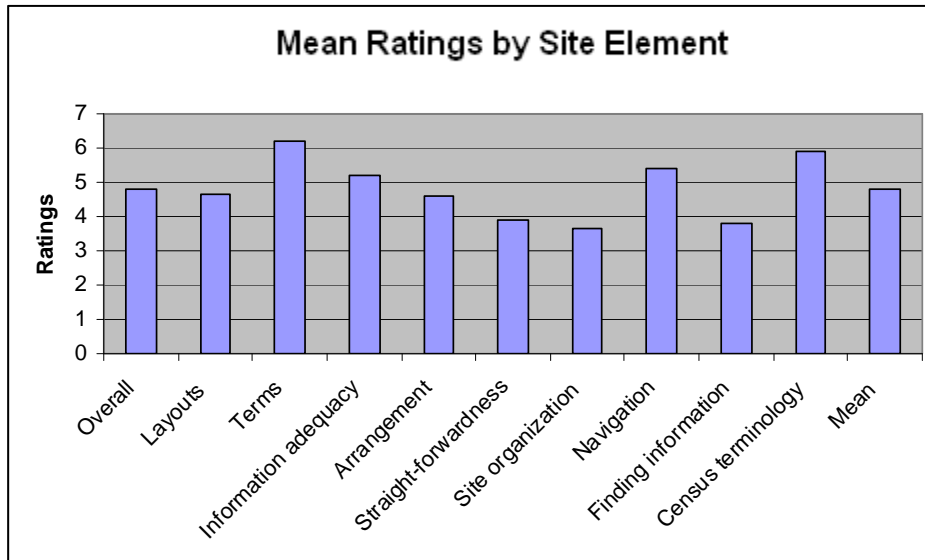


Figure 9. Mean Satisfaction Ratings of ACS Web site attributes (1=low, 9=high)

3.2.4 Expert Task Difficulty Ratings

Immediately after completing a task, participants rated the task’s difficulty on a scale from 1 to 9, with 1 being easy and 9 being difficult ([Appendix F](#)). For a breakdown of the difficulty ratings for each participant, see [Table 11](#). Figure 10 charts the average difficulty ratings by task across all participants.

According to these ratings, the easiest task was Task 9, rated at 2.50, which was not the task with the highest success rate (which was task 2 at 82% correct). The hardest task was Task 7, rated at 7.43 across all participants, which was also not the lowest scoring task (e.g., task 1 at 20% correct) but was the second lowest scoring task at 31% correct. Participants often stated that they were basing their ratings on how long it took them to arrive at the answer, how much information they had to go through to find the answer, or how confident they were that they had found the correct answer on the site. The difficulty ratings by experts seem to more closely match how successful they were in answering the task questions correctly.

Table 11. Task Difficulty Ratings by Task (1 = low, 9 = high)

Participant	Task Number										
	1	2	3	4	5	6	7	8	9	10	11
Dry Run 2	7	2	1	8	6	3	4	2	1	5	2.5
Dry Run 3	**	2	6	3	8	5	7	2	2	-	-
1	2	5	4	7	2	2	6	1	2	2	8
2	9	3	3	7	7	2	8	3	-	3	-
3	7	-	-	6	8	-	6	2	-	9	8
4	8	2	8	8	9	5	-	2	2	-	-
5	5	5	5	3	7	-	9	1	-	5	5
6	3	-	3	9	7	-	9	5	1	5	-
7	9	1	7	4	-	3	9	1	-	3	-
8	3.5	-	8	6	3	-	-	5	2	6	8
9	8	-	9	8	9	6	7	-	1.5	5	-
10	-	-	7	6	8	-	-	-	4	-	**
11	9	4	9	6	4	9	9	3	-	-	-
12	6	-	-	9	6	1	5	1	1	2	4
13	5	2	6	8	1	-	9	3	2	9	-
14	9	4	-	6	7	3	-	1	-	6	7
15	-	1	3	3	3	-	9	2	-	5	-
Average rating by task	6.10	2.75	5.47	6.17	5.88	4.09	7.43	2.63	2.50	5.36	6.69

Dashes indicate task was not attempted. ** indicates participant did not give a rating.

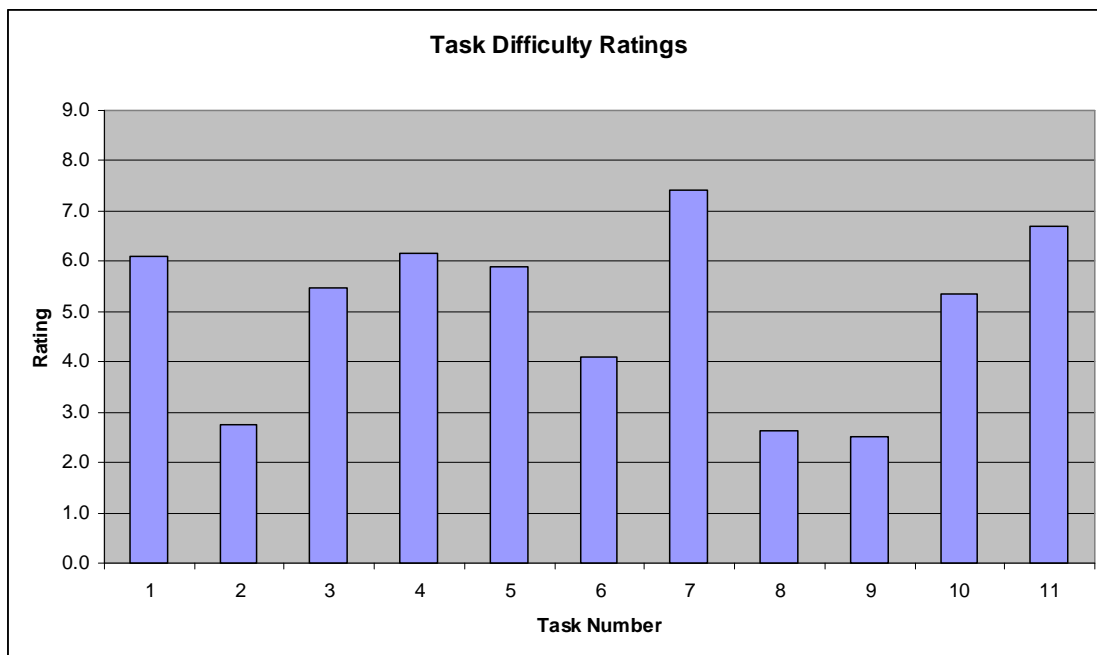


Figure 10. Mean task difficulty ratings by task (1 = low, 9 = high)

3.2.5 Comparison of Novice and Expert Baseline Usability Measures

[Table 12](#) provides the average accuracy, efficiency, and satisfaction scores of the two baseline studies, one with novices and one with experts. As can be seen below, both novices and experts were not very successful answering the tasks given to them during testing (45% for novices, 59% for experts). Novices took nearly 4 minutes on average per task and experts took roughly 5 minutes per task. Experts rated their satisfaction with the site lower than novices but novices were less successful answering their task questions.

Table 12. Mean accuracy, efficiency and satisfaction of the novice and expert baseline studies

	Novice	Expert
Mean Success Rate	45%	59%
Mean Efficiency	3 minutes 52 seconds	5 minutes 7 seconds
Mean Satisfaction	5.94 (out of 9)	4.81 (out of 9)

4.0 General Usability Findings

4.1 Usability Successes

Over the course of the usability session, the test administrator would observe participant comments and reactions to the Web site. Both positive and negative comments were recorded.

In the novice baseline study, positive findings included:

- The site's consistent style and format
- The amount of information available on the site
- The presence of top and left navigation
- The Search and FAQ functions

In the expert baseline study, participants commented that they liked:

- The aesthetic layout of the page (e.g. background design, colors, tabs)
- The amount of information available on the site
- The easily accessible Search function

5.0 Specific Usability Findings

This section discusses specific usability issues that were uncovered as a result of the baseline testing of the American Community Survey Web site. Recommended changes are provided for each issue.

The usability issues are classified into the following categories:

- **High priority:** These issues can prevent users from accomplishing their goals. The user-system interaction is interrupted, and no work can continue. They are critical and should be addressed quickly.
- **Medium priority:** These issues reduce the efficiency with which tasks can be done. They slow down and frustrate the user, but do not necessarily halt the interaction.
- **Low priority:** These issues are minor, but significant enough to warrant user comments. They negatively impact user satisfaction with the Web site, but do not directly affect performance.

Findings from the novice baseline study are presented first followed by the findings from the expert baseline study. Although some findings were universal across studies - such as unclear organization, terminology use, etc. - each study provides different supporting examples.

5.1 Novice Baseline Study

5.1.1 High Priority Issues

1. Terminology and Labels Are Confusing

The labels of the tabs across the top navigation are confusing to participants. There are several issues associated with these tabs (see Figure 11) including the following:

- The names of the tabs convey little information about what is found under each section.
- Participants could not distinguish among the available tabs what content would be under each tab.
- Frequent use of the word "Data" implies that users who are looking for data should continue to search on ACS, rather than proceed to AFF.

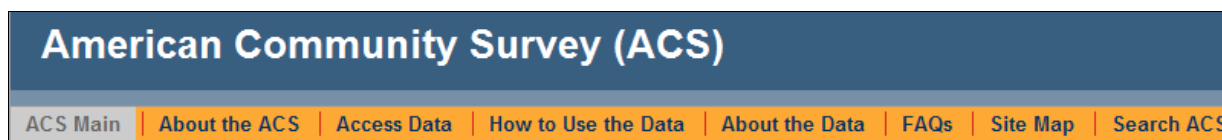


Figure 11. Top labels on the top navigation tabs are vague and not distinct enough to help novice users.

Some of these tabs are very information-dense. Especially for the more specialized tabs such as *How to Use the Data*, such a general tab heading may be insufficient to describe all of its contents. When a participant was asked to find the reason for a specific item (question 33) on the ACS questionnaire, the participant was unable to go to the proper section, likely because several or none of them seem to be viable options, depending on how the wording was interpreted by the user. It may be that the tab labels need to be more descriptive or do not accurately reflect the contents of each tab. The tab labels may not be distinct enough to allow easy discrimination between sections. For example, the word “data” is used frequently in the tabs.

2. Content Organization Is Unclear

This issue is highly related to the previous one regarding terminology and labels. Some of the tabs currently host a great number of tools, resources, and information, making it impossible in some cases for participants to pinpoint what they need (see Figure 12). It is unclear why certain site elements are grouped together. This makes browsing the site to find relevant information difficult. Within each section there is no easily discernible organization or ordering of the content, forcing users to read through all the content. Participants gave up on several occasions, or otherwise failed to locate the resource needed, even if they were on the correct page. Figure 12 shows the density of information in the *About the ACS* section.

Make sure that all content in a section logically belongs there, and that they are displayed according to some order, preferably by frequency of use. Sorting items by frequency in this way can be expected to help novices, who may not know the exact name/terminology of the link they are looking for (Shneiderman & Sears, 1994). However, once an order has been established, the list of items should remain static unless new items need to be introduced (Findlater & McGrenere, 2004).

The screenshot shows a webpage titled 'About the ACS' with a dark blue header 'Available in this Section'. On the left is a vertical sidebar with numerous blue links: 'About the ACS Main', 'Congressional Tool Kit', 'Federal Agency Information Program', 'Survey Questionnaire' (with a sub-link 'Fact Sheets'), 'Survey Definitions', 'What is the Survey?', 'Special Surveys - Puerto Rico' (with a sub-link 'En Español'), 'Sample Selection', 'Sample Size', 'Housing Unit Data Collection', 'Data Dissemination' (with a sub-link 'Release Dates'), 'Group Quarters Data Collection', 'ACS Design and Methodology Paper', 'Subjects Planned for the 2010 Census and ACS', 'Questions Planned for the 2010 Census and ACS', and 'ACS and the AIAN Population'. The main content area is divided into several sections:

- Language Brochures:** A paragraph stating that general information is available in various languages, followed by a list of 10 languages: English (en), Français (fr), 中文 (zh), Kreyòl ayisyen (ht), 한국어 (ko), Português (pt), русский (ru), Polski (pl), En español (es), and العربية (ar), and Việt Ngữ (vi).
- Data Collection:** A paragraph about data collection methods for housing units and group quarters.
- Survey Questionnaires:** A paragraph about examples of forms sent to sample addresses.
- Subjects Planned for the 2010 Census and ACS:** A paragraph about subjects planned for the 2010 Census and 2008 American Community Survey.
- Tool Kits:** Two sub-sections: 'ACS Media Tool Kit' (information useful to Media) and 'Congressional Tool Kit' (information useful to Congressional staffers).
- Puerto Rico Community Survey:** A sub-section with a link to 'Frequently Asked Questions' about the survey in English and Spanish.
- ACS Design and Methodology Report:** A sub-section with a paragraph about descriptions of the basic design and details of the full procedures.
- Federal Agency Information Program:** A sub-section with a paragraph stating that 21 cabinet level and independent agencies are participating.
- Endorsements:** A sub-section featuring the ACS logo and a paragraph: 'Read what others are saying about the ACS and ACS Endorsements organizations, businesses, academia, and government who endorse the American Community Survey.'

Figure 12. There is an overwhelming amount of information presented on the *About the ACS* screen. The information a user is looking for may become virtually hidden.

3. Directing Users to American FactFinder Often Fails

The usability tests were conducted with the understanding that all data-related queries should be directed to the American FactFinder (AFF) resource offsite. One task was designed specifically to see if the ACS site provided sufficient guidance to users looking for data. Only three of eight users were successful in leaving the ACS site to look for the information, and one of the successful participants arrived there accidentally.

The current notifications for users to go to AFF are not prominent on the screen (See Figure 13 & Figure 14). Particularly, on the *Access Data* page, the AFF link could be emphasized by being in a larger font or otherwise visually different from the other links in the “Get Data” section. If directing data-seeking users to American FactFinder (AFF) is the goal, then instructions for getting to AFF should be more prominently placed and explicitly phrased. A link needs to be established between the ACS and AFF, so that users do not disregard the AFF as being separate from the ACS. To draw attention to the AFF link, a short phrase such as “Go to the American FactFinder to access ACS data,” could accompany every AFF link and the links could be placed closer to the center of the screen.

Figure 13. The link to the AFF site on the homepage of the ACS site is not prominent.

Figure 14. The link to the AFF on the Access Data screen is not emphasized and is easily lost.

4. ACS Alerts is Hidden and Uses Confusing Terminology

There are two issues with the Alert Tool on the ACS site. First, by using the word "alert," some users do not realize its true function (i.e. providing access to email updates for ACS news). This lack of understanding may prevent some users from making use of this functionality available on the site. Users are not likely to know what the term “Alerts” means as shown in Figure 15 and Figure 16. Consider using a more descriptive and commonly-used phrase such as “ACS Newsfeed.”

The second issue is that the sign-up process for ACS Alerts is essentially hidden from users (see Figure 16). A critical feature is buried inside too many similar-looking page elements, making it unlikely to be discovered. The placement of the Sign-up link at the bottom of the left frame makes it one of the last things users will see on the screen. By providing a link to sign-up on the main page, users can immediately know that it is possible to subscribe. This link could use a verb such as “subscribe,” “receive,” or “sign up” to indicate to the user that they can achieve an action by clicking on the link.

Alerts

Available in this Section

- [Alerts for 2009](#)
- » [Alert 68](#)
- [Alert 67](#)
- [Alert 66](#)
- [Alert 65](#)
- [Alert 64](#)
- [Alert 63](#)
- [Alerts for 2008](#)
- [Alerts for 2007](#)
- [Alerts for 2006](#)
- [Alerts for 2005](#)
- [Alerts for 2004](#)
- [Alerts for 2003](#)
- [Alerts for 2002](#)
- [Sign Me Up!](#)

American Community Survey Alert, Number 68

(Released July 31, 2009) [Printer Friendly Version of Alert 68](#)

Informing you about news, events, data releases, congressional action, and other developments associated with the American Community Survey.

(Note to subscribers: If you have trouble with a link, please copy and paste the link into the address line of your browser. The page will then come up.)

News in this Alert

- * [Release Schedule for the 2008 ACS and 2006-2008 ACS Data](#)
- * [Contact Us](#)

* Release Schedule for the 2008 ACS and 2006-2008 ACS Data

On September 22, 2009, the Census Bureau will release the 2008 ACS 1-year estimates. Similar to last year's release, the 2008 ACS will include data for all 50 states and the District of Columbia, Puerto Rico, every congressional district and all counties, places and metropolitan areas with populations of 10,000 or more. Included are the estimates on social, economic, demographic, and housing characteristics.

On October 27, 2009, the Census Bureau will release the 2006-2008 ACS 3-year estimates, based on data collected from 2006-2008, for all geographies with 20,000 or more. Included are the estimates on social, economic, demographic and housing characteristics.

Additional ACS Tools and Information - Coming Soon

Later this summer and into the fall the Census Bureau will provide tools to aid ACS data users. These tools include guidance on making complex ACS data, ACS table shells, and a new e-tutorial to assist novice ACS data users.

*Contact Us

If you have questions or comments about the American Community Survey, please call (800)923-8282 or e-mail cmo.acs@census.gov.

Figure 15. The ACS Alert Sign-up is difficult to locate.

American Community Survey (ACS)

ACS Main | **About the ACS** | Access Data | How to Use the Data | About the Data | FAQs | Site Map

ACS Alerts

Alert 68 - released 7/31/2009

Contact Us

Contact the American Community Survey Office by email or by phone at 1-800-923-8282, or visit ask.census.gov for further information on the American Community Survey.

News Releases

July 30th, 2009
Media Advisory -- Census Bureau Releases Timetable for 2008 Income, Poverty and Health Insurance Estimates and American Community Survey Data

THE AMERICAN COMMUNITY SURVEY

- is an on-going survey
- is sent to a sample of the population
- tells us what the population looks like and how it lives
- helps communities determine where to locate services and allocate resources

HIGHLIGHTS

2007 ACS Data Release

Find detailed information and guidance about the 1-year and 3-year data products, and how to use them.

The ACS Compass Products

The ACS Compass Products are educational materials that help you understand the ACS data and how to use it.

Figure 16. ACS Alerts link on main ACS page lacks any references to user action.

5. Foreign Language Brochures Are Hidden

The ACS Web site offers brochures in PDF format disseminating basic information about the ACS in a multitude of languages. However, these brochures are not available from the main ACS portal; instead users must first click on the *About the ACS* tab before seeing them (see Figure 12). This presents a serious obstacle for non-English speakers, who may have great difficulty figuring out where these brochures are located on the site. By moving the brochures to the homepage, intended users can immediately see and access the brochures.

A slightly less critical issue here involves the wording of the section label, “*Language Brochures.*” This labeling makes the purpose of the brochures unclear. One may inquire whether these were brochures *about* languages, or brochures *in* other languages? Consider renaming the brochures to something more descriptive such as “*ACS information in other languages.*”

5.1.2 Medium Priority Issues

1. Left Frame Menu Ordering Hides Informational Content

Many of the sub-pages, such as *About ACS* and *About the Data*, have a left navigational frame, often with a long list of pages and tools (see Figure 17). For novice users content was difficult to locate because the pages and tools were not grouped nor clearly labeled. Grouping content by frequency of use would help users find popular content. Also, grouping content by like items and labeling the groups clearly would likely help.



Figure 17. The available links for novice users on the left navigation frame in the *About ACS* section are not organized in a way that makes sense to users.

2. ACS Search Does Not Return Useful Results

While it is useful, the current Search tool has some limitations. Users expect the search experience to be similar to other search engines they may have tried in the past. Users tend to search with natural language, and few users know how to correctly use Boolean or other search modifiers. Consider tagging materials with likely natural language markers so that alternate phrasings can return the correct information. During testing, many users simply entered the task wholesale into the search box, usually with less than optimal results. See Figure 18 for an example, based on an actual search query made during testing. This approach to searching usually either returns no results or a large list of nearly identical results (see Figure 19).

Users today expect Google-like behavior from their searches. This means that users expect search engines to support natural language and to return results that are sorted by relevance. When the first result of a search for "ACS Alerts" is a PowerPoint presentation on *Using Data Sources to Identify LEP Populations*, it is disorienting, and users say they were frustrated by the results list. This problem is made worse when the user has no experience with ACS products and has trouble coming up with the proper words to query. Several participants in the novice study resorted to trial-and-error during testing. They essentially clicked on random search results with the hopes of finding the information they needed to successfully complete their task. Guided searches, where users progressively narrow down their selections from lists of choices, may help novice users of the site.

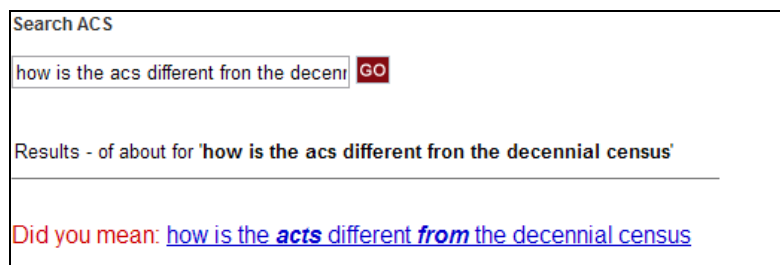


Figure 18. An actual example of a user search attempt.

Search ACS

acs alerts

Results 1 - 10 of about 178 for 'acs alerts'

[MS POWERPOINT] [Using Data Sources to Identify LEP Populations Within a Service ...](#)
 ... 13. For more information. Subscribe to "ACS Alert". <http://www.census.gov/acs/www/Special/Alerts.htm>. Visit the ACS/PRCS website: <http://www.census.gov/acs/www>. ...

[MS POWERPOINT] [Data Collection](#)
 ... 36. For more information. Subscribe to "ACS Alert". <http://www.census.gov/acs/www/Special/Alerts.htm>. Visit the ACS/PRCS website: <http://www.census.gov/acs/www>. ...

[MS POWERPOINT] [Data Collection](#)
 ... 36. For more information. Subscribe to "ACS Alert". <http://www.census.gov/acs/www/Special/Alerts.htm>. Visit the ACS/PRCS website: <http://www.census.gov/acs/www>. ...

[MS POWERPOINT] [Using the ACS Public Use Microdata Sample](#)
 ... 34. For more information. Subscribe to "ACS Alert". <http://www.census.gov/acs/www/Special/Alerts.htm>. Visit the ACS/PRCS website: <http://www.census.gov/acs/www>. ...

[MS POWERPOINT] [Geographic Areas and Concepts for the American Community Survey](#)
 ... Subscribe to "ACS Alert". <http://www.census.gov/acs/www/Special/Alerts.htm>. Visit the ACS/PRCS website: <http://www.census.gov/acs/www>. Contact by telephone: ...

[MS POWERPOINT] [What is Sampling Error?](#)
 ... 43. For more information. Subscribe to "ACS Alert". <http://www.census.gov/acs/www/Special/Alerts.htm>. Visit the ACS/PRCS website: <http://www.census.gov/acs/www>. ...

[PDF] [Speaker Notes](#)
 ... the American Community Survey staff or read past editions of the "ACS Alert" on the Internet at: <http://www.census.gov/acs/www/Special/Alerts.htm> ...

Figure 19. Another example of a user search attempt. Note how none of the top seven search results lead to the ACS Alerts page.

Lastly, the Search box is not on the front page, but requires the user to navigate to a separate page first. There is little additional functionality offered on the separate Search page, other than a generic search protocol tutorial. The actual Search engine box should be offered on *every* page so that users can directly enter search terms on the main page rather than navigating to a separate Search page.

3. FAQ Entries Are Unorganized

Users utilized the FAQs a total of 22 times out of 69 task-attempts, for a usage rate of 32%. Only five of these attempts resulted in a successful task completion, which is a success rate of 23%. In other words, roughly one in five uses of the FAQ resulted in a success (see [Table 13](#)). Participants' interactions with the FAQ system highlighted a couple issues:

- The visible sorting mechanism (highlighted in Figure 20) arranges the entries according to a meaninglessly arbitrary ID number. This functionality serves no apparent purpose to users and could be removed. Arranging entries by frequency of access will likely help users find content they are looking for.
- Once a user has come to the FAQ page, they see a link (listed as the first entry) which is, in fact, a completely separate FAQ. This may be a bit confusing. In addition, there are many presumably important links intended for recipients of the American Community Survey, for example, *Important Respondent Questions*. By burying this content under a catch-all heading of “*Important respondent questions*,” the material is made less accessible to persons who may need it. At a glance, there is no way to know what kind of content this entry has and consequently users may skip over the item entirely. Extracting the content from this mini-FAQ and making them proper FAQ entries on the same level as the rest of entries would help users find relevant information more quickly.

Table 13. FAQs usage.

Participant	1	2	3	4	5	6	7	8	9
1	1	1							1
2	1						1		
3	1			-	-	1	1	-	1
4				-			1		
5		1						1	
6					1	1		1	
7			1	1			1	1	
8		1				1	1	1	

1=FAQ was used during task, dashes indicate task was not attempted. Task failures are shaded.

ACS Main | About the ACS | Access Data | How to Use the Data | About the Data | FAQs | Site Map | Search ACS

American Community Survey Question & Answer Center

Answers | Ask a Question | My Stuff

Search Browse

Search by Keyword Search Tips

35 Answers Available

1	781	FAQs: American Community Survey: Important respondent questions
2	642	American Community Survey: Must I respond?
3	284	Educational attainment: Data sources
4	749	Foreign-born: Population profiles
5	1227	FAQs: American Community Survey in foreign languages
6	137	Disabilities: Data sources
7	308	Ethnicity: Information on Hispanic subgroups
8	1165	American Community Survey: Subject definitions
9	951	American Community Survey: Geographic coverage for 2005-2010
10	956	Housing: People in mobile homes

Figure 20. The FAQ entries are poorly organized. Important content is lost under the first FAQ listing (#781).

4. Text Is Not Written for the Web

Many parts of the site are dense and word-heavy (see Figure 21), evoking discomfort and frustration while users search for information on the site. The text is in paragraph format, with very few distinguishing features to aid in scanning, which is the preferred mode of reading by Web users (Redish, 2007). Reducing the amount of text and using bullet points to highlight important content will make it easier for users to scan for relevant information.

Links to resources are embedded within paragraphs instead of being bullet points, forcing users to read entire paragraphs before deciding if the link is useful. Link details can be provided after the user has clicked on the link to de-clutter the page.

Data Collection and Processing

ACS data collection is based upon new standards. [Read here](#) to find out how ACS has changed the way data is collected!

ACS 1999-2001 and Census 2000 Comparison Study

ACS announces a new study comparing the ACS data from 1999 - 2001 in the 36 Test counties to the corresponding Census 2000 Sample data. These estimates, along with measures of data quality, were compared at the county and census tract level.

This [comparison study](#) contains analytical reports from the Census Bureau and local area experts, online data profiles at the county and tract level, online quality measures at the county level, and downloadable datasets.

2006 ACS Content Test

In 2006, the ACS conducted the first test of new and modified content since the ACS reached full implementation levels of data collection. [The 2006 ACS Content Test](#) report series presents the results of that testing which helped determine the content for the 2008 ACS.

Evaluation Report Series

An *in-depth series* of reports on the development of the ACS. Currently covered topics include demonstrating operational feasibility, demonstrating survey quality, and testing the use of voluntary methods.

Papers, Presentations and Webinars

Are you looking for specialized research on the ACS? Look no further! [Papers, Presentations and Webinars](#) will give you additional information on the ACS.

Multiyear Estimates Study

In preparation for the 2008 release of multiyear estimates and to help data users begin to [understand the characteristics](#) of multiyear estimates, the Census Bureau conducted this [Multiyear Estimates Study](#). Data profiles that include demographic, social, economic, and [housing characteristics](#) were produced for a broad set of geographic areas in 34 counties. Data products are available for counties, place parts, MCDs, school districts, Public Use Microdata Areas, ZipCode Tabulation Areas, American Indian areas, tracts, and block groups.

Figure 21. Material not written for the Web. Note the embedded links (boxed in green) in the figure above.

5.1.3 Low Priority Issues

1. Blue Titles Appear to be Links

Many section headers are displayed in a blue that is quite similar to the blue used to indicate active links (See Figure 22). Although the headings appear to be operational links, none of the large blue headings are actual links. Some participants attempted to click on these headings in order to go to the relevant pages, to no avail. This is a lost opportunity to make interactions more efficient, as these section titles are quite descriptive of the content, and would have made effective links. Headers should be turned into operational links or should be black in color if they are not links.

2. Highlights Section

The home page of the Web site should orient users on where they need to go to find the information they are looking for. The Highlights section on the ACS home page (see Figure 22), has low functionality. It is displayed on possibly the most prominent position available on the ACS Web site, yet its purpose is not clear. This space could be better utilized to direct data-seekers to AFF or beginners to the FAQ. Important information, such as the fact that recipients of the ACS are bound by law to provide answers, could be displayed here.

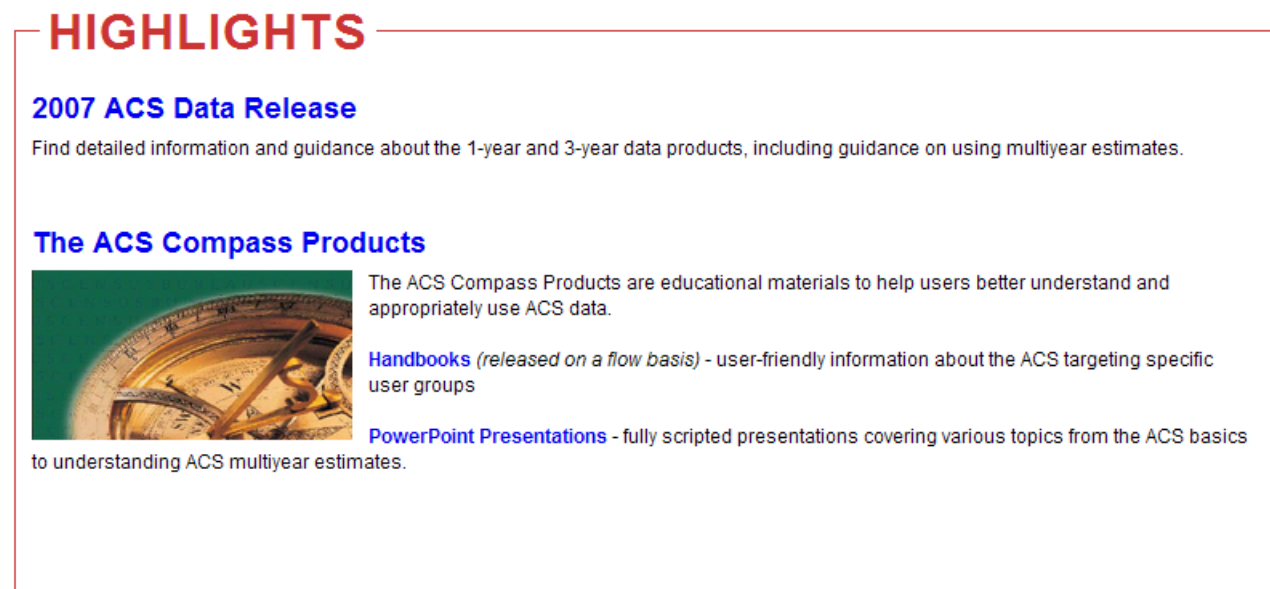


Figure 22. The Highlights section on the main page is under-utilized.

3. Graphical Content

One novice participant noted that there are very few graphics or other eye-catching elements on the ACS site. Since a large portion of incoming users of the ACS site are expected to be the general public, a more “graphically enriched” design may increase satisfaction with the Web site. Graphics can be used to draw attention to critical site elements like the FAQ, and to group and organize content within the same page. The use of boxes (such as the red outlined box around the Highlights area in Figure 22) to group elements together on the main page was a well-liked design feature that several participants remarked on, yet this feature does not continue into the other sub-pages. Even small and subtle design elements like these liven up the space and make the page easier to read. Add more visual design where possible, using color and placement to draw attention to important elements on a page. Introduce photographs, especially on informative pages geared toward the general public and novice users of the site.

5.2 Expert Baseline Study

5.2.1 High Priority Issues

1. Unclear organization

Organization of the site's content was not displayed in a way that participants understood or could follow. The Web site should direct users to the most appropriate content. The user audience typically falls into two categories:

- Those needing guidance with completing the questionnaire (e.g., respondents) or
- Those wanting to understand and work with the data (e.g., researchers, advanced users).

Based on these two main user groups, the organization of the Web site needs to be re-worked.

At its current stage, it appears that a great amount of information is loosely categorized and ill-structured. A re-evaluation of what users come to the site to do and what they are looking for will help guide the developers in creating an organizational structure for the Web site that will be beneficial to its users. Reorganize the content of the site so that it meets the expectations of its users. Similar content on the site should be grouped together. In addition, the labels of tabs and links should be clearly defined (this is discussed further in Findings 2A and 2B) and easy for users to understand.

Many participants went into an area of the site expecting specific information to complete a task and often could not find it. The participant would then navigate to another section of the site and attempt to find the information again. Participants would frequently have three or four false starts before finding the information they were looking for. This is likely because they could not get a sense of how information was organized on the site. The layout of the information did not meet the users' expectations. For example, while completing Task 5, Participant 8 said, "I would expect info about sampling to be in About the Data.... I'm not finding it." If users do not find the information they are seeking, or if the information isn't presented in a way that meets the users' expectations, they become frustrated and may give-up on using the site.

If users found the information they were looking for quickly on the ACS site, they often called it "accidental," or said that they "lucked into it." The Web site was not organized in a way that users could expediently find what they were looking for. Instead, they navigated with a trial-and-error strategy and attempted to memorize the location of information as they browsed through the site. Often participants made comments similar to that of Participant 1 who stated, "I know I've seen this. I'm trying to remember where it was." Here the participant was attempting to recall a section of the site they had recently visited in a previous task to help them successfully complete their current task.

Being unable to find the information on the site frustrated participants. In fact, during the debriefing, Participant 1 stated that, "having the feeling that something is there and not knowing where it's at is frustrating." This clearly demonstrates the discomfort this participant experienced while navigating through the site and being unable to find relevant information.

Some participants were convinced that the information was in a particular area of the site and continued to search that area unsuccessfully. Users' level of frustration with the site increased along with the time it took them to complete the task. For example, while completing task 11, Participant 12 continued to go to the Geographic Overview section of the site hoping that they would find the information there, saying, "I already was there, I just keep going back there... it just should be there, and I can't find it!"

In addition, most of the additional comments provided by participants on the Satisfaction Questionnaire highlighted their difficulty in finding information while using the site. Refer to [Appendix K](#) to see a complete listing of additional comments provided by participants.

There are at least two primary and very different reasons participants may come to the site: either they want to use the data and better understand the metadata (likely a more advanced user) or they are a person who just received the ACS questionnaire in the mail and have questions before or while filling it out (e.g., a respondent). The content for both user groups may overlap, but the way the content is written should fit the audience. When a participant (Dry run 2) went into the language brochures (accessed through *About the ACS*) looking for content about using the data and realized that the focus of the brochure was for people who were attempting to answer the questionnaire, this caused a little confusion for her. This interaction is a good demonstration of the two different audiences who use the site.

2A. Tab labels are not distinct

Users were often confused about which tab to select to find the information they were looking for. The labels of the tabs are similar and some repeat the word “data” frequently (i.e., About the Data, How to use the data, Access data).

Participant 1, an internal expert user who scored quite high in terms of accuracy, felt that the tabs were not distinct enough. The participant described the tabs as “horrible” and said “they don’t tell users what’s under them.” He continued on to say that the tabs seemed very similar and he did not know which one to click on for the information he was looking for.

Participant 3 had a hard time distinguishing between the *About the ACS* and the *About the Data* tab while completing task 7. The participant stated “I’m going to go to About the Data,” yet he clicked the About the ACS tab, then he said “Oh yeah, About the Data,” and then clicked on the About the Data tab after realizing his mistake.

As a last resort, users began using the Site Map or Search function instead of the top and left navigation. Participant 1 noted that using the Site Map was typical behavior for him for this site and stated that it was “necessary” on this site. He continued to say that that for him it was “simpler to go to the Site Map.” On the Satisfaction Questionnaire, Participant 1 wrote: “The yellow header bar [top navigation] is useless, because the categories aren’t sufficiently distinct... I primarily use the Site Map to find what I need.”

2B. Active and inactive tabs do not differ

Another issue with the tab function is the lack of location feedback provided to users. Once a tab is selected it does not remain highlighted, and some participants would click on a tab a second time, failing to realize they were already there. The *ACS Main* tab contains the functionality of remaining highlighted once it has been selected (See Figure 23), however, this function is not universal across all tabs. It is essential that users be able to identify which tab is active while navigating through different pages of the site.

Ensure that the tabs remain highlighted once they have been selected. This functionality should be universal across all tabs. Make active tabs stand out from non active tabs using color, contrast, and preselection (Van Duyne, Landay, and Hong, 2003). Preselection should work for all the tabs. Preselection, when it is working correctly, refers to what happens when users are directed to a page on the ACS site from another site. For example, when users access the ACS site from the Census.gov main page, they are immediately taken to the home page of the ACS. This works well as the ACS main tab is already selected (e.g. preselection), and users know right away where they are on the site. However preselection of the tabs does not happen for every tab. For example, if users are directed to the *About the Data* page after selecting a link from the results of a Search query, the tab on the new page (About the Data) should appear active on the top navigation (although the users didn’t manually click on it.) However at this point, the tab does not appear active and thus there is no indicator to the user as to which page they have landed on. So we can see that the preselection feature is not working for all ACS tabs.

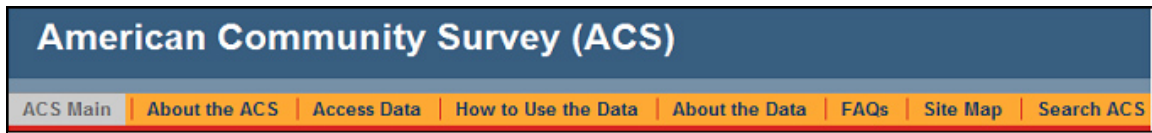


Figure 23. The labels of the top navigation tabs are vague and not distinct enough to help users know which to select to find the information they are seeking. Also, as shown, the highlighting feature is only functional with the ACS Main tab.

A technique called card-sorting could help both restructure the content of the site and develop meaningful top-level headings. Card-sorting involves taking Web site content and asking users to group them into piles that make sense to them (Maurer & Warfel, 2010). Participants can also be asked to come up with their own category headings for the piles they make. This information can be used to assist developers in creating labels for the tabs that are more useful in guiding users. Although SRD has conducted a card sorting study in the past, it may be beneficial to conduct an additional card sorting study as the problem with organization still exists with the site. It is important that the labels are meaningful to the users of the site because this can greatly increase the ease of navigation, efficiency, and accuracy in finding information.

Alternatively, some quick fixes could be implemented to address this issue with tab labels. For example, Participant 13 recommends the use of drop-down menus for the tabs so users can quickly see what kind of information is available under each heading. An exhaustive list does not have to be used. Instead, the most important or representative information under each link can be listed and a “more” link at the end of each drop-down can be available for additional content.

3A. Lack of guidance on home page

The home page is the first thing users see, and it helps form the users’ first impression of the site. The home page should provide some description of the type of information users can access on the site and some general guidance as to where the information is located. The current ACS home page (See Figure 24) did not provide adequate guidance to participants and they spent very little time using it.

Participants did not know how to start to navigate through the site to find the information they needed to complete a task. They often went straight to the top navigation tabs, bypassing information presented on the home page that could have led to them completing a task more efficiently. For example, although there is a link to get to the AFF on the right side of the home page, participants often overlooked this and went to the *Access the Data* tab on the top navigation to get to the AFF. One participant (Participant 7) immediately typed in the AFF URL in the address bar, completely overlooking both routes available on the ACS site.

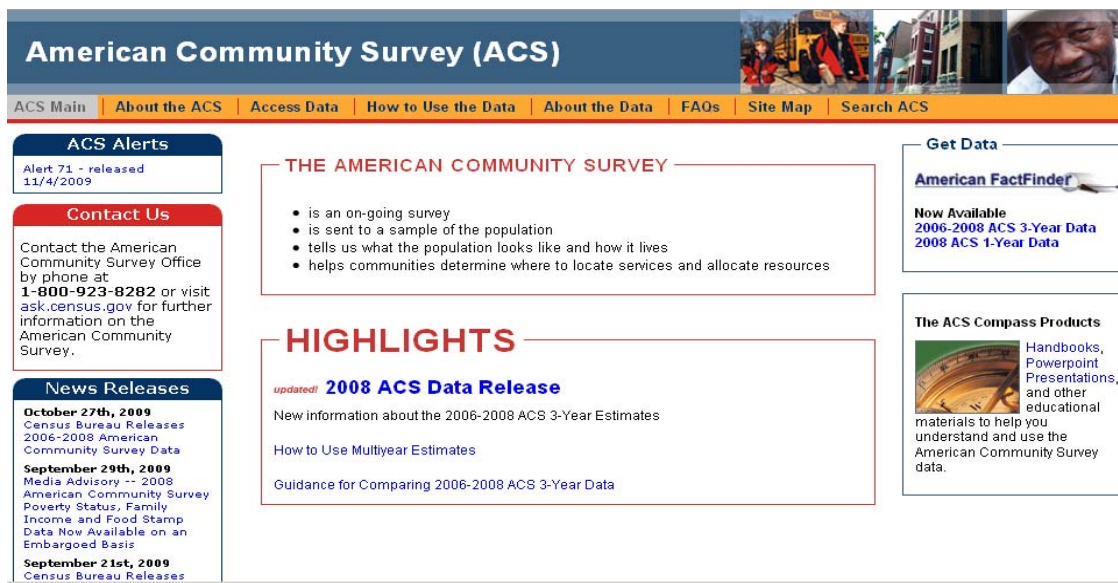


Figure 24. There is a lack of guidance on the main page about what information is available on the site and where it is located.

3B. The format of links and the layout of the main page were not useful

Only a few participants, those familiar with the Compass Products, used the Compass Products link and description on the home page. This may have been because there was no obvious link provided to get to the Compass Product materials. The link was embedded in the image and users may not have been aware of this. Links should be easily identified on the site. Do not make users guess what is clickable and what is not (Van Duyne, Landay, and Hong, 2003). According to Census Bureau's IT Standard 15.0.2 (U.S. Census Bureau, 2009), unvisited links should be blue and visited links should be colored purple (magenta).

After noticing the Compass Products description on the main page, Participant 7 said, "There is nothing blue, or underlined... you have to float over the image to see if there is a link." Here the participant had to figure out where the link was located in order to retrieve the information he needed.

Another potential reason why users bypassed the links on the main page (e.g. American FactFinder, Compass Products) is because of their location. Users tend to scan the page from left to right and they may not have noticed the available options on the right side of the page right away. One user mentioned that this was his conventional method of scanning sites "reading left to right." This method of scanning can cause users to miss valuable pieces of information presented on the site if it is not consistent with their method of reading on the Web. Avoid placing primary navigation tools on the far right of the screen (Powell, 2000) as they can be easily overlooked. Links that are most relevant and beneficial to users should appear more prominent and be located either in the center or left navigation of the page so that they can be easily noticed.

4A. Too much content available on each page.

Participants often overlooked important pieces of information on pages of the site that would have helped them to complete the tasks successfully and more efficiently. This is likely due to the presentation and high volume of content available on each page. Material on the site should be written for the web, using phrases, keywords, bullets, and spacing to break up content so that the page can be easily scanned and read. Users will not spend much time reading text on a site, and therefore will scan the page searching for key words. Several participants mentioned that they typically scan pages for relevant information instead of taking the time to read. Some showed signs of frustration by sighing deeply or backing out of a page

when they thought they would have to read a lot of text to find the information they needed to successfully complete a task.

For example, Participant 7 stated, “I really don’t like reading this text... my tendency is not even to read the text word for word, but peruse for key words.” Often if users cannot find the information they are looking for within a few minutes of scanning, they will just leave. In fact, after failing to find the information needed to successfully complete Task 5 using the ACS site, Participant 10 stated they would just go to Google to find the answer to the task question, although they had successfully landed on the page of the site where the information was located.

Break up content on Web pages and PDF documents with judicious use of white space, short phrases, keywords, and bullets, essentially, writing for the web. Emphasize keywords by bolding or using meaningful headers, making it easy for users to scan the page for relevant information. Keep the text short and concise, allowing for a smoother online reading process (Van Duyne, Landay, and Hong, 2003).

4B. PDFs are too long and some lacked a Table of Contents.

After opening a PDF document on the site, participants said they wanted to have a Table of Contents (TOC) in long PDFs (e.g., 2006 ACS Data Users handbook). One user (Dry run 2) said she was hoping that there was going to be a TOC of what content was covered in the PDF. She exclaimed, “No Table of Contents and it’s 38 pages!” Including a Table of Contents or bookmarks in PDF documents will make it easier to scan the document.

PDFs contain a lot of important information, but not all users want to take the time to open a PDF. In general, users prefer to read the information in HTML. One user (Dry run 3) said “I was going to click on their handbook, but I don’t want to read a PDF.” Another participant (Participant 13) said that a “big PDF handbook” was “not particularly useful when looking for specific info.”

It is good practice to break up content on Web pages and PDF documents with judicious use of white space, short phrases, keywords, and bullets - essentially, writing for the Web. Emphasize keywords by bolding or using meaningful headers, making it easy for users to scan the page for relevant information. Keep the text short and concise, allowing for a smoother online reading process (Van Duyne, Landay, and Hong, 2003). Lastly, to make PDFs easier to scan, it is good practice to include in the PDF a Table of Contents or bookmarks.

5.2.2 Medium Priority Issues

1. Terminology

Some terminology on the site was confusing or was not salient for most users. For example, the title “Compass Products” was not useful. A few participants did not think it was a relevant or useable title and said the only reason they knew to click on the title was because they had written some of the content in the compass products or were familiar with the term because of their job. Other participants had no clue what the term meant and chose not to use it at all. For example, a participant (Dry run 2) said, “I don’t know what that means” in reference to the “Compass Series products.” Another participant (Dry run 3), said she did not want to go into compass products because she did not know what it was. Although most of the expert participants were familiar with the term, quite a few mentioned that the term would not be helpful for a general/novice user of the site. Participant 7 stated, “I don’t think most people looking for presentation materials, ready-to-go, on the ACS would look for the word *Compass Products*... I think they would look for something like *Presentations on the ACS*... I think using the term *Compass Products* wasn’t a good idea... you might as well call it what it really is.”

Ensure that terms used on the site are appropriate for a general population of users. If the terminology “Compass Products” is kept, there should also be a short description or keywords to help users understand

the purpose of the link. For example, the link could be “[ACS Compass Products \(Handbooks, Presentations\)](#)” or “[ACS Compass Products: Handbooks, Presentations.](#)” Another option would be to change the label of the link to something that would be more meaningful to a larger population of users (i.e., novice and expert users). Participant 9 suggested changing the label to “ACS User Guides” while Participant 7 suggested calling it “Presentation on the ACS.”

Another example of confusing terminology was highlighted by Participant 7 who stated that general data users may not understand the term *Quality Measures*. He said that if general data users were interested in sample size and response rates, “they’re not going to look for the term quality measures... that seems like a statistician’s term.”

2. Some headers appear to be links

Some section headers used on the site are operational links, whereas others are not. Both have similar formatting (e.g., blue coloring, bolded) and this may be confusing to users (See Figure 25). Users found the dark blue color of headings confusing particularly on pages that included both hyperlinked and non-hyperlinked headings. There were several instances where participants would click on a blue header, unaware that it was not a functional link. The format of the header is consistent with the formatting of links, and suggests that users can click on them. Having headers that appear as links, but not be links, is inconsistent with the mental models that Internet users have with what constitutes a link.

According to Census Bureau’s IT Standard 15.0.2, text that are not links should not look like links (U.S. Census Bureau, 2009). Ensure that the formatting of headers is consistent with its intended functionality. Another option would be to make all headers operational links. This recommendation was made during the novice baseline study because the headers are very descriptive and could easily direct users to relevant content on the site.

This finding was also outlined in the Novice baseline study.

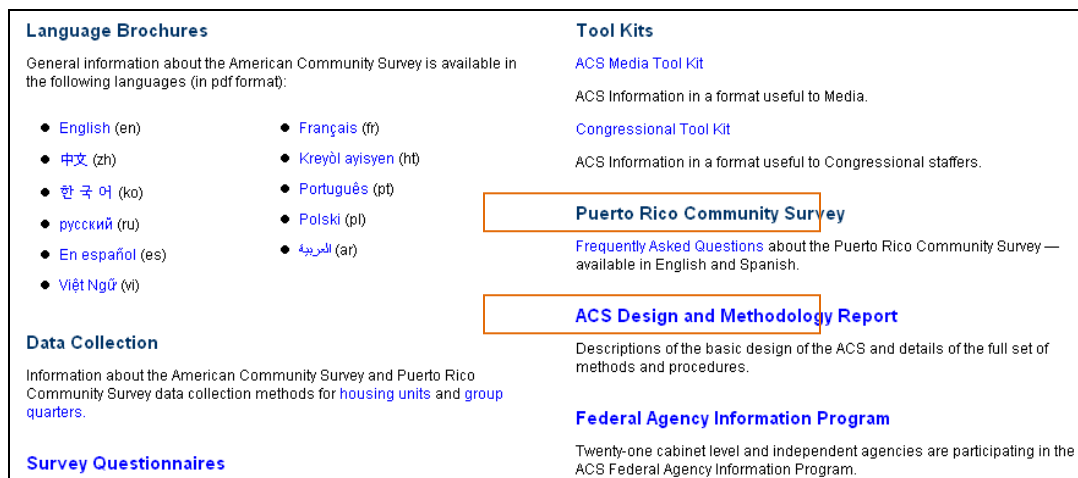


Figure 25. Linked and un-linked section headers look similar.

3. False bottom above the page fold

On the “How to Use the Data: Comparing 2008 ACS 1-Year Data” page, there is a gap between the paragraph-style content and the table crosswalk as shown in Figure 26. The false bottom can lead users to believe there is no more content after the break, and they are likely to not scroll down further on the page. Depending on the desktop resolution, the gap appears right before the “fold” of the page, known as the part of the page that is visible without scrolling, exacerbating the problem. Participant 2 remarked that they did not think there was any content below the gap until they read the content that referred to the

“table below.” Although this user did notice the text referencing the table below the fold, users who miss this indicator will not know of the content located below the fold.

Often when information is hidden from users or options are not obvious, they are less likely to be used (Powell, 2000).

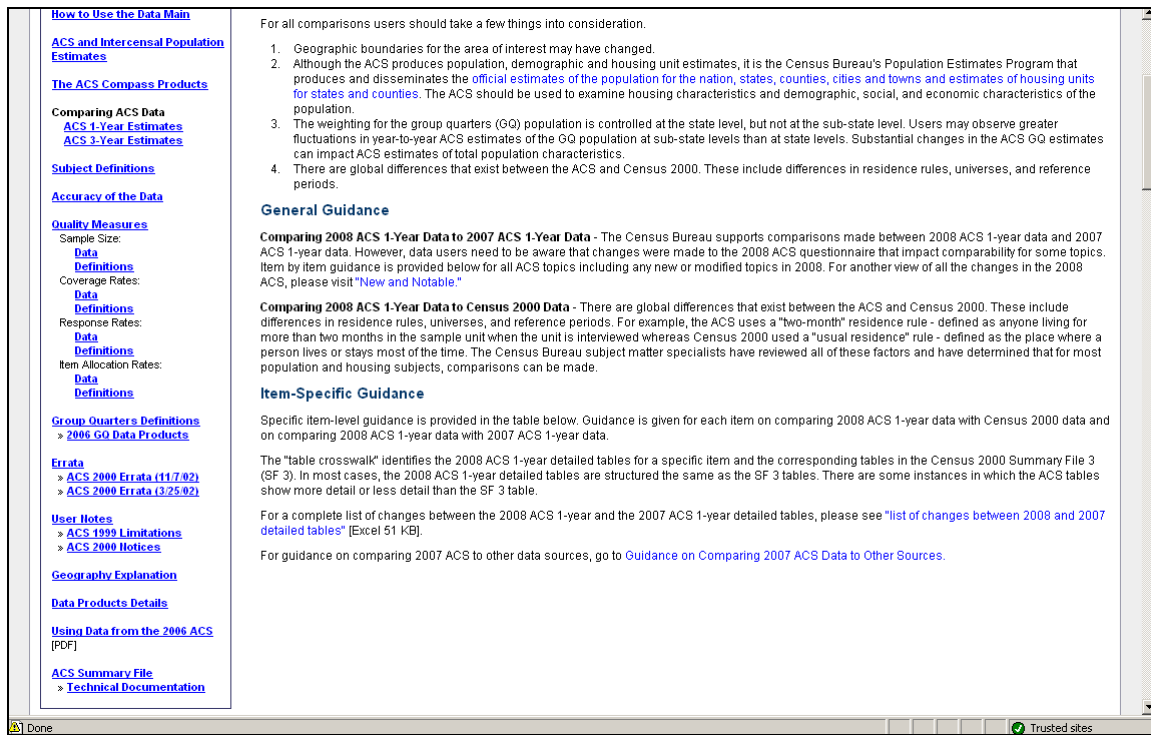


Figure 26. The page content appears to have ended after this text because of the white space. This may stop users from scrolling further down on the page.

Design the table crosswalk without the break between the paragraph style content and the table content. Decrease the amount white space between the text and the table so that users notice that the table is there. An example of this is shown in Figure 27. It is important that the table be readily available and easily accessible to users in order for it to be beneficial.

Another option would be to create a link in the text which would take the user to the table crosswalk. The link could either direct the user to a separate page or it could be an anchor link within the text that directs the user to the table below (mentioned by Participant 7).

<p>How to Use the Data Main</p> <p>ACS and Intercensal Population Estimates</p> <p>The ACS Compass Products</p> <p>Comparing ACS Data ACS 1-Year Estimates ACS 3-Year Estimates</p> <p>Subject Definitions</p> <p>Accuracy of the Data</p> <p>Quality Measures Sample Size: Data Definitions Coverage Rates: Data Definitions Response Rates: Data Definitions Item Allocation Rates: Data Definitions</p> <p>Group Quarters Definitions 2006 GQ Data Products</p> <p>Errata ACS 2000 Errata (11/7/02) ACS 2000 Errata (3/25/02)</p> <p>User Notes ACS 1999 Limitations ACS 2000 Notices</p> <p>Geography Explanation</p> <p>Data Products Details</p> <p>Using Data from the 2006 ACS (PDF)</p> <p>ACS Summary File Technical Documentation</p>	<p>Users should take a few things into consideration.</p> <ol style="list-style-type: none"> 1. Geographic boundaries for the area of interest may have changed. For more information, visit How Multiyear Estimates are Produced. 2. Although the ACS produces estimates of population and housing, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties. The ACS should be used to examine housing characteristics and demographic, social, and economic characteristics of the population. 3. The weighting for the group quarters (GQ) population is controlled at the state level, but not at the sub-state level. Users may observe greater fluctuations in year-to-year ACS estimates of the GQ population at sub-state levels than at state levels. Substantial changes in the substate ACS GQ estimates can impact substate ACS estimates of total population characteristics. 4. There are global differences that exist between the ACS and Census 2000. These include differences in residence rules, universes, and reference periods. <p>General Guidance</p> <p>Comparing 2006-2008 ACS 3-Year Data with Census 2000 Data - The Census Bureau supports comparisons made between the 2006-2008 ACS 3-year data and Census 2000 data but cautions users about important differences between the two data sets. Item by item guidance is provided below.</p> <p>Comparing 2006-2008 ACS 3-Year Data with 2008 ACS 1-Year Data - When comparing estimates across geographies or small population groups, users should compare the same period length for each estimate. Whenever you are comparing state-level data with sub-state data for an area with a population below 65,000 you should use the 3-year estimates for the state to compare with the 3-year estimates for the sub-state area.</p> <p>Comparing 2006-2008 ACS 3-Year Data with 2005-2007 ACS 3-Year Data - Because of the complexities of interpretation, the Census Bureau discourages direct comparisons between estimates for overlapping periods. Ideally comparisons should be made based on non-overlapping periods (e.g. comparing a 2005-2007 ACS 3-year estimate with a 2008-2010 ACS 3-year estimate).</p> <p>Users who are interested in comparing overlapping multiyear estimates should refer to The ACS Compass Products handbooks, which include appendices on using multiyear estimates and making comparisons (Appendix 1 and Appendix 4). The State and Local Governments handbook (PDF 1.2MB) provides the most detailed guidance and a case study on this issue. For additional information about the challenges of comparing overlapping multiyear estimates see: Statistical Issues of Interpretation of ACS 1-, 3-, and 5-year Period Estimate. (PDF 679kB)</p> <p>Item-Specific Guidance</p> <p>Census Bureau subject matter specialists have determined that for most population and housing subjects available in both ACS 3-year data products and Census 2000 Summary File 3, comparisons can be made. Specific item-level guidance is provided in the table below. Guidance is given for each item in the 2006-2008 ACS compared with Census 2000 data.</p> <p>Some topics, which were new or substantially modified on the 2008 ACS, will not have estimates in the 2006-2008 ACS 3-year data products. These include: health insurance, marital history, veteran's service connected disability rating, and disability. The first 3-year estimates for these topics will be available in 2011 when the 2009-2010 ACS 3-year estimates are released. An overview of the changes that were made to the questionnaire and the impact on the estimates that were observed in the 2006 ACS Content Test is available in the New and Modified Content on the 2008 ACS Questionnaire: Results of Testing Prior to Implementation.</p> <table border="1"> <thead> <tr> <th>Subject Area Item*</th> <th>Comparing 2006-2008 ACS 3-Year with Census 2000</th> </tr> </thead> <tbody> <tr> <td>Age and Sex (01)</td> <td></td> </tr> <tr> <td>Age</td> <td>Compare with Caution more info</td> </tr> <tr> <td>Sex</td> <td>Compare more info</td> </tr> </tbody> </table> <p>Page (02)</p>	Subject Area Item*	Comparing 2006-2008 ACS 3-Year with Census 2000	Age and Sex (01)		Age	Compare with Caution more info	Sex	Compare more info
Subject Area Item*	Comparing 2006-2008 ACS 3-Year with Census 2000								
Age and Sex (01)									
Age	Compare with Caution more info								
Sex	Compare more info								

Figure 27. A page with similar content has no deceptive break between the paragraph-style content and the table.

5.2.3 Low Priority Issues

1. The Search and Frequently Asked Questions (FAQ) feature were not useful

When participants had difficulty finding information on the ACS site through the use of the top and left navigation, they often resorted to using the FAQs or Search feature to aid in navigation. Although both options were easily recognized and accessible to participants, they did not provide helpful guidance when participants were trying to complete their tasks. The FAQ feature on the ACS site is similar to the Ask Census feature used universally for Census sites. Because some participants had previous experience with the feature, they immediately did not think it would be useful in their search. For example, participant 7, who had previous experience with the Ask Census feature, mentioned that he did not like using the feature because it often provided irrelevant results. He said, "I'm worried that [the Ask Census feature is] going to start giving me all sorts of things that I'm not really interested in."

When participants tried using the FAQ feature, several received results that were not helpful. Many of the links in the FAQ listing appeared to be unrelated to the ACS. Participant 10 entered in the search terms "methodology acs decennial," and received the page shown in Figure 28. He looked through the listing of search results, yet did not click on any of the entries because he found them irrelevant. He tried another search term, again did not find any useful FAQ entries, and then navigated back to the ACS Main.

Search by Keyword		Search Tips
<input type="text" value="methodology acs decennial"/>		<input type="button" value="Search"/>
18 Answers Available		
1	781	FAQs: American Community Survey. Important respondent questions
2	642	American Community Survey: Must I respond?
3	8014	ACS controlled estimates
4	4237	American Community Survey: Residency Rules
5	7293	2010 Census: American Community Survey (ACS)
6	7561	2010 Census: Received 2010 and an ACS questionnaire
7	7622	2010 Census: Why did I receive the ACS survey?
8	7618	2010 Census: ACS and the 2010 Census
9	174	Population and housing: Data sources
10	1165	American Community Survey: Subject definitions
11	366	Population: Mobility
12	167	Income: Data sources
13	368	Population Estimates by geographic area
14	776	Reference: Telephone numbers and addresses
15	192	Income Inequality data sources: Quintile and Gini Index
16	747	Training: Presentation library
17	816	American FactFinder: List all the tables in a data set
18	7411	2010 Census: Can tribes take their own census?

Figure 28. The FAQs did not always return useful results. One user received these results when he put in the search terms “methodology acs decennial.”

Likewise, participants were disappointed with the Search feature on the site because it was not limited to the ACS site. They often found the search results to be poor and irrelevant to their query. Participant 13 stated that the “search engine [was] not contextually linked” and that the results it brought up were “just links to words.” In addition, the language used by participants was slightly different than that used on the site. The Search feature appears to require exact matches in the search. When participant 6 did a search query for ACS training manuals, looking for the ACS handbooks, she did not retrieve a link for this because of the wording used in the query. She commented that the information was “in the training materials.” Although she knew what she was looking for, the Search function did not provide assistance in retrieving the information.

A site-specific FAQs section that answers the most typical questions novice and expert users ask would be helpful. Do not rely on the Ask Census feature to bring users to the content that they want. Tag content appropriately with user-friendly keywords so that searches will bring up relevant results. In addition, design the search engine so that it takes synonyms into consideration (Van Duyne, Landay, and Hong, 2003).

2. Outdated information presented on the site

There were a few instances during testing where participants commented that the information presented on the site was outdated. For example, on the *About the Data* page, the ACS 1999-2001 and Census 2000 Comparison study are prominently displayed, although the dates are from nearly 10 years ago (see Figure 29). While completing task 5, participant 10 stated “I would expect to see something for a more recent ACS here.” Having outdated information on the site can potentially lower the sites credibility to users. They may assume that the site information is not accurate or relevant to their needs because it is not current. If past information is to be presented, ensure that it is not more prominently displayed than more recent information.

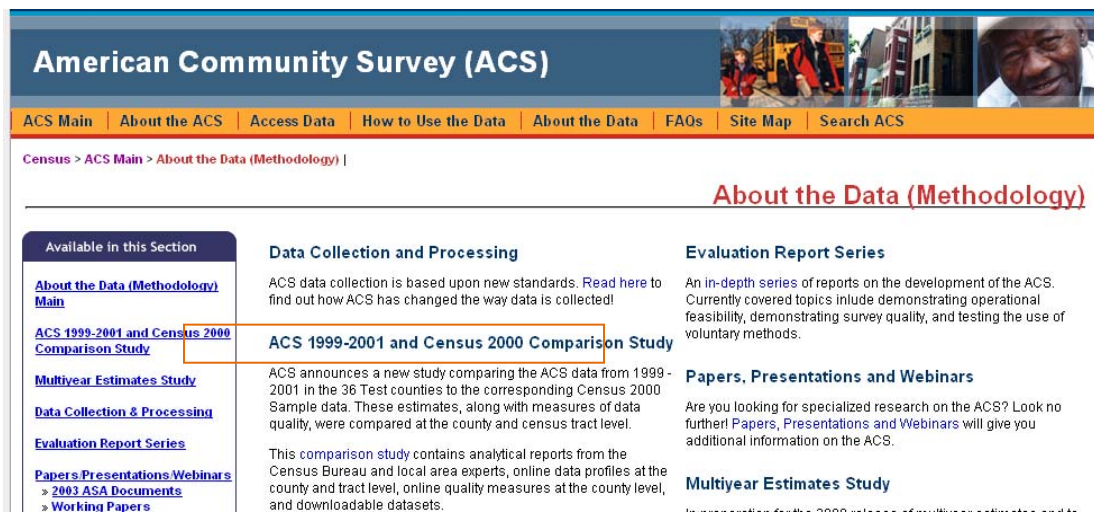


Figure 29. Outdated information is presented on the About the Data page.

6.0 Conclusion

Overall, it appears that the usability findings observed in both baseline studies are primarily attributed to the organization and presentation of information on the ACS Web site. Testing determined that both novices and experts found the site organization to be unclear, terminology and labels to be confusing, the search unhelpful, and dense text difficult to read. Both groups of users (i.e., novice and expert) demonstrated that at its current stage, the site does not meet the needs of its intended audience. A careful reading of the usability issues outlined in each study could lead to a redesigned web site that would meet user needs. Upon successful completion of the re-design, we recommend that a subsequent usability study be conducted to evaluate whether the modifications led to improvements in users ability to successfully, efficiently, and satisfactorily, meet their goals on the American Community Survey Web site.

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Appendix A: General Introduction

General Introduction for ACS Baseline Usability Test.

Thank you for your time today. My name is (Test Administrator). I work here in the U.S. Census Bureau Usability Lab, and I will be working with you today. In this lab, we evaluate how easy or difficult Census products are to use. We bring in people like you who are potential users of our products to try them out while there is still time to make changes to them. What works well, we keep. When potential users such as you have difficulty with something, we have an opportunity to fix it.

Today, we will be evaluating the American Community Survey Web site by having you work on several tasks. I will give you specific task questions, and you will complete the tasks by using the ACS Web site. I may ask you more questions as we go on. The entire session should last about an hour.

Before we start, here is a form I would like you to read and sign. It explains the purpose of today's session and your rights as a participant. It also informs you that we would like to videotape the session to get an accurate record of your feedback. Only those of us connected with the project will review the tape and it will be used solely for research purposes. Your name will not be associated with the tape or any of the other data collected during the session.

[Hand consent form; give time to read and sign; sign own name and date.]

Thank you.

Before we start, I want to tell you that you can't make a mistake or do anything wrong here. Difficulties you may run into reflect the design of the Web site, not your skills or abilities. If you have a problem using parts of it, do not blame yourself. This product is intended for people like you. Where it works well, that's great. Where it does not work well that is also great, because you will be able to help us identify things that can be corrected. Your comments and thoughts will help the developers make changes to improve the site. I did not create the site, so please do not feel like you have to hold back on your thoughts to be polite. We are not evaluating you or your skills, but rather you are helping us see how well the site works. Please share both your positive and negative reactions to the site.

I am going to give you (a number of) tasks to work on. Your comments are very important to us. I'd like you to tell me your impressions and thoughts as you work through the tasks. So give me your open impressions, both good and bad of what you see and what you experience on the site.

While you are working, I'd like you to think aloud. In other words, I'd like you to tell me what you are thinking, describe the steps that you are taking, what you are expecting to see, why you are doing what you are doing, what you are going to do, and why. Tell me why you clicked on a link or where you expect the link to take you. Tell me if you are looking for something and what it is and whether you can find it or not. I will be here to help if you get stuck.

Okay, now we'll practice thinking aloud.

(Test Administrator gives paper version of Craigslist home page and asks practice question.)

Okay, that was fine. Do you have any questions about the "think aloud" process we've just practiced and that I've asked you to use?

Appendix B: Consent Form



**Consent Form
For Individual Participants
Usability Testing of the American Community Survey Web Site**

Each year the Census Bureau conducts many different usability evaluations. For example, the Census Bureau routinely tests the wording, layout and behavior of products, such as Web sites and online surveys and questionnaires in order to obtain the best information possible.

You have volunteered to take part in a study to improve the usability of the American Community Survey Web site. In order to have a complete record of your comments, your usability session will be videotaped. We plan to use the tapes to improve the design of the product. Only staff directly involved in the research project will have access to the tapes. Your participation is voluntary and your answers will remain strictly confidential.

This usability study is being conducted under the authority of Title 13 USC. The OMB control number for this study is 0607-0725. This valid approval number legally certifies this information collection.

I have volunteered to participate in this Census Bureau usability study, and I give permission for my tapes to be used for the purposes stated above.

Participant's Name: _____

Participant's Signature: _____

Date: _____

Researcher's Name: _____

Researcher's Signature: _____

Date: _____

Appendix C: Novice Task Questions

1. You heard about the American Community Survey in the news and want to know more about it. How is the American Community Survey different from the decennial Census?
2. You just received the American Community Survey in the mail, and none of your neighbors did. Find out why your address was selected.
3. The survey is long and detailed, and you don't want to fill it out unless you have to. Find out if the survey is mandatory.
4. Find out what the penalties are, if any, for failing to complete the survey.
5. Your Vietnamese neighbors received the American Community Survey in the mail and have asked for your help. They want to know if there is any information in their native language. Check the Website to see if there is anything available in Vietnamese to help your neighbors understand the basics.
6. You are interested in seeing what kind of information the American Community Survey has collected. Specifically, does it collect information on the number of people who speak languages other than English in the United States?
7. You are a researcher who will begin using the American Community Survey Web site on a regular basis, and you want to stay up-to-date on any changes or news items. Is there a way to subscribe to email updates? If so, subscribe to it.
8. You are filling out the survey but feel uneasy about Question 33 - *What time did this person usually leave home to go to work?* Find out why this question is being asked.
9. You have heard that the American Community Survey has data about your community. Find out how many children are enrolled in elementary education (grades 1-8) in your state.

Appendix D: Expert Task Questions

1. While researching “commuting to work” trends, you came across the American Community Survey, a survey that continually collects data and publishes data every year. The survey includes commuting to work as one of the topics. Before deciding whether to search for and use the data from the American Community Survey, you want to know something about the methodology.
 - a. Specifically, over what period of time were the data collected for any given annual release of 1-year estimates?

2. You know there is a table that provides data on the number of employed people with a disability.
 - a. You would like to know –what is the Table ID?
 - b. Also you’d like to know –does the table provide a breakdown by age?

3. Use the site to find information on the following:
 - a. Why does the Census Bureau ask questions about monthly housing costs: mortgage costs, real estate taxes etc?
 - b. Which federal agencies use these data (on monthly household costs, real estate taxes, etc.) for their programs?

4. According to the information on the site:
 - a. What is the difference between 1-year estimates and 3-year estimates provided by the American Community Survey?
 - b. Is one or the other considered by the Census Bureau to be more reliable? Why?

5. Using information provided on the site, list at least 3 differences in methodology between the American Community Survey and the Decennial Census.

6. You want to determine whether you should compare the Census 2000 data to the 2008 American Community Survey data on school enrollment. According to information on the site:
 - a. Should comparisons be made between these two datasets for school enrollment?
 - b. If yes, which table should be used from the 2008 American Community Survey to compare with Table PCT23 (Sex by school enrollment by age for the population 3 years and over) from the Census 2000?

7. While reviewing some data on Jacksonville, North Carolina, you noted that the percent of the population that is female was 51 percent in 2005 but only 43 percent in 2006. This change seems unlikely. According to the information on the site, was there some change in the survey methodology between 2005 and 2006 that would explain this anomaly?

8. At the request of your professor, you are giving a presentation on the American Community Survey. Are there any prepared materials that you can use for this purpose? Based on information on the site, please name at least one example of these materials.

9. Use the site to find:
 - a. What is the estimated number of grandparents who are caring for their grandchildren in Maryland in 2007?
 - b. What is the margin of error for this estimate?

10. According to information found on the site:
 - a. What was the Housing Units sample size for the District of Columbia in 2006?
 - b. How would you explain the lower number of final interviews?

11. You are interested in analyzing ACS data on school enrollment by county for the state of Nebraska. Where on the ACS website can you find out:
 - a. Which counties receive 1-year and 3-year estimates?
 - b. Why are the 1-year and 3-year estimates not available for all counties in Nebraska?
 - c. Will the ACS ever produce data for all counties in Nebraska?

Appendix E: Expert Task Order

Both expert and novice participants were given tasks in a random order. The order of the tasks for the expert participants is shown below. Due to time constraints, not all tasks were completed during the usability session.

Participant	Presentation of Task Numbers (first – last)										
1	4	1	2	11	5	6	8	7	3	10	9
2	3	4	1	5	10	8	6	2	7	9	11
3	4	1	5	11	8	7	10	2	3	6	9
4	3	9	2	1	5	6	8	4	7	11	10
5	3	10	2	5	11	8	1	4	7	6	9
6	10	4	7	9	3	8	1	5	2	11	6
7	3	6	4	2	8	1	7	10	9	5	11
8	5	8	9	3	1	4	10	11	6	7	2
9	9	1	6	10	3	7	5	4	2	8	11
10	4	9	3	5	11	6	2	1	8	7	10
11	6	3	4	8	5	7	2	1	10	9	11
12	7	10	4	5	8	9	6	11	1	2	3
13	2	4	7	3	5	8	10	9	1	11	6
14	10	1	4	6	2	8	11	5	3	7	9
15	2	4	7	3	8	5	10	11	1	9	6

Shaded cells: Tasks that the participants did not start and complete due to lack of time.

Appendix F: Task Difficulty Rating

Post-task Question

On a scale from 1 to 9, with 1 being easy and 9 being difficult, how difficult was the task you just completed?

1 2 3 4 5 6 7 8 9

What made this task hard or easy?

Appendix G: Questionnaire on Computer and Internet Experience and Demographics

Questionnaire on Computer and Internet Experience and Demographics

1. Do you use a computer at home or at work or both?

(Check all that apply.)

- Home
- Work
- Somewhere else, such as school, library, etc.

2. If you have a computer at home,

a. What kind of modem do you use at home?

- Dial up
- Cable
- DSL
- Wireless (Wi-Fi)
- Other _____
- Don't know

b. Which browser do you typically use at home? Please indicate the version if you can recall it.

- Firefox
- Internet Explorer
- Netscape
- Other _____
- Don't know

c. What operating system does your home computer run in?

- MAC OS
- Windows 95
- Windows 2000
- Windows XP
- Windows Vista
- Other _____
- Don't know

3. On average, about how many hours do you spend on the Internet per day?

0 hours 1-3 hours 4-6 hours 7 or more hours

4. On average, about how many hours do you use the Internet per week?

0 hours 1-3 hours 4-6 hours 7 or more hours

5. What do you use the Internet for **more**:

Searching / Surfing the web **or** Answering / Sending e-mail

6. Have you ever done research on the American Community Survey data?

Yes No

a. If yes, about how many times has your research used data from the American Community Survey? _____

b. If yes, have you researched information on the American Community Survey on the Internet in the last two months?

Yes No

7. How often do you use different media (i.e., photos, audio, video streams) on the Internet?

8. Please rate your overall experience with the following:

Circle one number.

	No experience					Very experienced			
Computers	1	2	3	4	5	6	7	8	9
Internet	1	2	4	5	5	6	7	8	9

9. What computer applications do you use?

Mark (X) for all that apply

- E-mail
- Internet
- Word processing (MS-Word, WordPerfect, etc.)
- Spreadsheets (Excel, Lotus, Quattro, etc.)
- Databases (MS-Access, etc.)
- Accounting or tax software
- Engineering, scientific, or statistical software
- Other applications, please specify _____

Circle one number for each question below.

	Not Comfortable			Comfortable	
10. How <i>comfortable</i> are you in learning to navigate new Web sites?	1	2	3	4	5

11. Computer windows can minimize, resize, and scroll through. How *comfortable* are you in manipulating a window?
- 1 2 3 4 5
12. How *comfortable* are you using and navigating through the Internet?
- 1 2 3 4 5
- Never** **Very Often**
13. How *often* do you work with any type of data through a computer?
- 1 2 3 4 5
14. How *often* do you perform complex analyses of data through a computer?
- 1 2 3 4 5
15. How *often* do you use the Internet or Web sites to find information? (e.g., printed reports, news articles, data tables, blogs, etc.)
- 1 2 3 4 5
16. How *familiar* are you with the Census (terms, data, etc)?
- Not familiar** **Very familiar**
- 1 2 3 4 5
17. How *familiar* are you with the current American Community Survey Web site?
- 1 2 3 4 5

18. What is your date of birth? _____

month year

19. What is the highest grade of school you have completed, or the highest degree you have received?
- a) Completed ninth grade or below
- b) Some high school, but no diploma
- c) Completed high school with diploma or received a GED
- d) Vocational training beyond high school
- e) Some college credit
- f) Associates degree (AA/AS)
- g) Bachelor's Degree (BA/BS)
- h) Master's degree (MA/MS)
- i) Professional degree
- j) Doctoral degree

For options D through J above, indicate area of study: _____

20. What is your gender?

_____ Male _____ Female

21. Do you consider yourself to be of Hispanic, Latino, or Spanish origin?

_____ Yes _____ No

22. What is your race? Choose **one or more** races.
(Optional. We ask this question to ensure a diverse sample of people is in each study.)

- _____ White
- _____ Black or African American
- _____ Asian or Pacific Islander
- _____ Native Hawaiian or Other Pacific Islander
- _____ American Indian or Alaska Native

Appendix H: Satisfaction Questionnaire

Please **circle the numbers** that most appropriately reflect your impressions about using this Web -based instrument.

- | | | | | | | | | | | |
|---|--------------|---|---|---|---|---|---|---|-------------|----------------|
| 1. Overall reaction to the Web site: | terrible | | | | | | | | wonderful | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | not applicable |
| 2. Screen layouts: | confusing | | | | | | | | clear | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | not applicable |
| 3. Use of terminology throughout the Web site: | inconsistent | | | | | | | | consistent | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | not applicable |
| 4. Information displayed on the screens: | inadequate | | | | | | | | adequate | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | not applicable |
| 5. Arrangement of information on the screens: | logical | | | | | | | | illogical | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | not applicable |
| 6. Tasks can be performed in a straight-forward manner: | never | | | | | | | | always | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | not applicable |
| 7. Organization of information on the site: | confusing | | | | | | | | clear | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | not applicable |
| 8. Forward navigation: | impossible | | | | | | | | easy | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | not applicable |
| 9. Overall experience of finding information: | difficult | | | | | | | | easy | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | not applicable |
| 10. Census Bureau-specific terminology: | too frequent | | | | | | | | appropriate | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |

Additional Comments:

Appendix I: Debriefing Questionnaire.

Are these realistic tasks?

What additional tasks would you (do you) come to the site to do? [Note: if they have a ready task, ask them to do it and watch what steps they take, etc.]

Terminology

Ask about each of these main tab labels. What does the label mean? What content is expected to be found under the heading? What does the participant think of the information that is actually under the heading?

1. ACS Main
2. About the ACS
3. Access Data
4. How to Use the Data
5. About the Data
6. FAQs
7. Site Map
8. Search ACS

Ask about items on the Satisfaction Questionnaire which the participant has rated the Web site to be particularly high or low. Ask the participant why they gave a particular rating to a particular item, and ask for examples of good/bad features for each category in question.

1. Screen layout
2. Terminology
3. Information Content Onscreen
4. Information Arrangement Onscreen
5. Straightforward Task Performance
6. Information Organization
7. Navigation
8. Census Specific Jargon
9. Overall

Comments

1. What did you like best about the site / prototype?

2. What did you like least about the site / prototype?

3. Is there anything that you feel should be changed?

5. Is there anything you would like to mention that we have not talked about?

Appendix J. Observed Negative Comments by Novice Participants

User Comments on Labeling and Terminology

Many users had issues with the way information is labeled and categorized on the Web site. While some users expressed appreciation that the terminology on the site was consistent, many more had problems understanding the terms, or being able to use the link labels to find specific information.

Sample user comments:

"I couldn't pinpoint a tab to find what I was looking for."

"It is a little difficult if you don't know the exact terms."

"Terms not clear enough; the top tabs didn't lead to answers I was expecting."

"It was a little difficult figuring out which heading to click."

User Comments on Search

Many users relied on the Search tool to help locate information. Some users were primarily Searchers, who immediately always used the Search as their starting point for any task. Others used the Search as a last resort. The main issues identified were the lack of a way to search directly from the front page, difficulty forming queries, and unhelpful results from queries.

Sample user comments:

"If I'm looking for something, I would just type it into the search box."

"None of these results are what I'm looking for."

"Ok, just for the sake of trying I'm going to type it into search... yeah, that didn't work."

User Comments on Organization

Users remarked that the site did not cater to first-time users, or that pages did not display what they expected to see. The large number of tools and resources involving methodology, definitions, and ACS products were confusing and camouflaged the content that beginners might need.

Sample user comments:

"If something is important to know, it should be under a link."

"The pages do not display what's expected."

"It's tuned more for experienced users."

User Comments on Navigation, Formatting and Style, and Information Density

Most users remarked that it was easy to move around the site. However, it was often difficult to pinpoint where a specific item might be. The unfamiliar terminology hindered navigation, as users were unsure what was to be found under some navigational elements. One user complained vociferously about the "look and feel" of the Web site, stating that he wanted to see more visual appeal and graphics. Similarly, other users considered the content to be too dense, with large blocks of text that were difficult to scan quickly.

Sample user comments:

"There are too many words."

"This is a lot of reading, it's word-heavy."

"The Web site looks mundane. There are no graphics; it needs pictures of people and places, things that people can relate to."

Appendix K: Expert Participants' Additional Responses provided on the Satisfaction Questionnaire

Dry Run 2: "The website is trying to be helpful but it contains way too many links on each page so it is confusing to find what you want. Also the information I was looking for was often not under the tab I expected which made things more confusing. To get to useful information, you often had to click through way too many pages."

Participant 1: "I use the ACS website regularly and can't stand the way it's organized. The yellow header bar is useless, because the categories aren't sufficiently distinct. Out-of-date pages are not removed or relocated. I primarily use the Site Map to find what I need, but some pages aren't even linked from there."

Participant 2: "I clicked on the 'About the Data' section assuming there would be much more information than listed. It feels like I have to learn the site rather than it being intuitive."

Participant 7: "Too often, obscure topics occupy the central 'real estate' on a page."

Participant 9: Need to have information organized from the casual users' perspective. Think about how users 'ask the question'."

Participant 11: "Sorry! - was very confused and unfamiliar with this website."

Participant 12: "I find it difficult to find what I need on the site. I can easily find the data, but not explanations of methodology."

Participant 15: "Difficult to find stuff the first time one looks for an item."