Assessing the Usability of an Online New Student Orientation

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Abstract: Information that an institution's website can provide ranges from the admissions process to online registration to graduation. The Admissions Office at Kauai Community College (KCC), for example, has a website full of important information that aims to support students through the enrollment process. However, there have been numerous complaints that the website is too text heavy and difficult to navigate. As a result, I designed and developed an online student orientation website for new incoming KCC students. The design and development of the website focused on simplifying information and delivering that information through short text, instructional videos and downloadable documents. The purpose of this usability study is to assess the content, navigation and student satisfaction of the online new student orientation website for students at KCC. Two rounds of the usability study was conducted with three participants of different educational backgrounds. As part of the study, participants completed the online orientation from beginning to end, and all were given the same tasks to complete. A post-study survey was also administered to participants upon completion of the study. With proper adjustments and modifications made to the website after each round, the results revealed an increase in the quality and usability of the online orientation.

Introduction

New Student Orientation, also known as, Welcome Week or Orientation Week, occurs at the beginning of a university or college's academic school year during which new students are introduced and exposed to various academic and student support services. For large universities, a series of events and sessions are conducted for both students and their families. These events and sessions include, but are not limited to, an opening session, icebreakers, student athlete meeting, veteran and veteran benefits meeting, parent session, academic life session and, finally, a collaborative social dinner. Smaller community colleges may not explore the larger array of subject matters as the universities.

Kauai Community College restricts new student orientation to half-a-day of short, informational sessions and a campus tour. Also, the orientation is recommended and not mandatory for incoming students to participate. Therefore, the college must rely heavily

on its website and the information that is provided to users. Anecdotal information suggests that the numerous complaints of the website being too text heavy and difficult to locate imperative information, including deadlines, educational forms and even the online application, are common among users and visitors of the college website. Unfortunately, technology is ever expanding and has become widely accepted as the primary means to gather and retrieve information. According to Miller and Pope (2003), colleges have reported a wide-range of online usage from registration and payments to providing web-based student services.

A usability study was conducted to assist in the design and development of the online new student orientation website. Krug (2010) states that usability studies or tests are qualitative and their purpose is to gain insights that allow you to improve website building. The goal was to create a user friendly website that provides necessary information to students as they transition to college life. The purpose of this usability study was to assess the content, navigation and student satisfaction of the online new student orientation website for students at Kauai Community College. This usability study aimed to answer the following research questions:

- RQ1: How do participants rate the ease of use and navigation of the online new student orientation website?
- RQ2: How do participants rate their level of satisfaction with the clarity of instructions provided on the website?

Literature Review

Usability can be defined in many different ways by many different people. Shackel defines usability as "a technology's capability to be used easily and effectively by the specified range of users, given specified training and user support, to fulfill the specified range of tasks, within the specified range of environmental scenarios" (Shackel, 2009). In simpler terms, Reeb defines usability as the process of bringing the user's perspective into the design process (Reeb, 2008). However it is defined, usability applies user insight and feedback to improve the development and design of a website to increase ease of use, navigation and satisfaction.

Recent research conducted to evaluate and explore the usability of Namik Kemal University's website and to provide development improvements. The results of the study revealed the following four positive factors of usability: attractiveness, helpfulness, efficiency and learnability (Mentes & Turan, 2012). The primary goal of this usability study was to gain constructive feedback and improve on all four factors.

According to Foley, campus websites are gateways to many aspects of higher education and are no longer static informational sites but informational portals (2011). In addition to usability, web accessibility is another important concept to consider when designing and developing a website. "Web accessibility and usability are two concepts that can help drive the development of online educational tools that reach the broadest number of learners" (Foley, 2011, 362). As educational websites continue to be heavily relied on for

important information, the design and development must consider both accessibility and usability.

Project Design & Development

The online new student orientation website was created and designed using Weebly, a free website builder. I selected Weebly as the website developer as a result of past usage and the ease and comfort of creating unique layouts. The construction of the website was initially drafted as a paper prototype and later converted into a website wireframe. Rapid prototyping with peers followed providing quick, constructive feedback and evaluation for areas of improvement and new emerging ideas (Tripp & Bichelmeyer, 1990).

The website is located at http://kauai-online-nso.weebly.com/ and includes the following sections/tabs: Welcome, Getting Started, Preparing for Classes, Academic Calendar and Campus Contacts (Figure 1). Each section and corresponding topics are introduced with an instructional video with audio voice-over and an option to view, download and print the instructions. The instructional videos include step-by step screenshots and screen recordings that act as a guide for students to follow. Each webpage also presents spirited and energetic photos of students engaging in campus events and activities. The reason for these photos is to capture the attention and interest of viewers. Research suggests that graphical icon, colors, images and animations give a website higher attractiveness and could improve on user satisfaction (Zhang et. al, 2000).

Methods

Participants of the usability study included first-time, returning, transfer and non-traditional students accepted at Kauai Community College for the Fall 2016 semester. The study involved a total of six participants, with three in each round. The participants are 18 years or older and of various ages, ethnicity, employment status, residence and level of education. A participant's current educational status was identified in the post-study survey and based on the following definitions:

- First-Time: A current or recent high school graduate who will be attending college for the first time.
- Returning: A former student that has previously taken classes at KCC.
- Transfer: A student entering KCC for the first time but has previously attended a post-secondary institution.
- Non-Traditional: A student that has delayed college enrollment after high school for any particular reason (e.g. full-time employment, military, or family).

The usability study required face-to-face participation as students actively engage in the new student orientation website. The usability study was conducted at Kauai Community College in a private, reserved room with a provided MacBook Air laptop. QuickTime Player was used to audio and screen record the entire session as the participants viewed and navigated the website.

During the study, I continuously asked participants to think out loud and express any thoughts, feelings, recommendations and questions that they may have at any moment. In the first part of the study, participants were directed to the website and instructed to complete the orientation from beginning to end as they would naturally. I collected qualitative data by taking field notes as the participants engaged in the orientation. The second part of the usability study involved the participants performing a series of scenarios. The goal was to observe the participants performing a wide range of tasks (Caglar & Mentes, 2012). Their performances were rated using a 5-point Likert Scale, with 1 being Very Poor and 5 being Excellent.

In order to collect both qualitative and quantitative data, a post-study survey was created using Google Forms and divided into three parts. Part 1 collected demographic data including age, ethnicity, employment status and educational status. Part 2 contained statements pertaining to the participants' perception, attitude and satisfaction of the website. A 5-point Likert Scale was used to collect the quantitative data, with 1 being Strongly Disagree and 5 being Strongly Agree. In Part 3, participants were asked to list the top three problems of the website. The survey was emailed to each participant after the usability study was completed in entirety.

Once the qualitative and quantitative data were collected and analyzed, appropriate adjustments and modifications were applied to the website after each round. As expected, I observed the severity of problems on the website decreased after each round. According to Krug, fewer severe problems are likely to occur after repeated rounds of usability testing (2000).

Results

During Round 1 of the usability study, it was evident that all three participants unanimously agreed that the simplicity and consistent layout of the website was very appealing. All participants expressed positive feedback on the step-by-step instructions provided by the videos and portable document format or pdf versions of the instructions. Participants stated that they enjoyed the images of real life students engaging in real life situations, which created a positive, friendly energy. Other positive feedback included the use of the NEXT button to advance from one topic to the next. This allowed participants to have direction and stay on course with the orientation. All three participants completed the online orientation at different speeds and time, as indicated by Table 1.

Table 1. Usability Study Completion Time

Participant	Completion	Time
1	Yes	20 min.
2	Yes	45 min.
3	Yes	25 min.

In addition to the positive feedback, participants provided critical comments and very constructive suggestions. Common among all three participants was the need to enlarge

the instructional videos and/or provide instructions on how to enlarge the video screen (Figure 1). Other suggestions included adding images to blank spaces and rearranging the layout of a few webpages to avoid monotony (Figure 2). The participants also identified the lack of the NEXT button on the Academic Calendar webpage. Despite not having the NEXT button, participants were able to advance to the subsequent topic by selecting from the main section tabs. Below are images of before and after revisions of the Home page and Welcome page.
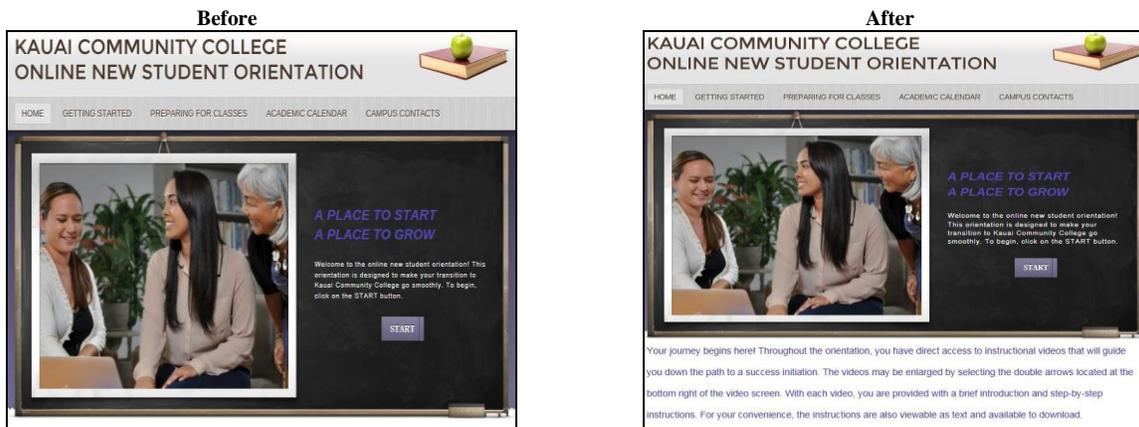

Figure 1. Before and after revisions of the Home page.

Figure 2. Before and after revisions of the Welcome page.

After finishing the online orientation in its entirety, the participants were given six tasks to complete. Participants were not timed. Instead, their ability to complete each task were

duly noted and their performances to complete each task were rated on a 5-point Likert Scale, with 1 being Very Poor and 5 being Excellent. All six tasks were completed successfully and a large majority of the performances were rated Excellent. Table 2 describes each task and the participants' completion and performance rate for Round 1 of the usability study.

Table 2. Usability Study - Round 1 Tasks

Task	Task Description	Participant	Completion Rate	*Performance Rate
1	Locate Spring Break dates	1	Yes	Excellent
		2	Yes	Excellent
		3	Yes	Excellent
2	Navigate to Pre-Orientation Checklist and save pdf to desktop	1	Yes	Excellent
		2	Yes	Good
		3	Yes	Good
3	Perform ways to advance from one topic to the next	1	Yes	Excellent
		2	Yes	Excellent
		3	Yes	Excellent
4	Locate information on how to pay for classes	1	Yes	Excellent
		2	Yes	Excellent
		3	Yes	Excellent
5	Locate the contact information for KCC instructor	1	Yes	Good
		2	Yes	Good
		3	Yes	Good
6	Return to Home page	1	Yes	Excellent
		2	Yes	Excellent
		3	Yes	Excellent

* Performance Rate based on a scale of Very Poor, Poor, Medium, Good, Excellent

To conclude their participation, a link to the post-study survey was emailed to each participant. The survey collected demographic data and both qualitative and quantitative data associated with the participants' perception, attitude and satisfaction of the website. A 5-point Likert Scale was used to collect the data, with 1 being Strongly Disagree and 5 being Strongly Agree. Figure 3 illustrates the average rating for each item that was presented in the post-study survey.
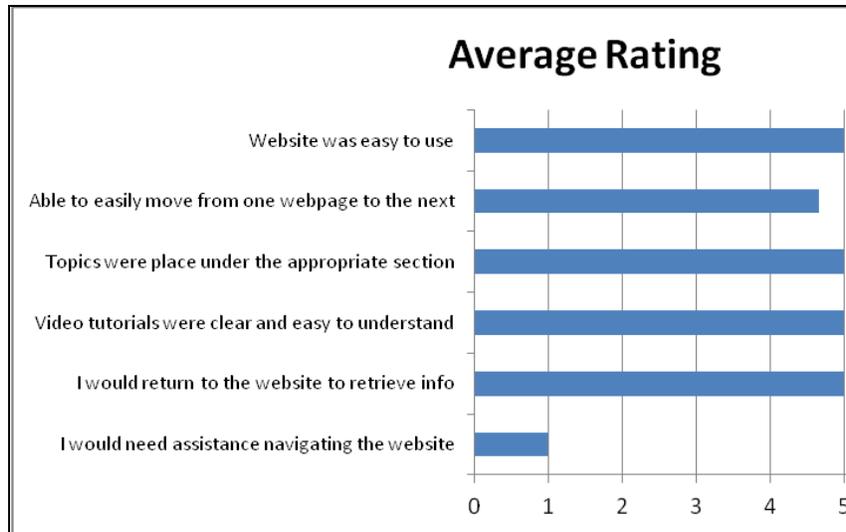
Figure 3. Round 1 Post-Study Survey Results

As predicted, the results of Round 2 indicated fewer problems and more positive feedback. Similar to Round 1, the participants of Round 2 enjoyed the authenticity of the pictures and the simplicity of the instructions provided on the videos and file documents. The participants successfully completed the online orientation in entirety and all six performance tasks were fulfilled. The results of Round 2 are displayed below in Table 3 and Table 4.

Table 3. Usability Study Completion Time

Participant	Completion	Time
4	Yes	17 min.
5	Yes	30 min.
6	Yes	25 min.

Table 4. Usability Study - Round 2 Tasks

Task	Task Description	Participant	Completion Rate	*Performance Rate
1	Locate Spring Break dates	4	Yes	Excellent
		5	Yes	Excellent
		6	Yes	Excellent
2	Navigate to Pre-Orientation Checklist and save pdf to desktop	4	Yes	Good
		5	Yes	Good
		6	Yes	Excellent
3	Perform ways to advance from one topic to the next	4	Yes	Excellent
		5	Yes	Excellent

		6	Yes	Excellent
4	Locate information on how to pay for classes	4	Yes	Excellent
		5	Yes	Excellent
		6	Yes	Excellent
5	Locate the contact information for KCC instructor	4	Yes	Excellent
		5	Yes	Excellent
		6	Yes	Good
6	Return to Home page	4	Yes	Excellent
		5	Yes	Excellent
		6	Yes	Excellent

* Performance Rate based on a scale of Very Poor, Poor, Medium, Good, Excellent

A suggestion for Round 2 included having the instructions automatically open in a new tab or window. According to feedback received from one of the participants, she would have had an easier time completing Task #5 if the instructions were open in one window while she searched for the instructor's contact information on the directory website. I considered this suggestion, however, Weebly does not allow this feature. Another suggestion was to add a farewell message or a "Thank You for Participating" final webpage at the conclusion of the online orientation (Figure 4). Before incorporating this final webpage, the orientation abruptly ended on the Campus Contacts page. The participant that made the suggestion felt that students would feel appreciated and part of a friendly environment if they were thanked at the end.
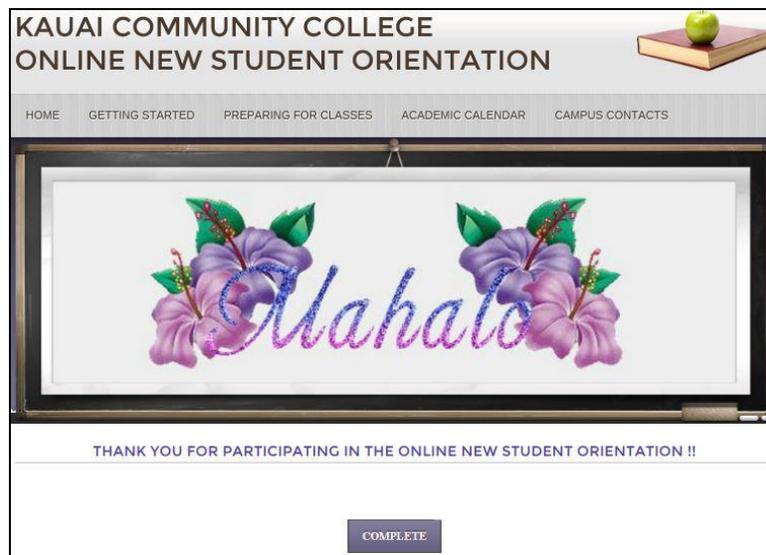

Figure 4. Addition of the Mahalo for Participating page.

Finally, the participants were emailed a link to the post-study survey. Ironically, all three participants of Round 2 rated the website the same. As adjustments and modifications were made to the website, the quality and functions of the online orientation also improved. The post-study results are displayed in Figure 5.
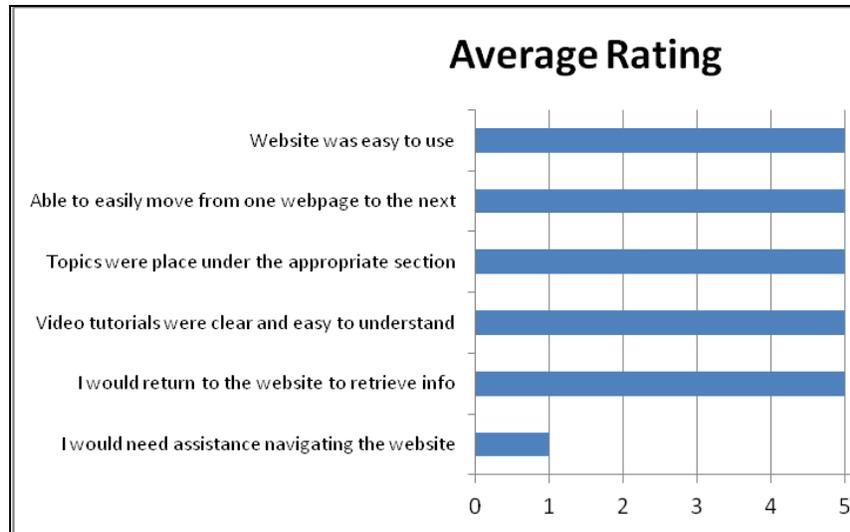
Figure 5. Round 2 Post-Study Survey Results

Discussion and Conclusion

Traditionally, new student orientation programs are designed to initiate the integration of newly admitted undergraduate students into the academic, cultural and social climate of a college. For most people, entering college begins a new chapter in their lives. Being prepared and knowing what to do next are key to their successful transition. The goal of this usability study was to create a user friendly website that provides the necessary information to students as they embark on the transition.

Gaining feedback and insight are crucial to the design and development of a successful online new student orientation. Results of the usability study suggest that the online new student orientation website is user-friendly. The usability study aimed to answer two research questions. The first question addressed the ease of use and navigation of the website. The results of the post-study survey indicated that all participants strongly agreed that the website was easy to use and navigable. A few participants mentioned that utilizing the NEXT button gave them direction and kept them on track. The second research question asked to rate the level of satisfaction with the clarity of instructions provided on the website. All six participants rated their satisfaction with a 5, representing Strongly Agree.

The think out loud method proved useful as positive feedback, critical comments and constructive suggestions were applied to the adjustments and modifications made to the website after each round. The purpose of this usability study was to assess the content, navigation and student satisfaction of an online new student orientation website for students at Kauai Community College. In conclusion, the usability results suggest that the website created is simple, organized and appealing to users.

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