

Usability Study of a Website to Orient Incoming Students into a Journalism Course

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Abstract: The majority of teachers receive new students at the beginning of each school year. However, teachers that work at a military impacted school have to accommodate for students coming and going throughout the year. The continual stream of students entering and exiting at a particular school on a military base warranted the development of an orientation site for a year-long Journalism elective course. The purpose of this study was to evaluate the content, aesthetics, and organization of the site through a usability study. The website-builder, Weebly, was used to create the site, and instructional videos were embedded using the software Camtasia. The orientation site uses Google Classroom, which is the learning management system for the course. To ensure the site would be user friendly for new students, two rounds of usability testing were completed, with revisions made based upon data. Usability participants navigated through the site to complete scenarios that the target audience would encounter. Pre and post surveys gathered additional data that revealed demographics, comfortability levels with technology, and recommendations for the site in regards to content and aesthetics. Some lessons learned consisted of how multimedia can enhance a website, the importance of color on a website, and how a paper document checklist provided on a homepage can assist with completion of orientation activities. The conclusions made from this study could serve as a model for other situations with a transient population that could use a website to help with an overall adjustment to a new environment.

Introduction

In our modern world, traditional teaching methodologies that use paper and pencil in a face-to-face classroom, can now be supplemented by ever more efficient means as technology continues to evolve (Tingen, 2011). Technology cannot replace teachers, it can, however, be used as a tool to help facilitate learning (Biech, 2015). The wide spectrum of individual learners present in a typical educational setting necessitates the need for the individualization of learning. This educational need is heightened by the constant turnover of students in a class at a heavily impacted public school on military base in Wahiawa, Hawaii, due to the transient nature of military families. This need for individualized learning combined with an ever-changing middle school population was addressed by using the existing technology infrastructure available: computers, internet access, and student gmail accounts made from the school's technology support team.

To alleviate the regular and tedious need for a teacher to orient a new student in the

Journalism course at a middle school, an orientation website was created that aids the student and teacher in helping with a seamless transition and integration into the classroom. Self-paced modules hosted on the site explain the course description, expectations, and procedures of the elective class. Foundations of journalism are presented to catch students up to speed with their peers. Other modules provide information about classroom procedures, and a tutorial for enrolling into Google Classroom, the primary learning management system used in the class. The content of the site was created by the researcher, and then organized for new students. which is a necessity to promote effectiveness for students to be fully acquainted with the course.

Once a student has been properly oriented into the course, the learning management system, Google Classroom, provides the continuing benefit of a central repository of course materials. It provides introductory assignments, a platform for online-portfolios, and potentially offers extra-credit assignments to accommodate students that complete work before a deadline.

The purpose of this usability study was to evaluate the ease of the interface in regards to navigability and user satisfaction of the orientation site for students in the year-long elective course at a middle school. Research questions are aligned with the purpose statement and include data from transitioning students in the course and are designed to gauge the following:

- 1) How easy or difficult is it to navigate throughout the site?
- 2) What is the user perception of the site in regards to content aesthetics?

Literature Review

In the United States, 100% of public schools are connected to the internet and the ratio of 1:1 (computers to students) will be the next natural progression (Greenhow, 2009). Since, "...the rate of internet use among children is growing rapidly, not a lot is known about how children use websites" (Alqudsi, 2015, p. 558), this usability study offers further understanding on the topic. Not only is it important to create websites with a child's mindset in consideration, it is just as important to give younger kids the opportunity to learn technology skills; the orientation site created by the researcher attempts to do just that. Familiarizing younger students with technology is important because it is highly likely that they will take at least one online course in their educational career (Garrison, 2011).

Educators and web designers should value the fact that students are more intrinsically motivated by the more independence they are given (Zhao, 2011). Thus, creating an educational setting that fosters independence will have a direct effect on student success in the classroom. An e-learning environment can help teachers have more independent students, however, early interventions are valuable ways to ensure success in a classroom (Stella, 2013). An orientation site is one way to implement early interventions with new students. For example, their initial writing can serve as a pre-assessment of skills set and their technology experience can also be made apparent to the teacher. In order for

students to feel independent in a classroom, teachers must also: “set expectations and norms; identify who is in the group; promote interest and enthusiasm; and put participants at ease” (Biech, 2015, p.45). The orientation site with a checklist of activities achieves these goals. For the orientation site, a day-by-day checklist was provided to track students progress. Assignment checklists are a valuable tool to keep students organized and on track with learning material (Thompson, 2013).

As a whole, the Journalism course geared for middle school students is designed with the learning theory: CASA (Content, Asynchronous collaboration, Synchronous collaboration, Assessment) approach, which supports the learners’, designer’s, and instructor’s role in the course (Menchaca, 2014). Content of the whole course is supported by asynchronous and synchronous activities, with assessments. Specifically in regards to the orientation site, it supports content of the course through asynchronous activities such as: reading testimonials, watching videos and completing assignments on google docs. Synchronous activities include interaction with the instructor as one-on-one direct teaching, and discussions about the checklist when completed.

A cognitive constructivist theory served as the framework of the course, with multimedia resources serving to aid engagement and retention of material (Bull, 2013). According to Alqudsi (2015), animation and sound are favored more by children, and more opposed from adults. To accommodate for this, Camtasia, a screen recording tool that allows one to customize content for a lesson, was used to make engaging videos on the course website. Camtasia is an effective tool for teachers because this software can enhance a screenshot video with visuals, audio, and animations, then in turn can create a product easily shared with students and parents by being embedded on a website. At least two of the following modes should be considered for online instruction: text, video, picture, animation, and audio (Bull, 2013), and the website builder Weebly allowed a platform to do so. Also, as with a face-to-face instruction, accommodating to as many multiple intelligences as possible is key to make an effective e-learning environment (Tingen, 2011). Lessons on the orientation site supports a variety of multiple intelligences. For verbal/linguistic learners, the writing exercises and discussions will appeal to them. Students that are visual/spatial learners, choosing pictures that relate to articles is part of an assignment and colors on the site will help motivate them. For bodily/kinesthetic students, they will appreciate role-playing mock interviews with open-ended questions they generate. For the more reserved intrapersonal learners, reflections and their initial expectations of receiving the elective will accommodate to those learners. The teacher allowed flexibility with assessments depending on learner.

The orientation site was evaluated with a usability test. During the test, participants used a think-aloud approach while they complete a series of tasks, which served as documentation and to also capture their mouse movement (Krug, 2014). Two iterations of revisions were done after rounds of usability testing, and having cycles that consist of testing and revisions is recommended for improvement (Krug, 2014).

Project Design & Development

Development of the orientation site transpired from the regularity of incoming and exiting students throughout the school year. Military families and children move about ten more times more than civilian families (Clever, 2013). Frequent relocation has direct affect on the students, teachers, and parents. For a student, moving can cause emotional consequences, academic challenges, self-esteem issues, and separation anxiety. Teachers need to accommodate children that are faced with a transient lifestyle, as well as parents.

Data collection instruments consisted of a pre-survey and a post-survey created by the researcher which is recommended for collection of background information (Corry, 1997). Pre-survey questions gathered data on student grade-level, computer usage, and open-ended questions inquiring about being a new student. Post-survey questions gathered data on the website's overall aesthetics, organization, and student preferences regarding reading information versus watching videos. Google Forms were used because of the ease of creating questions with Likert scales and fill-in text boxes for typed responses. Also, Google Forms collected all responses and automatically organized them on a spreadsheet.

Prior to the site being created, the teacher had an informal process when new students came into the class, which was different each time depending on what lessons were scheduled for that day. Grading a student that comes in halfway through the semester or quarter was also a challenge so a tool was needed to be created to make the grading process more efficient. The checklist tool, which is an easily printable Google document, is beneficial for the teacher and student. It allows the teacher to encourage independence, while highlighting key components for assessment in a student's first week in the class.

The website builder Weebly was used to design the functional prototype. The researcher selected Weebly because it is a free website builder and offers many features with already-made layout designs. Without familiarity of coding, the site is very user-friendly for all levels of technology-users. There is an easy drag-and-drop option for text boxes, embed codes, and images. Weebly has professional design templates with a library of fonts and colors to choose from. Also, customer support offers immediate responses by email and chat on the site if trouble-shooting occurs. There is also an option for an additional charge to make the website private if need be. Lastly, the researcher appreciated naming the site URL an easy-to-remember website address.

The site began with a simple paper prototype so the researcher could map out key aspects that needed to be included on the site. Two paper prototypes were designed and had a variance in where the page tabs would be located (either on the top of the site or on the left hand side of the site). The pages were going to be organized by "topics" but later changed to "days" as it would be more user-friendly for a middle school student.

After careful consideration of the layouts for the pages, the researcher chose a template on Weebly that mirrored the selected paper prototype (see Figure 1 and 2).

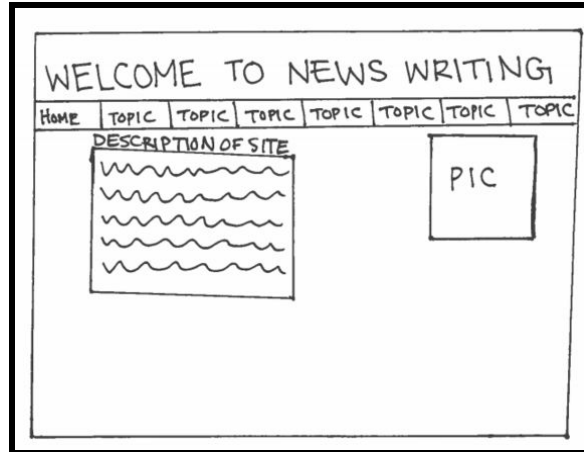


Figure 1. 1st Paper Prototype for Possible Homepage Layout

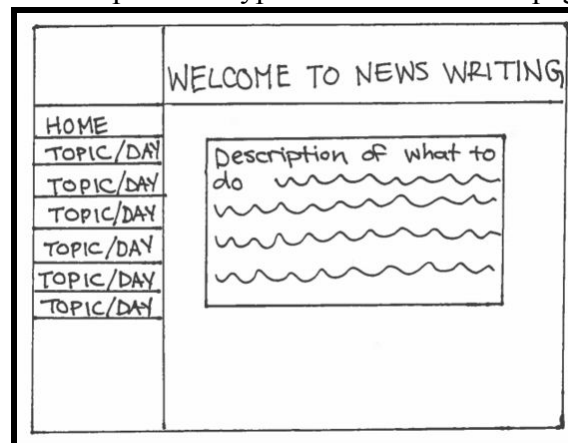


Figure 2. 2nd Paper Prototype for Possible Homepage Layout

The site was first published after a welcome note was added on the homepage and a color scheme was selected. A basic font style was also chosen for simplicity to portray an overall clean and simple feel that wouldn't overwhelm new students (see Figure 3).

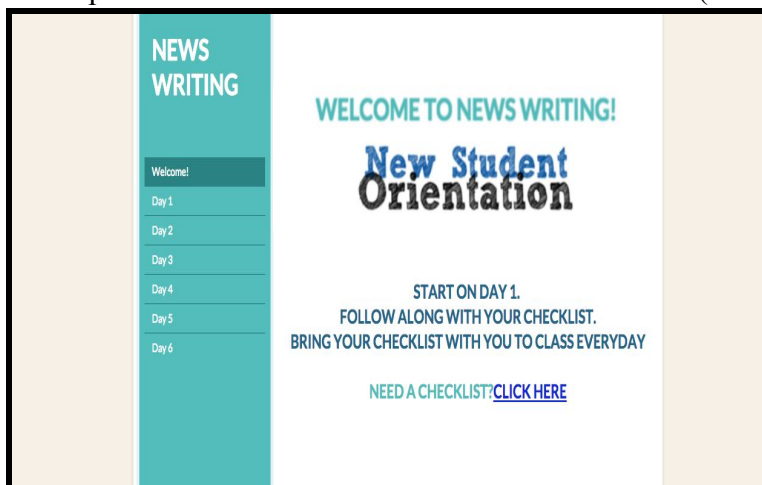


Figure 3. First Draft of Orientation Site's Homepage

Since the orientation had daily activities, a checklist was made to keep students on track and accountable for completion (see Figure 4). Directions were listed on the checklist and on the website to offer as much clarification as possible since students were working independently. It was a printable link made readily available on the site’s homepage in case a student needed a replacement.

Welcome to News Writing!
Orientation Site Checklist

*Directions: Use the checklist below as you follow along on the orientation site:
www.welcometoneWSwriting.weebly.com. Check the boxes as you complete each activity listed below.*

"DAY 1" Page

- 1) I watched the short video about the class
- 2) I read what current students think about the class
- 3) I joined "News Writing" on Google Classroom with this code:
- List ANY Questions you have so far:

"DAY 2" Page

- 4) I read what is typed under: "What is Story Storm"

Explain what story storm is in your own words:

- 5) I watched the video titled: "Story Storm Student Testimonials"
- 6) I read the paragraph
- 7) Write month of Chronicle Chaos are you looking at: _____

List your favorite contributions from that month:

"DAY 3" Page

- 8) I found the doc titled, "Expectations for News Writing" on Google Classroom
- 9) I finished the doc titled, "Expectations for News Writing"

"DAY 4" Page

- 10) There are ___ vocabulary words I'll always need to check for in my article writing
- 11) I found the doc titled "Always Check For..." on Google Classroom
- 12) I finished the doc and made sure the definitions are in my own words and my explanations are 2-3 complete sentences.

"DAY 5" Page

- 13) I met with Miss Leach and understand the different types of news
- 14) I found the doc titled, "Elements of News," on Google Classroom
- 15) I completed the doc titled, "Elements of News."

"DAY 6" Page

- 16) Who does the website say you can interview for your articles:

- 17) I found the doc titled, "Open Ended Q's" on Google Classroom stream
- 18) I finished the doc titled, "Open Ended Q's"

Figure 4. Orientation checklist which corresponds with website

Revisions were made to the website’s color scheme and font style. The blue color changed to resemble more of the school’s color. Titles were made bolder with a more whimsical font choice (see Figure 5).



Figure 5. Header on Day 1 page changes from 1st revision to 2nd revision

Some movement was added as animated images, .gif's, on two of the pages. One animated image was embedded to welcome the students in order to have an attention grabbing title (see Figure 6). Another animated image was embedded to congratulate being done with orientation on the last day.

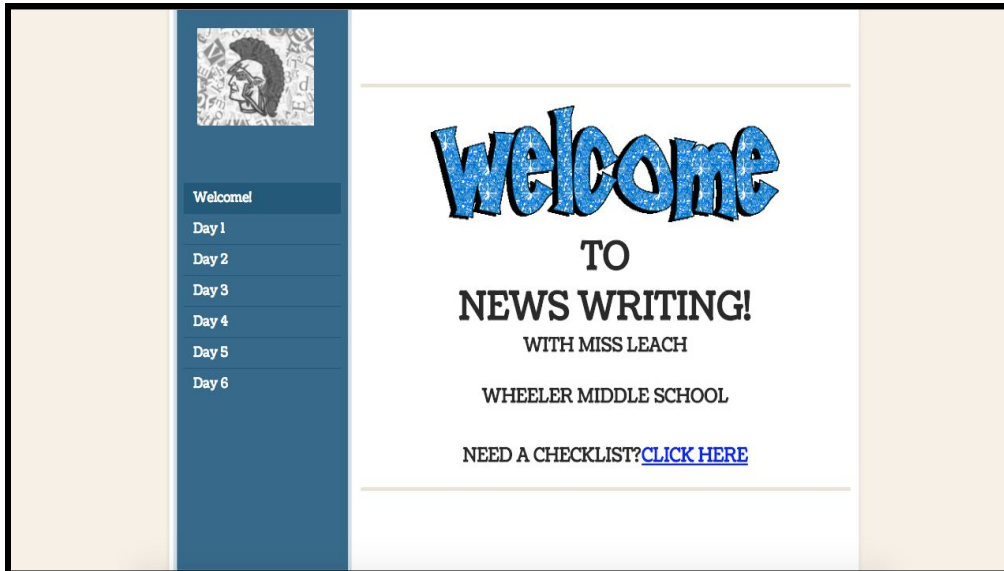


Figure 6. 2nd Revision of homepage with animated “welcome” image

Adding multimedia enhanced the website as three videos were created by the researcher. The first video explains the elective course, the second video instructs students how to enroll in Google Classroom, and another discusses a monthly classroom procedure. Student testimonials were added with pictures to offer real thoughts and feelings about the course from relatable sources and made with google drawings (see Figure 7).

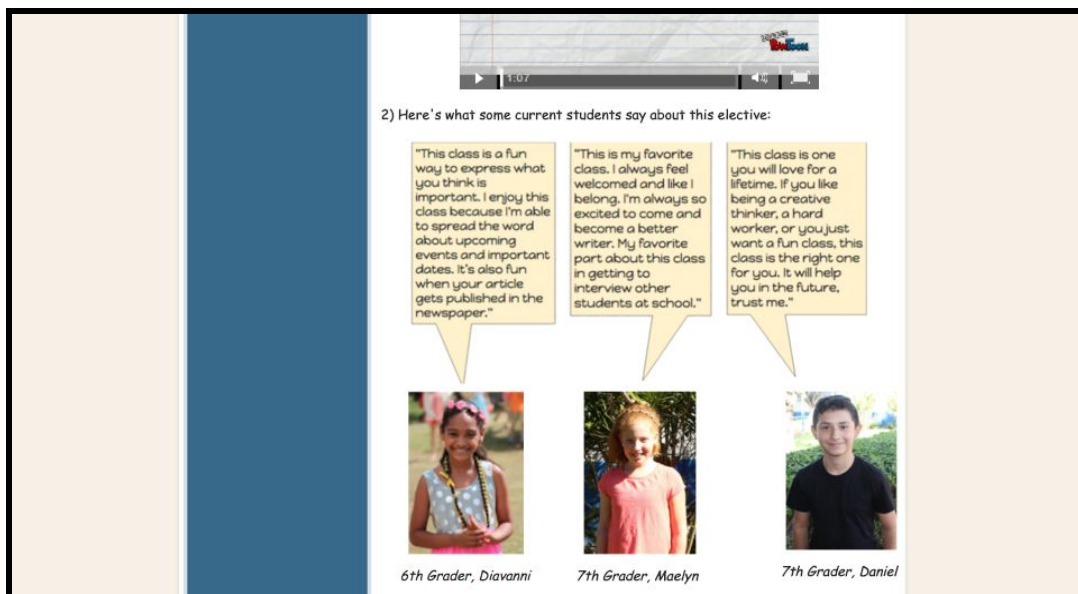


Figure 7. Student Testimonials on “Day 1” of orientation website

Discussion

Using a free website builder has limitations because of the available space has a maximum and the domain address selection. However, the researcher recognized that embedding an artifact from google drive (a google doc or slideshow) uses less space than embedding a file (such as a .doc or .pdf). The researcher also realized that creating instructional videos can be a tedious, time-consuming task. However, proper training and guidance can assist with future video-making attempts. The researcher didn't have any background in coding so additional education will be necessary. Professional development on graphic design will also assist in making the site more aesthetically pleasing.

Overall, having an orientation website that gives clear instructions is beneficial if the new students are intrinsically motivated to complete the checklist. However, as with any instruction in the classroom setting, it is assumed that certain students are more inspired by rewards or prizes such as candy, erasers, stickers, etc. The teacher will incentivize those students to do the course work on a case-by-case basis with small incentives as they complete daily activities on the checklist. This would be done privately to not make other students seem favored.

The researcher acknowledges that the orientation website has room for improvement. Additional pages on the site should be added that introduces other key components of the class such as the structure of article writing and rubrics used for grading purposes. The creation of the website allowed a platform that could be expanded on and edited as curriculum changes. The organization of the website is easy to navigate, and with the extra guidance of the checklist, it helps transitioning into a new classroom setting a lot easier. There is a potential for more tutorials to be added relating to technology skills that would enrich the website and help students become more effective e-learners. Accommodating to multiple intelligences with an online platform is possible with a little creativity in lesson planning for new students. The researcher can determine more about the new student early on by observing which activities on the orientation checklist that the student excels in.

Conclusion

The military population will continue to have a transient lifestyle and making children feel comfortable in their new environments will continue to be a prevalent concern. Even though teachers may have a set routine in place for new students, e-learning can assist students, teachers, and parents. Educators, students, and parents all have a potential to benefit from an e-learning environment. Alleviating the load of paperwork and accessing assignments from anywhere, can make education more efficient. Online learning can also accommodate to the spectrum of learners in a classroom, all at varying paces. An e-learning environment can assist teachers with providing a means to supply class-work for student absences, as well as offer feedback in a more efficient method on assignments than traditional means. Educators need to acknowledge the importance of designing

educational tools for the young effectively. Students need to develop 21st century skills, and technology in the classroom can serve as a platform to prepare these students for a successful future. Technology within education is constantly evolving; students, teachers, and parents will benefit if they embrace the skills together.

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