Evaluating the Usability of a Teacher Created Classroom Website

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Abstract: Today, parents expect to have ongoing communication with their child’s teacher. In order to create effective, consistent and proactive communication between the parents of Ms. Neizman’s 3rd grade class a classroom website was be designed. This website is aimed to promote curriculum, to provide resources, and important school information. The purpose of this usability study is to evaluate the navigation, easy of use and effectiveness of a teacher-created website to inform Ms. Neizman's 3rd grade parents about what their child is learning in the classroom. Two rounds of usability testing captured the user interaction with the teacher-created website using the think aloud protocol and mouse movement. Pre and post surveys collected user satisfaction and demographic data. Data analysis included task completion and both quantitative and qualitative user evaluations. Usability issues were resolved over the 2 rounds of usability testing with improvements made to the prototype in between each round. The results showed an increase in navigation, easy of use and effectiveness of this teacher-created classroom website. Findings support the effectiveness of usability testing in the design of simple, user friendly teacher-created websites that provides open communication between teacher and parents.
Introduction

Effective, consistent and proactive teacher-parent communication is a relatively new phenomenon in schools (Lavoie, R. 2008). In older generations, parents lived by the saying “no news is good news”. Many parents only received calls when the teacher felt the child was struggling in school or had a difficult day. However, as times change so does the parents’ presumption. Today, parents expect to have ongoing communication with their child’s teacher. Often times, teachers believe parents aren’t as involved in their child’s education as they should be, but in reality it’s because parents don’t know how to ask the right questions. Speaking from a parent’s perspective, I, as a parent, would want to know what my child is learning, how my child is progressing in school, and I would want to feel comfortable asking questions or sharing my concerns with my child’s teacher. These are the topics that are often discussed with parents who are involved in their child’s education.

Although research shows that parental engagement in education has increased over the past 25 years, engaging parents continues to be a hurdle for many schools (Metlife, 2012). Previous studies found that parent involvement promotes higher academic achievement in students (Ferrara & Ferrara, 2005; LaRocque, Kleiman, & Darling, 2011). A positive parent-teacher relationship helps your child feel good about school and be successful in school (Metlife, 2012). According to Kleiman LaRocque, when parents participate in their children’s education, both at home and at school, and experience relationships with teachers characterized by mutuality, warmth, and respect, students achieve more, demonstrate increased achievement motivation, and exhibit higher levels of emotional, social, and behavioral adjustment (Ferrara & Ferrara, 2005; LaRocque, Kleiman, & Darling, 2011).

This year the school that I teach at has gone 1:1 in grades 3-5. 1:1 means that the school will provide each student in grades 3-5 with an electronic device to access the internet, digital textbooks, and complete assignments using various Google applications. Grades K-2 are anticipated to go 1:1 next year. Although our school has this big push to incorporate technology into the classroom our school does not have a school website to communicate important information with parents. The school solely depends on newsletters to communicate with the parents which is sent home with their child. However, as we know the newsletters does not always make it home or is often times lost.

As a 3rd grade teacher, I am in constant communication with parents about their children. In order to create effective, consistent and proactive communication between the parents in my 3rd grade class a classroom website was be designed. This website is aimed to promote curriculum, to provide resources, and important school information. The purpose of this usability study is to evaluate the navigation, easy of use and effectiveness of a teacher-created classroom website to inform Ms. Neizman's 3rd grade parents about what their child is learning in the classroom.
Literature Review

Usability Studies

A usability study is, “watching people try to use what you have designed with the intention of (a) making it easier for people to use or (b) proving that it easier to use” Krug (2010). “Usability is a quality attribute that assesses how easy user interfaces are to use. The word "usability" also refers to methods for improving ease-of-use during the design process” Nielsen (2012). “Instead of thinking of success as a perfect design, you should think of success in a usability test as learning what you need to know. The goal of formative, diagnostic testing is to find the critical problems that prevent users from completing their tasks” Redish (2005).

Nielsen (2012) defines the quality components of a usability study as, (1) Learnability, which refers to, How easy is it for users to accomplish basic tasks the first time they encounter the design?, (2) Efficiency, which refers to, Once users have learned the design, how quickly can they perform tasks?, (3) Memorability, which refers to, When users return to the design after a period of not using it, how easily can they reestablish proficiency?, (4) Errors, which refers to, How many errors do users make, how severe are these errors, and how easily can they recover from the errors? And (5) Satisfaction, which refers to, how pleasant is it to use the design?

Web-Design Conventions

According to Krug (2014), the main navigation should appear in a bar across the top of your site. This is a convention, if broken, may frustrate users. Krug (2014), explains that in the same way we look at a street corner to find the signage in most cities around the globe, we look at the top of web pages to figure out how to get around. “There is nothing more frustrating than feeling lost-on streets, in stores, and on sites” Krug (2014). If directions are complicated or missing the users will easily become discouraged and leave the site.

“Clicking links has become second nature for web users” Krug (2014). Users want to know exactly what is clickable and what isn’t clickable. A link appears to be underlined text. Text in a different color may also signify that it is a link. Since these are the rules for link styling other words should not be underlined and not using colored text is a good idea.

Including buttons is a great feature and it is extremely intuitive, Krug (2014). Buttons usually look 3D and clickable. It should be clear that they are in fact clickable. More importantly, be sure that all buttons actually link to something. A button that does not work as the user intended, which is that it links to something, can be really confusing to a user. (Krug, 2014)

As Steve Krug points out in “Don’t Make Me Think”, designers feel they have been hired to produce something original: “Praise from peers, awards, and high-profile job offers are rarely based on criteria like ‘best use of conventions’.” However, breaking conventions is not an effective way to be innovative, unless you really know what you’re doing. (Krug 2014)
According to Jones (2012), Visual Hierarchy is important when designing a website. An important thing to think about when designing a website is organization. Size is one of the most powerful forms of organization. The bigger the object the more it demands attention (Jones, 2012). The more important the information the bigger it should be. The least important the information the smaller it would be on your website. The user’s eye should move naturally from the bigger objects to the smaller objects (Jones, 2012).

Color is another important visual tool. It can be a form of organization as well as a personality tool. Bold, contrasting colors attract the most attention. These are usually buttons and links. Using lush, comforting colors can bring emotional appeal to a website (Jones, 2012).

Jones (2012) shared another important tool in the visual hierarchy toolbox is alignment because alignment creates order between elements. It can be as simple as the difference between a “content column” and a “sidebar column”, but alignment can also take on a more complex hierarchical roles. For example, the power of information placed in the top-right of a web page users generally expect information in that part of the screen to be associated with profiles, accounts, shopping carts, etc. It gives everything placed in that area a sense of the “official” (Jones, 2012).

Project Design

Several platforms were considered when planning the teacher-created website. The teacher-created website was designed using Weebly, a website creator. Weebly was chosen because it was very user-friendly. Weebly allows users to build great websites without having to use any coding. The free Weebly account offered many customizable features. An image of the homepage can be seen in figure 1.

![Figure 1- This is a screenshot of the homepage on the teacher-created website.](image-url)
The web-designers interface was sweet and simple. To design this website, I used Weebly’s drag and drop features. I dragged and dropped things such as text boxes and image boxes into the area of the site that I wanted to add text or images. After adding a textbox, I was able to add content information by just simply typing in the box. I could use the text menu bar to easily change text options, such as the size, style, or color. It worked the same for images. After adding the image box, I was able to drag an image into the box and it would instantly start uploading. Another way I could insert an image is by searching for it on my computer or downloading it from the internet. Other features I used on Weebly was adding links to the website and creating new pages or subpages for the website. An image of the reading page can be found in figure 2 and the math page can be found in figure 3.

**Figure 2-** This is a screenshot of the english language arts pare on the teacher-created website. This page provides parents on what their child is learning in language arts. The blue text found on the page indicates it is a link and leads to a document.

**Figure 3-** This is a screenshot of the math page on the teacher-created website. This page provides information on what students are learning in Math. The blue text found on the page indicates it is a link and it is clickable.
Google Docs was also used to create documents that provided the parents with information about what their child is learning. Google Docs was used because it is user-friendly and I am very familiar with this Google tool. A document was created for each 5 day weekly reading plan. The document included weekly essential questions, comprehension reading skills and concepts, vocabulary words, and spelling words. An example can be found below in figure 4. Google Docs was also used to create math documents. One document was created for each math module, which contains 12 lessons. An example can be found below in figure 5. Google Docs was also used to create writing rubrics for each of the three main writings (narrative, informational, and opinion) the students learn in 3rd grade. An example can be found below in figure 6 and 7.

Figure 4- Using Google Docs, a math information document was created to provided parents with information of what their child is learning in reading. The vocabulary used on this document is vocabulary used in the classroom with the students.
Figure 5- Using Google Docs, a math information document was created to provide parents with information of what their child is learning. The vocabulary used on this document is vocabulary used in the classroom with the students.

Figure 6- This is the writing page on the teacher-created website. It informs parents that their child will be learning about 3 main writing which includes informational, narrative, and opinion.

Figure 7- This is a screenshot of one of the subpages under writing. The three subpages created for writing is narrative, opinion, and informational.
Methodology

The website was created using Weebly’s free account. The website was designed based on information from Krug’s Billboard Design 101 (2014). The suggestions considered while designing the website were the common website conventions, the visual hierarchies, and minimizing distractions.

Participants

Parents of 3rd grade students were the target audience for this usability study. Participants would come from a range of backgrounds and races and have varying levels of education. Participants will be recruited through personal acquaintances of the researcher to ensure they meet the minimum target audience characteristics necessary to participate. Six adults were recruited for this usability study. Each participant completed and signed a consent to participant form before the study.

Procedures

This usability study consisted of two cycles, with three participants per cycle. Participants were asked to allow an hour for this face-to-face usability study. The study were conducted in various locations that were convenient for the participants. These locations includes the researcher’s home and workplace as well as the participant's home or workplace.

During the usability test, participants were asked to perform various tasks on the teacher-created website. The tasks included locating information about what their child is learning in the classroom. Participants were asked to complete the following tasks:

1. Explore the Homepage
2. Locate information about what your child is learning in Language Arts in Unit 1 Week 2.
3. Go from the Google Doc back to the website
4. Locate information about what is expected when your child is working on an opinion writing piece.

The participants were provided with identical instructions that were read from a script by the researcher. As participants worked to complete the tasks their actions were recorded using Google Hangout on Air. While completing the usability study, participants were instructed to “think aloud”, say everything they are thinking and doing. This process provides more information about their search and navigation experiences. Using Google Hangout on Air allowed the participant's narration and screen recordings to be captured so that the researcher could go back and review the studies later.

To evaluate this prototype, I used Likert scale questionnaires and usability studies that provided both qualitative and quantitative data. The questionnaires consisted of both Likert scale questions
to collect quantitative data, along with open-ended questions to gather short qualitative responses. The questions included topics such as visual design, usability, and ideas for improvement to the prototype.

Revisions to the teacher-created website occurred after each round of usability studies. The revisions were based on participants’ comments/suggestions and were intended to improve the usability of the teacher-created website.

**Discussion**

After each round of usability studies improvements were made to the teacher created website. One improvement included designating an area on the homepage that informs parents of the unit and week we are on in our Reading Wonders Program as well as the module we are on in our math program. This ensures parents are locating the correct information during the week. Please see figure 8. Another change that occurred on the homepage was adding the light bulb picture to make the site more visually appealing.

![Figure 8](image)

**Figure 8- Adding the unit and week information for reading and the module number for math.**

Throughout the website, we ensured all Google documents would open in a new tab. We also ensured the documents were all formatted the same. For example, on each math document we made sure it had the module number, the lesson numbers, the title of the lessons were included and underlined, and the objectives were done in “I can” statements. The same “I can” statements the students use in class. See figure 9 for an example.

![Figure 9](image)
Finally, another link was added to the resources page. This page provides parents with the websites we use and a description of what we use them for and lets parents know if their child has an account on them. I added the link to the Hawaii Common Core State Standards Toolkit. This allows parents to view the standards not just for 3rd grade but for the other grades as well. This information will inform parents of what their child needs to know by the end of 3rd grade. Please see figure 10 for the improvement. These improvements were made to improve the website’s navigation, ease of use, and effectiveness.

![Figure 9- Math document formatted the same.](image)

**Conclusion**

All web-designers understand that it is important to keep the user in forefront. In order to do so, web-designers must understand how users search for information on a website. Conducting usability studies helps to determine how well the website is serving its purpose and what improvements can be made in order for the user to more effectively and efficiently use the website as intended.

This usability study proved that a teacher created website can create an effective line of communication for teachers and parents. It also showed how easy it is for parents to locate information about what their child is learning in school on a well-planned and designed teacher-created website. To view the entire website, please visit [http://msneizman.weebly.com/](http://msneizman.weebly.com/).
Resources


