Using Learning Styles to Differentiate:
A Usability Study of a Teacher Resource Website

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Abstract: This study was created to determine the usability of a website designed as a teacher resource on learning styles and differentiation for K-12 educators. It was determined that a resource was needed that would allow educators to first identify students’ preferred learning styles and then be able to match appropriate learning activities and strategies to each learning style. Educators are encouraged to differentiate their instruction but are not necessarily given the proper time or tools to do so. A website was created using Wix website builder to include information on specific learning styles, an assessment to determine students’ preferred learning styles and strategies and activities relevant to each learning style to differentiate instruction. K-12 educators as well as home educators agreed to participate in the usability study where they performed a series of specific tasks aimed at refining the usability of the site. The usability test was conducted to be sure that the best, most efficient and useful resource has been provided. After conducting the test sessions and interviews it was concluded to refine the website features to provide the most effective tools for educators.

Introduction

Have you ever wondered why you are good at certain subjects and not so good at others? Or, have you ever wondered why you like certain subjects or learning environments and not others? This is because everyone learns differently. There are generally three main modalities of learning. They are visual, auditory and kinesthetic. Traditionally, the United States school system was set up as a “factory model” system where the teacher lectured and the students listened (“Factory Model School,” n.d.). It was primarily focused on auditory learning. Students were expected to hear the material and then be able to do it. This system was monotonous, boring and not differentiated. The problem with this tradition is that not everyone learns best by just utilizing their auditory senses. Most people are drawn towards one particular learning style but learn best utilizing more than
one modality of learning. Dunn, Beaudry and Klavas (2002) assert that each person has a learning style as “individual as a signature” (p. 75).

The purpose of this research was to determine the usability of a website as a teacher resource on learning styles and differentiation for K-12 educators. It was determined that a resource was needed to allow educators to first identify students’ preferred learning styles and then be able to match appropriate learning activities and strategies to each learning style. In today’s technology-driven world a website has been chosen as an efficient way to provide such a resource. Consequently, a website has been created using Wix website builder to include an assessment that determines each student's preferred learning style, strategies and activities relevant to each learning style and ways to differentiate instruction with learners of varying learning styles. A usability test was conducted to be sure that the best, most efficient and useful resource is being provided.

**Literature Review**

Differentiated instruction is teaching based on individual student’s gifts and learning styles (Morgan, 2014). Educators learn about the different modalities of learning in their teacher training and are told to differentiate their instruction to different levels of learners. However, teachers are not necessarily encouraged to focus that differentiation on each child's needs and learning style. “One-size-fits-all teaching” does not effectively reach a diverse population of students (Marshall & Blue, 2014). There is also a lack of time and tools for educators to effectively differentiate their instruction to meet each student's needs (Carolan & Guinn, 2007). While differentiated instruction is deeply beneficial to student engagement and success, teachers find themselves overwhelmed in planning the necessary learning activities (Lange, 2009). The issue of differentiation and greater student achievement can be addressed by first looking at each student’s strongest learning style. Numerous studies have shown a much higher rate of student achievement when instruction is matched with students’ preferred learning styles (Dunn et al., 2002; Chaffe, 2010). This can be done by beginning with a brief assessment given to each student to determine his or her preferred learning style. This assessment can be delivered online or in a paper format, whichever is more convenient for each individual educator. Then, the educator has a starting point for how best to target that particular student's needs. Given the learning style assessment results, the educator can match appropriate learning strategies and activities that align with each student’s learning style. Particular strategies can enhance each type of learning style (Barham & Woeste, 2004). Yum (1997) suggests that to establish a more effective relationship between teaching and learning teachers should “match their teaching style with students’ learning style preference” (p.81).

**Project Design**

The development of this project began with reflection upon personal experiences of the researcher in the classroom as well as the researcher talking to colleagues and those that have left the field of education. Through these reflections and conversations it became
obvious the topic of differentiation was paramount. Then, through research, the topic narrowed specifically to pairing students’ preferred learning styles with particular learning strategies. A resource does not exist for teachers to assess their students and easily locate appropriate learning strategies that best fit each learning style. Consequently, a website was created to provide such a resource to educators.

The website URL is www.jls4486.wix.com/outsidethebox (Appendix A). This site was created using Wix website builder. All images are open source or purchased images. These images were carefully chosen to be aesthetically pleasing to most effectively capture the attention of the user (Glore & David, 2012).

Methods

The goal of this research was to determine the usability of a website as a teacher resource on learning styles and differentiation for K-12 educators. Each participant received an initial recruitment email (Appendix B) to initiate the process of their participation. If prospective study participants wished to be part of the study they were then directed to the pre-study survey (Appendix C). This survey as well as the consent to participate (Appendix D) and post-study survey (Appendix E) were conducted using Google forms which captured and appropriately categorized the data collected into spreadsheets. The data was collected in three rounds of testing with three participants in each round. The participants were public and private school teachers as well as home educators throughout the United States with at least five years of teaching experience. Participants were all over 30 years of age, female and most held a master’s degree as seen in Table 1.

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>Number of Participants</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31-40</td>
<td>4</td>
<td>44%</td>
</tr>
<tr>
<td>41-50</td>
<td>5</td>
<td>56%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>9</td>
<td>100%</td>
</tr>
<tr>
<td>Level of Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some College</td>
<td>1</td>
<td>11%</td>
</tr>
<tr>
<td>Bachelor's Degree</td>
<td>3</td>
<td>33%</td>
</tr>
<tr>
<td>Master's Degree</td>
<td>5</td>
<td>56%</td>
</tr>
</tbody>
</table>

Referencing Krug’s Rocket Surgery Made Easy (2010), a usability protocol was used in the development of the project (Appendix F). As part of this protocol, test participants went through a series of specific tasks and general questions to locate information on the
website and to discuss their experience (Table 2).

Table 2. Usability Tasks and Questions

<table>
<thead>
<tr>
<th>Preliminary Questions:</th>
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<tbody>
<tr>
<td>1. Do you know anything about various learning styles, and if so, what knowledge do you have?</td>
<td></td>
</tr>
<tr>
<td>2. What kinds of information might you expect to see on a website about learning styles and differentiation?</td>
<td></td>
</tr>
<tr>
<td>3. Have you ever built or helped edit a website? If so, what program or software did you use?</td>
<td></td>
</tr>
</tbody>
</table>

| Tasks: |
|------------------------|--|
| 1. You are beginning the school year and would like to first find out your student's preferred learning styles. Where would you locate that information? |
| 2. You are planning a lesson and would like to incorporate learning strategies that match particular learning styles. Where would you find that information? |
| 3. You would like to find out more information about learning styles. Where can you go to learn more? |

| Follow Up Questions: |
|----------------------|--|
| 1. On a scale of 1 to 5, with 1 representing very difficult and 5 representing very easy, how would you rate your experience during today's testing? Why? |
| 2. After participating in this study, would you recommend this website to any of your friends? Why? |

The usability test sessions were recorded using Screencastify or Google Hangouts On Air to refer back to when collecting and analyzing data. Tests were conducted both in-person and remotely. Remote usability tests were moderated using Google Hangouts with specific instructions on using and logging into Google Hangouts. Remote usability tests were conducted to provide more flexibility and to more easily recruit test participants (Schade, 2013). Each test session was reviewed and analyzed to conduct data analysis. Notes were taken on a test session note sheet (Appendix G) of how the subjects completed the tasks as well as their statements, answers to questions and behaviors. It was also noted how quickly the users completed each task. A list of these were compiled onto a test session issues spreadsheet (Appendix H) and the researcher looked for similar results among test participants. Each item on this list was prioritized in order of significance and importance. Issues were labeled as serious, concerning and minor. Appropriate action and revisions to the website were taken after each round of testing to improve any significant issues.

Results

All participants had some knowledge of learning styles. Only two participants were only slightly familiar. Four out of nine participants had previously designed a website via web
site builders like Wix and Google sites. All participants expected to see information on the various learning styles and how to differentiate lessons based on the subtitle of the website “Learning Styles & Differentiation, A Resource for Teachers.”

The participants completed three main tasks. They were rated on a scale of one to three upon completing each task. A score of one meant the participant was unable to perform the task. A score of two meant the participant was able to perform the task, but with some challenges. A score of three meant the participant was able to successfully perform the task with no issues. The question for task one was, “You are beginning the school year and would like to first find out your students’ preferred learning styles. Where would you locate that information?” The data collected for task one is displayed in Figure 2. In each of the first two rounds there was one participant that was unable to complete task one. One of these users went to the learning styles tab and the other went to the about tab instead of the learning styles assessment tab (Figure 3). One user in round three also went to the about tab but then decided the learning styles tab was more appropriate. The other six users easily and quickly located this information.

![Usability Task 1](Figure 2. Usability Task 1)
For usability task two participants were asked, “You are planning a lesson and would like to incorporate learning strategies that match particular learning styles. Where would you find that information?” Every participant correctly located this information under the teaching strategies tab with no hesitation (Figure 4). Interestingly, many of the comments and suggested areas of improvement were related to this page which will be discussed later.
Usability task three asked participants to find out more information about learning styles (Figure 5).

This task presented the most challenges. Two users that struggled to complete this task chose the about tab and then, realizing there was a drop down menu, said they could find out more information by contacting the website designer directly or that they could click on the research button. Two additional participants that scored a two were not entirely sure where to click. They both chose the about tab and then moved on to the correct location. Figure 6 shows the choices made and the correct location for task 3.
Figure 6. Usability Task 3 Location

This issue led to significant changes to the site (Figure 7). The initial drop-down menu was removed and the about page reconstructed for clearer understanding.
Finally, participants were asked follow up questions and completed a post-study survey. They were asked to rate the overall ease of use on a scale of one to five, one being very difficult and five being very easy. All participants rated the ease of use as a four or five. Another important aspect of the post-study survey was rating the website for its overall effectiveness. Seven out of the nine participants rated the overall effectiveness as a five and only two rated it as a four (Figure 8). This was very encouraging since this website was designed to be an efficient, easy to use tool.

**Figure 7.** Changes to the About Page
Figure 8. Post-study Survey Responses

From these results the major changes made to the website were on the about page that were previously mentioned, removing the redundant menu on the home page, adding a search bar (Figure 9) and reorganizing the learning styles page to make the images clickable (Figures 10 and 11).
Figure 9. Homepage Changes
Figure 10. First Iteration of Learning Styles Page

First Iteration: Images not clickable.

User had to scroll down for information.
Discussion and Conclusions

The usability study process itself was invaluable. It gave the researcher a completely different perspective on the website content as what makes sense to the designer does not always make sense to the user. The most important lesson learned by the researcher in this usability testing process was the value of an organized, systematic way of improving, not just the website, but also the use and implementation of all educational technology tools. Usability studies offer great value to anyone wanting to improve a website, app or technology tool. It is strongly recommended to follow an organized manner in conducting the study along with recruiting objective participants for the most useful feedback.

The researcher found that this usability study was interesting to K-12 educators because learning students preferred learning styles can provide greater understanding of how to differentiate, thereby making instruction more engaging for each student. It was also discovered that home educators were very interested in the website content itself. They had some prior knowledge of learning styles but were eager to learn any information on how best to teach their children. Overall, the website was found to be useful to test participants. The information was received well by educators, however, some still shared that there is a lack of time to assess their students learning styles and then to differentiate.

The feedback gained from the participants led to significant changes in the website design and functionality. What makes sense to a web designer may not make the most sense to a user. The information and feedback gained was invaluable. The website
designer was asked to provide professional development sessions for teachers and information sessions for home educators by a few participants. Based on this feedback, future refinement of this site will take place beyond the scope of this usability study. The areas of focus will be to refine the teaching strategies page to include sample lesson plans that include specific strategies for each learning style and refining printable resources. Further refinement will include a more seamless way to navigate back from PDFs and looking into making the lightbulbs clickable on the homepage.
References


**Differentiated Instruction.** COLORADO STATE UNIVERSITY. Retrieved from http://gradworks.umi.com/33/85/3385161.html


Appendix A
OUTSIDEtheBOX Homepage

http://jls4486.wixsite.com/outsidethebox

http://jls4486.wixsite.com/outsidethebox/learning-styles
OUTSIDE the BOX

Learning Styles & Differentiation
A Resource for Teachers

Home | Learning Styles | Learning Styles Assessment | Teaching Strategies | About

Learning Styles
- Visual
- Auditory
- Kinesthetic

http://jls4486.wixsite.com/outsidethebox/differentiation

Learning Styles Assessment
Your preferred learning style is the way in which you learn best. Three learning styles that are often identified in students are visual, auditory and kinesthetic.

Administer this 5-minute assessment to identify your student’s preferred learning style and receive study tips for each.

http://jls4486.wixsite.com/outsidethebox/strategies
Welcome to OUTSIDEtheBOX!
This site was created as a result of research done on differentiating instruction. Differentiation is the buzz word in education. Educators are encouraged to considering students as individual learners and teach to each child accordingly. This site is intended to be a useful tool where educators can find useful information and resources to reach every student outside of the traditional box. Feel free to contact us with any inquiries.

http://jls4486.wixsite.com/outsidethebox/about
Recruitment Email
To: Email Recipients
From: Jennifer Smith jls44@hawaii.edu
Subject: Call for Research Participants

Aloha!
My name is Jennifer Smith and I am conducting a usability study for my Master’s project in Learning Design and Technology at the College of Education, University of Hawai‘i at Mānoa. The focus of my study is the ease of use of a teacher resource website on learning styles and differentiation for K-12 educators. In the usability study, I will ask participants to do several short tasks using the website. I will also ask several questions about navigating the website and for participant’s feedback. The approximate time of the session is 30-45 minutes.

As a K-12 educator I would like to invite you to participate in this research study. The usability study sessions will take place online with volunteers using their own computer and internet connection or at the University of Hawaii at Manoa using the researcher’s computer. All information will be kept strictly confidential. A report of the study will be available to study volunteers at the completion of the full study.

If you are interested in participating, please click on the link below to complete this short survey:
PRE-STUDY SURVEY
For more information please contact me directly at jls44@hawaii.edu.
Mahalo nui,
Jennifer Smith
808-782-4636
Appendix C
Pre-Study Survey

Aloha! Thank you for your interest in this research project. As part of the University of Hawaii’s MEd program in Learning Design and Technology a website has been created as a teacher resource for differentiation. The content of this website is focused on learning styles and appropriate teaching strategies to facilitate differentiation. Please fill out a short survey to ensure you meet the qualifying requirements to participate in the study.

In this survey, participants will complete questions about the technologies they use, Internet access and their teaching experiences. Your information will help improve the website. The anticipated duration of this survey is less than 10 minutes.

Your participation in this study is completely voluntary. And, you may withdraw from the survey at any time.

Thank you very much for your time and support.

* Required

1. Are you or have you been a K-12 or home educator? *
   Yes
   No

2. Are you available for a maximum of one hour from January to February to participate in the study? If selected, we will work with you to schedule a convenient time. *
   Yes
   No

3. Please select the statement that best applies to you. *
   I have access to a computer and internet connection and am able to participate in the study online through google hangouts.
   I prefer to meet with the researcher in person in at the University of Hawaii, Manoa to participate in the study.
   None of the above.

Mahalo for your interest in participating in the study. If you answered yes to the above questions please proceed to the next section.

If you answered no to any of the above, mahalo for your interest in the study. Unfortunately, you did not meet the minimum requirements to participate. Thank you again.

Demographics Information
4. What is your gender? *
Male          Female

5. Which category below includes your age? *
21-30           31-40           41-50           51 or over

6. What is your highest level of completed education? *
Some college credit        Associate's Degree
Bachelor's Degree          Master's Degree
Doctorate Degree

Technology Use
7. Please rate your level of computer skill? *
1                             2                             3                             4                             5
Extremely Poor

8. Please rate your level of confidence using the internet. *
1                             2                             3                             4                             5
Very unconfident

9. How often do you use the internet? *
Daily          Weekly
Occasionally              Never

10. How do you usually access the internet? *
Personal computer              Mobile device
                                Other:

11. Where do you usually access the internet?*
Home      Work
Other:

12. What do you do on the internet? Check all that apply.

Check all that apply.
Work          Email                  Social media                  Shopping
News          Entertainment              Research                  Other:
Appendix D
Consent to Participate

Consent to Participate in Research Project

Aloha! My name is Jennifer Smith, and I am a student at the University of Hawaii at Mānoa. I am conducting a research project as a component for a Master’s degree in Learning Design and Technology. The purpose of this usability study is to develop and evaluate the ease of use and effectiveness of a teacher resource website on learning styles and differentiation for K-12 educators.

You are being asked to participate in this research study because you are a previous or current K-12 or home educator for whom the website is being developed. Your participation in this study will help determine the changes to be implemented on the website to improve the user’s experience.

Participation will be completely online through a Google Hangout with the researcher using your own computer and internet connection or in person using a provided computer and internet connection at a mutually agreed location. If you participate, you will be asked to navigate through the website while being prompted by a series of scenario questions. These questions are intended to evaluate the ease of use and effectiveness of the website. You will be asked to share your thoughts out loud as you navigate the website, which will assist researchers in gaining further insights into the user experience. Your actions and verbal comments will be screen captured and recorded. Once all scenarios are completed, the researcher will ask follow up questions to gain your feedback.

You will be asked to complete an online demographic survey form prior to beginning the usability test, as well as a post-study survey after participating. The post-study survey is intended to gather your attitudinal feedback pertaining to the ease of use and effectiveness of the website as a whole. The entire usability study, including both surveys and interview, will last no more than 60 minutes.

Confidentiality and Privacy: The data taken from your participation in this study will be used solely for the purpose of this usability study. The data will be stored securely on a password protected computer. When the results of the research are reported, your name or any other personal information that would identify you will not be used. The recordings from this study will be transcribed to determine commonalities from all participants. Once the research is complete, all recordings will be destroyed.

Voluntary Participation: Participation in this research project is strictly voluntary. You are free to choose to participate or not to participate in this project. You may withdraw your permission or discontinue participation at any time without penalty.

Questions: If you have any questions regarding your participation in this research study, please contact me via email at jls44@hawaii.edu

You may also contact faculty advisor Curtis Ho at curtis@hawaii.edu. If you have any questions about your rights in this project, you can contact the University of
Hawaii, Human Studies Program, by phone at (808) 9565007 or by email at uhirb@hawaii.edu.

* Required

1. Please enter today’s date. *

   Example: December 15, 2012

2. Participant: I have read and understand the above information, and agree to participate in this usability study. I understand that I can change my mind about being in the project at any time by notifying the researcher. * Mark only one.

   Yes

   No

3. I understand that my verbal responses and screen activity will be recorded as I participate in this usability study. These audio recordings will only be accessed by the researcher and will be destroyed once the research is complete. * Mark only one.

   Yes

   No

4. Please input your Full Name. This will serve as a digital signature. *
Appendix E
Post-Study Survey

Please complete this survey based on your experience with this usability study. It is designed to gather information on overall satisfaction and feedback on the website. Please rate each statement based on the scale provided. Mahalo for your time.

Email address *
Valid email address
This form is collecting email addresses. Change settings

Section 2 of 7
Design Layout
Description (optional)

The home page layout is easy to understand. *

| Strongly disagree |  |  |  |  |  | Strongly agree |
|-------------------|---|---|---|---|---|
|                   | 1 | 2 | 3 | 4 | 5 |

The website is visually appealing. *

| Strongly disagree |  |  |  |  |  | Strongly agree |
|-------------------|---|---|---|---|---|
|                   | 1 | 2 | 3 | 4 | 5 |

The images are interesting. *

| Strongly disagree |  |  |  |  |  | Strongly agree |
|-------------------|---|---|---|---|---|
|                   | 1 | 2 | 3 | 4 | 5 |
The organization of the site is logical and easy to follow.

1  2  3  4  5
Strongly disagree  ○  ○  ○  ○  ○  Strongly agree

Section 3 of 7

Navigation

Description (optional)

The website is easy to navigate.

1  2  3  4  5
Strongly disagree  ○  ○  ○  ○  ○  Strongly agree

The number of links is reasonable.

1  2  3  4  5
Strongly disagree  ○  ○  ○  ○  ○  Strongly agree

The labels are clear and concise.

1  2  3  4  5
Strongly disagree  ○  ○  ○  ○  ○  Strongly agree

The links are consistent and easy to identify.

1  2  3  4  5
Strongly disagree  ○  ○  ○  ○  ○  Strongly agree
Ease of Use

The website is easy to use.*

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
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<tbody>
<tr>
<td></td>
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</tbody>
</table>

*Strongly disagree* | 〇 | 〇 | 〇 | 〇 | 〇 | *Strongly agree*

It is easy to find information on the website.*

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</table>

*Strongly disagree* | 〇 | 〇 | 〇 | 〇 | 〇 | *Strongly agree*

I was able to complete the tasks in the study easily.*

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<tr>
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</tbody>
</table>

*Strongly disagree* | 〇 | 〇 | 〇 | 〇 | 〇 | *Strongly agree*

All links worked properly.*

- Yes
- No

I easily returned back to the homepage.*

- Yes
- No

Effectiveness

The information on the website is useful.*

<table>
<thead>
<tr>
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</table>

*Strongly disagree* | 〇 | 〇 | 〇 | 〇 | 〇 | *Strongly agree*

The website is effective in providing information on learning styles and differentiation.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</tr>
</tbody>
</table>

*Strongly disagree* | 〇 | 〇 | 〇 | 〇 | 〇 | *Strongly agree*
Overall experience

Description (optional)

The layout is:*  
1 2 3 4 5
Very confusing  □ □ □ □ □  Very clear

Navigation is:*  
1 2 3 4 5
Very difficult  □ □ □ □ □  Very easy

Ease of use is:*  
1 2 3 4 5
Very difficult  □ □ □ □ □  Very easy

Effectiveness of the website is:*  
1 2 3 4 5
Not at all effective  □ □ □ □ □  Very effective

Comments

Description (optional)

Are there any features that are confusing to you? *  
Long answer text  ...........................................

What suggestions do you have to improve the website? *  
Long answer text  ...........................................
Appendix F

Usability Test Protocol
Jennifer Smith

Modified from Usability Script- Rocket Surgery Made Easy © 2010 Steve Krug

Technology Setup Checklist (Facilitator Computer)

1. Facilitator should set up his/her computer and attach all cords/peripherals - make sure to use a wired mouse
2. Plug in to a power outlet (don’t trust the battery)
3. Make sure computer is connected to the Internet if you are using online resources
4. Prepare screencasting software and do a brief test to ensure
   a. Video of screen is captured
   b. Video from webcam is captured
   c. Audio is captured

After computer is set up:

1. Open your website
2. Start the screencasting software

Facilitator Script

Hi, [insert participant’s name]. My name is Jenn, and I’m going to be walking you through this session today.

Before we begin, I have some information for you, and I’m going to read it to make sure that I cover everything.

I am asking K-12 educators to take a look at this website to conduct a usability test. I would like to see what you think of the site and how you think you would complete a few tasks. The session should take about 20 minutes.

The first thing I want to make clear right away is that we’re testing the usability of this site, not you. You can’t do anything wrong here.

As you complete the tasks, I’m going to ask you as much as possible to try to think out loud: to say what you’re looking at, what you’re trying to do, and what you’re thinking. This will be a big help to us.
Also, please don’t worry that you’re going to hurt our feelings. I am doing this to improve the design, so I need to hear your honest reactions.

If you have any questions as we go along, just ask them. I may not be able to answer them right away, since we’re interested in how people do when they don’t have someone who can help. But if you still have any questions when we’re done I’ll try to answer them then.

And if you need to take a break at any point, just let me know. Do you have any questions so far?

- Ask participant a few preliminary questions:

  1. Do you know anything about various learning styles, and if so, what knowledge do you have?
  2. What kinds of information might you expect to see on a website about learning styles and differentiation?

OK. Before we look at the site, I’d like to ask you just a few quick questions about your experience as an online student.

  1. Have you ever built or helped edit a website?
  2. If so, what program or software did you use?

OK, great. We’re done with the questions, and we can start testing out the site.

- Have participants do a narrative of the sites overall appearance for one or two minutes, at most:

  I’m going to ask you to look at this homepage and tell me what you make of it:

  - What strikes you about it
  - Whose site you think it is
  - What you can do here
  - What is it for
  - Just look around and do a little narrative. You can scroll around if you need to.

Thanks for doing that. You did a great job. Now I’m going to ask you to try doing some specific tasks. I’m going to read each one out loud. You should have received a copy of these before this study. Again, as much as possible, it will help us if you can try to think out loud as you go along.
Allow the user to proceed from one task to the next until you don’t feel like it’s producing any value or the user becomes very frustrated. Repeat for each task or until time runs out.

- Ask participant to complete a few specific tasks (be sure to give the participant a handout of the scenarios):

1. You are beginning the school year and would like to first find out your student’s preferred learning styles. Where would you locate that information?

2. You are planning a lesson and would like to incorporate learning strategies that match particular learning styles. Where would you find that information?

3. You would like to find out more information about learning styles. Where can you go to learn more?

Thanks, that was very helpful.

We are done with the main questions, but I have a few more general questions to ask you.

1. On a scale of 1 to 5, with 1 representing very difficult and 5 representing very easy, how would you rate your experience during today’s testing? Why?

2. After participating in this study, would you recommend this website to any of your friends? Why?

That’s the last question, Do you have any questions for me, now that we’re done?

I want to thank you for your time and willingness to be a participant in this study.

- Stop the screencasting software

After the Session:

1. Save screencast to your local computer
2. Quickly scrub through the video to ensure the integrity of the audio and video
3. After completing both sessions, upload the video to Google Drive
4. Set the sharing options for the videos to “anyone with the link”
5. Share the videos with your team
# Test Session Notes

<table>
<thead>
<tr>
<th>Tester #:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td></td>
</tr>
<tr>
<td>Time:</td>
<td></td>
</tr>
<tr>
<td>Location:</td>
<td></td>
</tr>
<tr>
<td>Video Length:</td>
<td></td>
</tr>
</tbody>
</table>

Notes: ________________________________________________________

____________________________________________________________

____________________________________________________________

Specific Issues:
1.  
2.  
3.  
4.  
5.  
6.  

Resolutions:
1.  
2.  
3.  
4.  
5.  
6.  
# Appendix H

## Test Session Issues Spreadsheet

<table>
<thead>
<tr>
<th>Type of issue</th>
<th>Description</th>
<th>Location</th>
<th>URL Link</th>
<th>Possible solution</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improper learning styles assessment</td>
<td>Edit so that you can see all of the checkboxes at the end of assessment.</td>
<td>Learning Styles Assessment</td>
<td><a href="https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW">https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW</a></td>
<td>Delete sections in Google Form to reorganize fields.</td>
<td>Done</td>
</tr>
<tr>
<td>How do teachers collect data from the learning styles assessment?</td>
<td>None. Both buttons in same location in form.</td>
<td>Learning Styles Assessment</td>
<td><a href="https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW">https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW</a></td>
<td>Change settings so teachers can mark first part only.</td>
<td>Done</td>
</tr>
<tr>
<td>Navigation menu and buttons</td>
<td>None. Both buttons in same location in form.</td>
<td>Home page</td>
<td><a href="https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW">https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW</a></td>
<td>Delete buttons on page to mark only one menu.</td>
<td>Done</td>
</tr>
<tr>
<td>assessment for who?</td>
<td>see the learning styles assessment for students or teachers? Both.</td>
<td>Learning Styles Assessment</td>
<td><a href="https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW">https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW</a></td>
<td>Mobile version more clear.</td>
<td>Done</td>
</tr>
<tr>
<td>Dropdown menu containing</td>
<td>Only page with dropdown menu is the about page. WAYS</td>
<td>About</td>
<td><a href="https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW">https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW</a></td>
<td>Delete dropdown menu.</td>
<td>Done</td>
</tr>
<tr>
<td>Include search bar</td>
<td>Include search bar in the menu area.</td>
<td>All pages</td>
<td><a href="https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW">https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW</a></td>
<td>None.</td>
<td>Done</td>
</tr>
<tr>
<td>Difficulty navigating back</td>
<td>when you click the teacher strategies document, LS assessment or the individual LS pages there is not a way to go back. Opens in a new tab.</td>
<td>All pages</td>
<td><a href="https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW">https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW</a></td>
<td>&quot;open back within page as dropdown menu?&quot;</td>
<td>Done</td>
</tr>
<tr>
<td>Difficulty printing teacher strategies printed</td>
<td>Inability to print.</td>
<td>Teaching Strategies</td>
<td><a href="https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW">https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW</a></td>
<td>Make more clear.</td>
<td>Done</td>
</tr>
<tr>
<td>Teacher strategies not very clear</td>
<td>None. Pop-up windows with information and a document you can print. Information needs to be spread.</td>
<td>Teaching Strategies</td>
<td><a href="https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW">https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW</a></td>
<td>Edit both document and image information.</td>
<td>Done</td>
</tr>
<tr>
<td>Teacher strategies page - site navigation clear or change browser</td>
<td>Inability to find teacher information.</td>
<td>Teaching Strategies</td>
<td><a href="https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW">https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW</a></td>
<td>Change timing on images.</td>
<td>Done</td>
</tr>
<tr>
<td>User is finding interesting information on learning styles</td>
<td>Links thought 'should be learning styles or about page instead of assessment page.</td>
<td>Learning Styles</td>
<td><a href="https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW">https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW</a></td>
<td>Make clear.</td>
<td>Done</td>
</tr>
<tr>
<td>Image on learning styles page</td>
<td>All images in page.</td>
<td>Learning Styles</td>
<td><a href="https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW">https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW</a></td>
<td>Make images clear with more information.</td>
<td>Done</td>
</tr>
<tr>
<td>User cannot find more information on learning styles</td>
<td>Users click on other learning styles page or about page.</td>
<td>Learning Styles</td>
<td><a href="https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW">https://docs.google.com/spreadsheets/d/e/2PACX-1vQyWkChain62ZQf7vV402NznaG0XgZvQsT3uTtViX1RdbILm3QJm3Q6n1s5wD9pKh2lidK-qVWz3r9mW</a></td>
<td>Make more clear.</td>
<td>Done</td>
</tr>
<tr>
<td>Include additional assessment items to include activities for each learning style</td>
<td>Teaching Strategies</td>
<td></td>
<td></td>
<td>Users suggested this. For future development.</td>
<td>Done</td>
</tr>
<tr>
<td>Can't make the light bullets distinctive as part of the menu?</td>
<td>None.</td>
<td>Home page</td>
<td></td>
<td>For future development.</td>
<td>Done</td>
</tr>
</tbody>
</table>

### Main Issues
- User cannot complete task or serious suggestions/concerns.
- User completed the task with issues or a concerning suggestion.
- User completed task easily with little frustration or had a minor suggestion.