Usability Test Methodology

User Goals

The goals of my user group are:

- Find information on topics of interest easily.
- Use site features (for example, drawing and coloring) efficiently and effectively without reading a manual or accessing Help.

Note: For the purpose of completing this study in the time allowed, it will be limited to the first user goal.

Method - Interview or Focus Group?

I was not sure which would be better for me to use - Interviews or a Focus Group. Based upon information in chapters 7 and 12, I created a matrix detailing the pros and cons of Interviews versus Focus Groups as they pertain to my project. In short, Interviews are a great way to get detailed information on many topics from individual users while Focus Groups cover fewer questions without a lot of depth from each participant. In an interview, the participant is not influenced by others as may be the case with a Focus Group. I keep vacillating between the Interview and the Focus Group – but I think Interviews would be better since I plan to use 'The Blank Page Technique' with paper prototyping as described by Brian Still and John Morris in their paper, *The Blank Page Technique: Reinvigorating Paper Prototyping in Usability Testing* (IEEE Transactions on Professional Communication, Vol. 53, No. 2 June 2010).

Interviews	Focus Group
Be clear about your objectives and the kind of data you are seeking … What user interactive designs or features will best attract my primary users to the site and keep their attention? What would my primary users hope to learn or do on the site? And, for what purpose would they come to the site?	
Detailed information **Need a lot of detail** **OK if have only a few participants**	**Multiple points of view in a short period of time** **Need data from several participants in a short period of time** **Want to cover only a few questions without a lot of depth from each participant** **Topics are not sensitive or likely to be influenced by the opinion of others**
Detailed information from individual users	Brainstorm – create synergy between participants – generation of ideas – bring up topics may not have thought of

Conduct with multiple user types to get a holistic view	Multiple points of view – user's impressions, likes and dislikes, opinions, priorities, etc. – in a shorter period of time
Spend more time understanding a single participants needs, etc.	Cannot spend as much time understanding each participants needs, etc.
Cover more topics than a focus group	Cover fewer topics than an interview
Do not have to worry about participants influencing each other	Need to worry about participants influencing each other
Can ask more questions	Can only ask a limited number of questions
	Great for determining what your audience wants, needs, and likes – in the abstract. They're good for testing whether the idea behind the site makes sense and your value proposition is attractive. And they can be a good way to test the names you're using for features of your site, and to find out how people feel about your competitors. The kinds of things you can learn from focus groups are the things you need to learn early on, *before* you begin designing the site. Focus groups are for EARLY in the process. *Don't Make Me Think*, p. 133

Selected Method - Interviews

Interviews will be conducted using a paper prototype and blank pages as described by Still and Morris in their paper, *The Blank Page Technique: Reinvigorating Paper Prototyping in Usability Testing*. Each participant will be asked to complete tasks with the prototype and answer both closed and open ended questions.

I plan to interview two participants. They will be given five tasks to complete with my paper prototype plus blank pages. After completion of each task, I will ask a couple of questions. There will be about ten questions total – mainly closed questions, but a couple of open ones too to get insight into other thoughts the participants may have.

According to Still and Morris, the completion of five tasks plus ten interview questions took participants about forty five minutes to one hour to complete. I envision that my test will have similar completion times.

Problem Statement

Are participants easily able to navigate to specific information? Do participants understand terms used and organization of the site?

Procedure - Paper Prototype with Blank Pages

To test my website pages I will use paper prototyping with the blank page technique as described by Brian Still and John Morris in their paper, *The Blank Page Technique: Reinvigorating Paper Prototyping in*

Usability Testing. This technique is useful because in addition to gathering information about the navigation and organization of a website, it also gains insight into the participant's mental model for site pages not developed.

The website will be constructed as a scenario paper prototype (Dumas, 73). Paths that lead to target pages for each scenario will be complete. However, all other functionality including Search and Help, will not be complete. One piece of paper will correspond to one web page. Participants will work with the prototype one at a time.

To carry out each scenario the participant will work with the prototype in the following way –

Developed pages:

- To click, they will point to the chosen link.
- To type, they will write on the paper (Snyder) in the appropriate input area.

Undeveloped pages:

Undeveloped pages will have the message: "This page has not been developed. Please use the blank sheet provided to fill in what you expected to find here." When participants encounter this page, I will give them a blank piece of paper and ask them to draw or write what they would expect to see on that page. At this time, participants will be encouraged to verbalize any thoughts so that I can learn more about their mental models.

After the participant finishes each task, I will ask relevant closed end and open end questions while the task is still fresh. Open ended questions will ask about satisfaction.

Goal for my Website

Users will be able to find the correct menu choice with no more than two wrong choices the first time they use it (Dumas, 112).

Data Collection

Both qualitative and quantitative data will be collected:

- Number of wrong menu choices
- Frustration
- Blank pages – Function participant chose and content user envisioned
- Answers to Closed and Open End Questions
- Demographic Information

Time to complete tasks will not be measured. This is because the test will be done using a paper prototype with blank pages, which is far removed from what the actual system will be (Dumas, 194).

Interpreting the Data

Setting the criteria for performance measures means finding the level at which users will say that the product is easy to use (Dumas, 196). Since this is a brand new application, my estimate is only a guess. I would say that participants will make one or two wrong menu choices when they try to do a task.

I would expect that the participants will want to use the Search function; I hope the application is easy enough to use that they will not need to use Help. I would expect the participants to use the Search function at least once (at which time they will be handed a blank piece of paper to fill in) and the Help function not at all during the test.

Scenarios and Tasks

The main purpose of my usability test is to elicit usability information from participants about the navigation, terms, and organization in relation to the features of my website. I will ask the participants to complete the following tasks using the paper prototype described above (under the heading, Paper Prototype with Blank Pages). For purposes of this test, the participants will be required to find the page with the task, not actually do the task.

I chose the following tasks because I am concerned about the understandability of the icons, the navigation flow, and the tabbed categories across the bottom of the screen.

In constructing the scenarios and tasks, I have tried to follow the advice given by Dumas and Redish. They advise that tasks should flow in the order users would normally do them (169) and be worded in the user's terms but not too closely to the application (174). They also advise that enough information be given in order to do the task, and in order to know when the task is complete (175).

Table of Scenarios and Tasks

	Scenario	Task
1	In your Anatomy and Physiology class the other night, the professor described blood flow in the canine heart, but you are not sure you got all the details correct.	Use the website to find the discussion of blood flow in the heart.
2	Now that you've read the discussion of blood flow, you would like to look at the animated diagram.	Use the website to find the animated diagram of blood flow in the heart.
3	In your Anatomy Lab, you dissected the heart. You find that you retain your anatomy better if you draw and label your own diagrams.	Use the website to find diagrams of the heart that you can color and label.
4	Recently at the veterinary hospital where you work, the veterinarian told you the dog you are restraining for examination has congestive heart failure.	Use the website to find information on congestive heart failure.
5	You want to test your knowledge of the heart.	Use the website to find review questions on the heart.

Scenarios from the original list not included:

	Scenario	Task
	In your Anatomy and Physiology class the other night, the professor talked about the orientation of the heart in the dog.	Use the website to find the discussion on the heart's position in the body.
	You have come across some terms you are not sure how to pronounce. DO NOT DO – tests the glossary button which is pretty standard.	Use the website to find the pronunciation of the term 'hemopoiesis'.
	To help integrate what you are learning in Anatomy and Physiology class with that in Histology class, you would like to view the heart from the outside down to the cellular level.	Use the website to find the section where you can look at the heart from the outside view down to the microscopic view.

Interview Questions

I would like to get the participants reactions to the features presented in my prototype. To do so, I plan to give the participants one task at a time and ask a couple of questions when the task is complete to get an immediate reaction to the task (Dumas, 181 – 182).

I plan to follow the guidelines given in Chapter 8 for structuring closed ended questions. I think better data will be attained if the majority of questions I ask are ranking and rating scale type questions. In addition, I think it would be beneficial to ask a few open ended questions to allow the participant to voice ideas or concerns that were not covered by the closed questions.

Below is a list of questions from my status reports – I will select ten of them, or perhaps come up with new ones:

Closed end interview questions I may ask include:

In general, how much confidence do you have in online anatomy and physiology learning sites? Scale from 'Not at all Confident' to 'Very Confident'

Would you consider using an online anatomy and physiology learning site that you must pay for? Scale from 'Definitely No' to 'Definitely Yes'

How important is it for each major section of a learning site to include learning goals? Scale from 'Not at all important' to 'Very Important'.

How important is it for each major section of a learning site to include terms you must know beforehand? Scale from 'Not at all important' to 'Very Important'.

How important is it for the site to provide an audio pronunciation guide for terms? Scale from 'Not at all important' to 'Very Important'.

Which features are most important to be included? Amazing Facts, Applied Science, Clinical Applications, Case Studies, None of the above

Which type of visual aid do you find most helpful (for qualitative information)? Choices to include things like labeled diagrams, animated diagrams, photographs, videos …

Rate preference for style of graphic from most preferred to least preferred: Very simple diagrams (black and white) to complex diagrams (multi-color)

How important is it that audio be integrated with visual aids? Scale from 'Not at all important' to 'Very Important'.

How important is it that visual aids accompany text? Scale from 'Not at all important' to 'Very Important'.

Rate preference for type of visual aid from most preferred to least preferred: Static labeled diagram, animated labeled diagram, labeled photograph, video

Select all items, in addition to Anatomy and Physiology concepts, that you think are important to be included. Choices include Links to Professional Associations, Links to trade magazines, links to health pages in newspapers.

How important is it to be able to zoom in and zoom out through layers of the body from the skin level down to the histological layer? Scale from 'Not at all important' to 'Very Important'.

How important is it to be able to rotate the figure? Scale from 'Not at all important' to 'Very Important'.

How important is it that quizzes are included? Scale from 'Not at all important' to 'Very Important'.

What form of quiz do you prefer? Rate each from most preferred to least preferred. Scale from 'Not at all important' to 'Very Important'. Game, Fill in the Blank, Which Item does NOT Belong to Group, Multiple Choice, Essay, Matching

How important is it that you can download the quiz as a MS Word document or PDF? Scale from 'Not at all important' to 'Very Important'.

How important is it that drawing and coloring tools be provided along with diagrams? Scale from 'Not at all important' to 'Very Important'.

Which would you prefer; the ability to label diagrams yourself by typing in a text box (where there is NOT a spell checker), or by typing in a predefined box with spell checking?

How important is it that print functionality be provided? Scale from 'Not at all important' to 'Very Important'.

How important is it that the learning site be associated with a printed document such as a text book? Scale from 'Not at all important' to 'Very Important'.

If you wanted to learn about topic X, what would be the first, second and third places you would look? Place a 1, 2, or 3 next to each choice - System Menu topics, Search, Help, other (NOTE: this question may be asked two or three times, each requesting that a different type of information be found.)

To be included as well are questions that ask about navigation and topic structure preferences. Also, preferences for tabs and menus for topic selection.

I wanted to ask some open ended questions; but if necessary, they could be converted to closed end questions:

What is the biggest challenge you face when studying for an anatomy and physiology exam? Follow up with, What would make that part of your gaining an understanding easier?

How do you typically approach the material when given a new anatomy and physiology topic to learn?

Give examples of how you studied for your last anatomy and physiology exam.

Give an example of an anatomy and physiology tool (other than a text book) you used recently.

Do you find the design to be aesthetically pleasing? Yes, No, not sure

Follow up - If no or not sure, why?

Do you find the color pallet to be pleasing? Yes, No, not sure

Follow up - If no or not sure, why?

Do you find the terminology used on the site to be appropriate? Yes, No, not sure

Follow up - If no or not sure, why?

Follow up – What terminology would you use?

Do you find the organization of topics to be appropriate? Yes, No, not sure

Follow up - If no or not sure, why?

Follow up – What change(s) would you make to the organization?

Is the list of anatomy and physiology topics complete? Yes, No, not sure

If no or not sure, what is missing?

Do you find the navigation to be understandable?

Follow up - If no or not sure, why?

Are there features not on this website that you would like included?

References

Dumas, Joseph S. and Janice C. Redish. *A Practical Guide to Usability Testing*. Revised Ed. Oregon: Intellect Books, 1999. Print.

Morris, John and Brian Still. *The Blank Page Technique: Reinvigorating Paper Prototyping in Usability Testing.* IEEE Transactions on Professional Communication, Vol. 53, No. 2 June 2010. Print.

Snyder, C. *Paper Prototyping: The Fast and Easy Way to Design and Refine User Interfaces*. London,UK: Morgan Kaufmann, 2003. eBook.