**Introduction**

After running multiple tests on my How to Build an Edible Model of a D.N.A strand published on Wiki How, I drew some really interesting and helpful results. The hope is anyone ranging from a student interested or forced to learn about D.N.A to a parent committed to showing their child a different perspective on D.N.A will be interested in my Wiki How. The purpose behind my usability test which was a performance based test was to get a good grasp on how effective my instruction set really was. The test was designed to allow the user to run the test in its entirety, constantly thinking out loud throughout the process, and to generate as much feedback as they possibly can in order to help me improve any aspect of the site as possible. Some general conclusions I drew from both running the test and feedback provided to me was to be clearer in the beginning portion of my instructions, as well as to include another image to help the user get off on the right foot. More specifically, all users I tested had the same common mistake in wrongly attaching the first toothpick to both ends of each twizzler. The instructions provided on how to complete that task come very early in the instruction set and messing that up messes up the entire molecule as a whole. Being that my article was designed to respond to an already existing request on Wiki How, using the results and feedback generated from my user tests to improve my site as much as possible is extremely important to assure the future success of anyone interested in using my Wiki How Instruction set.

**Objective: Goals For Usability test**

The goals behind the performance tests that I ran was to get a good understanding of how effective my instructions set really was as mentioned above. More specifically, I wanted to see if my instruction set was organized properly and that one step didn’t have to be before another for example. Tips and warnings are a huge part of my instruction set and assuring that they were placed in the right areas was a huge goal when running the tests. I included a couple pictures on my Wiki How to try to help the user better understand the instructions provided. I felt when making the instruction set that the pictures would be the most helpful tool when trying to build the molecule. For that reason, the biggest goal in running my usability test was to assess exactly how effective and helpful my pictures were.

Furthermore, after running the first test in class, I set a couple new goals for the next test I intended to run. The first goal I set for the next test was to make sure I ran the test on two people at once. More specifically, I ran the test on both my sister and dad at the same time. The purpose behind this was to see if my instruction set would be more effective when having a team work on the molecule or if having a team work on it would just cause more confusion. A sub goal when observing that test that really wasn’t much of a goal in the first test I ran was to actually see through both observation and feedback if this project would be a fun and educational family activity because that’s one of the main purposes behind building the molecule.

Through both observation and also feedback provided to me by the users, I feel as if I met every goal I had set for the tests. They’re feedback provided to me helped reshape my site making it much more effective and user-friendly which I will be getting into in much more detail later on.

**Method: Test Procedure and Audience**

Making an Edible Model of a D.N.A strand is intended to be both an educational and also family type activity. With that being said, the audience I had in mind was a student interested in biology as well as one of my parents and sister or brother running the test at the same time to mimic how a family would build the molecule. In class I ran the test on Gianluca, who is a sports science major making him a prime target for my usability test. At home I ran the test on both my sister and father at the same time which gave me all the input I needed to better my Wiki How to make it more family friendly.

I’ve mentioned all throughout this memo that I ran a **performance** test. You might have been wondering what exactly a **performance** test is? According to our book Technical Communications a performance test is described as following, “To test a draft’s effectiveness at helping its readers perform a procedure, you could simply give the draft to your test readers and watch them use it”(Anderson 382). Since building the D.N.A molecule is not a very time consuming and also hands on activity, having both groups of users run a full on performance test was the best way for me to objectively record all the problems and positive things that occurred during both tests. I had my users run the test as a whole and did not split it into different tasks because I felt that splitting it into tasks would make the user anticipate where different trouble shooting might occur through wording of the task or multiple other reasons. That would defeat the purpose of the test and leave me right back where I started. However, simply sitting back and observing them build the molecule gave me all the input I needed as to where exactly their troubles occurred.

My usability test consisted of a quick introduction, some back ground questions, the purpose behind the test I was running as well as the duration of the test, having the user actually run the test, and finally a set of follow up questions after having completed the task. The introduction was a short explanation of the test they will be running as well as some background questions to assess their knowledge level on the subject. This was just simply for me to see how much knowledge they actually needed on D.N.A if any at all to build the molecule.

Furthermore, I followed that up with a pretty detailed description of the procedure including the purpose behind the test, the type of test they will be running and most importantly emphasizing that they think out loud and generate as much feedback as possible. I get a little repetitive in my script in emphasizing that they must think out loud and that they can do no wrong because that is the main goal that I want to get across in the purpose section of my script. After explaining how long the test should take, I have the user run the test in its entirety as I sit back and take notes. After they complete the task I have a set of follow up questions I ask them to complete. The follow up questions are mainly intended to give me specific feedback that I’m looking for from the test that the user might not have given me from their reactions or comments throughout the test.

The script designed as well as the type of test I had the user run, I believe was very effective in generating the results I needed. The earlier portion of the script such as the introduction and procedure let the reader know exactly what is expected of them as well as assuring them they can do no wrong. In accomplishing that, the users I tested freely and frequently gave me great and helpful input throughout the entire process making the performance tests a huge success. I must add when running the test on my father and sister I made it clear to them that their feedback is what’s most important and not whether or not my site looks like it will receive an A to eliminate any family type bias. Overall, the script and design of the test gave me extremely reliable and helpful results needed to make the right changes to my Wiki How which will be discussed in detail in the upcoming sections.

 **Results and Discussion**

The most significant finding from running the performance tests I ran was the initial confusion both groups of users encountered in trying to complete the first real challenging part of building the molecule. Both groups of users I tested struggled in understanding how to properly attach the first toothpick from one end of a twizzler to the other. My father and sister struggled with it for a few minutes and after trial and error where able to properly attach. However, Gianluca attached it wrong and then proceeded to attach all the other toothpicks in the exact same way which highlights the significance and importance of this step. By messing that step up, the molecule as a whole was messed up. This observation, made me realize I need to be a lot more clear in describing that step and that maybe a longer description as well as another picture might be needed. Assuring that that step is as clear as possible became my main concern and goal in revising my Wiki How.

Another significant finding when running the Usability Test was the confusion by both users on the steps that required them to attach the final two toothpicks after having already attached the top and bottom portion of it. This occurred for two main reasons which where uncertainty in where these toothpicks need to go exactly as well as not knowing exactly how they needed to attach them. Getting this part right is extremely important because attaching those two toothpicks properly is what makes the twizzlers twist around and form the double helix shape that is crucial in understanding exactly how a D.N.A looks. My plan in correcting that problem was to add a couple more arrows and heading in the picture I already have posted on Wiki How as well as to point out that attaching those toothpicks is exactly the same procedure that they did when attaching the top and bottom one.

**Conclusion**

The tests as a whole where a huge in giving me all the input I needed to make the proper changes to my Wiki How. Correcting and improving my Wiki How through the feedback I received to make it as clear and user friendly as possible was the biggest accomplishment that I got from running the tests. Prior to running the tests I felt I already had a good enough Wiki How to help people successfully build the model as well as have it be a learning tool. However, after running the tests I realized that some key parts needed a little revising and changing to make it be as effective an instruction set as possible. Through the feedback provided to me I will be making all the changes needed to make my Wiki How which will ensure that anyone using my Wiki How to build the model will have an easy going and pleasant time in doing so that way the focus is what it needs to be on and that is having the model be a learning tool and not a struggle to build it.

Citation: Anderson, Paul V. (2013-03-19). Technical Communication (Page 382). Cengage Textbook. Kindle Edition.