

Multimedia Design Project Assessment (MDPA) Report

Product URL: <http://amonettscience.weebly.com/>

Analysis

As I designed this project, I took into account many things. My main considerations were who I was designing this for and what I hoped for the students to accomplish through the completion of the WebQuest. My students are seventh graders who are reading on the equivalent of a 6th-8th grade reading level. I do not have any students who are English Language Learners (ELL) or Students with Disabilities (SWD). This project could be modified to fit the needs of those students after looking at their individual needs. My students have access to 1:1 computers with Internet access and by the time this lesson would be implemented (late-September), the students would feel comfortable using the computers and addressing common technical issues such as Internet connectivity, charging, and use of basic productivity tools such as Microsoft Word.

Due to the students being comfortable with the technology, I chose to have the students complete this WebQuest individually with the opportunity of seeking help from the teacher or peers when needed. I planned this lesson to last four to five days with the students having approximately 45 minutes to work on the WebQuest each day after class discussion and reviews. Although I think this lesson would take less time by the end of the school year, I feel that students tend to take more time to complete computer-based projects the beginning of the year because they have not had that level of freedom in sixth grade. In terms of teacher proficiency with technology, it is important for the teacher to not be afraid to try things, even if they fail. There is not a digital product associated with this WebQuest due to time, but it would make a nice addition to the final product if time allows. For this to happen, the teacher should be prepared to help guide students who are unsure how to create certain products. I feel comfortable in the classroom with many Web 2.0 tools and I am willing to research and learn about a new tool if a student is interested in it and needs assistance.

The learning objectives for this lesson are as follows:

- Students will create a functioning Dichotomous Key.
 - GPS S7L1. a. Demonstrate the process for the development of a dichotomous key.

- Students will explore the differences in the species of fish to group them and determine why scientists classified them the way they did.
 - GPS S7L1. Students will investigate the diversity of living organisms and how they can be compared scientifically.
 - b. Classify organisms based on physical characteristics using a dichotomous key of the six kingdom system
- Students will research the species of fish and record observational notes.
 - ISTE 3. Research and information fluency: Students apply digital tools to gather, evaluate, and use information.
- Students will think critically to problem-solve through the creation of the Dichotomous Key and create a solution.
 - ISTE 4. Critical thinking, problem solving, and decision-making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

Design

Overview

As I worked to design this WebQuest I first thought about what content I wanted my students to know, and which topic would lend itself to have students work independently with little teacher guidance. I chose the topic of Dichotomous Keys because it is a skill specifically stated in the state standards and is one that would lend itself to users requiring texts, video, audio, and images to fully understand how they work and how to create one on their own. I chose to have the students take notes in order to stay organized and that would guide them when they began the actual creation process for their Dichotomous Key.

I used vocabulary and tone that would engage the students, but be easily understood for any middle school reading level. I also provided video or audio recording when there was a large amount of text that might be difficult to follow or understand for a struggling reader. The links I chose to have the students used to gain information on the fish were organized well and fit smoothly with the Observational Notes page I provided so they could gain the information I felt was important to know before beginning. The images of the fish were chosen because they were detailed images that clearly showed the markings of the fish which was needed for the assignment. These were also the same images found on the informational links provided so the student could easily identify which fish they were researching. The video selected to show the students how to work through a Dichotomous Key was selected because I felt it was easy to understand and provided clear visuals and explanations that they could refer back to at any point during the process. The creator of the video was obviously a middle school teacher and used language that was understandable to the average middle school student.

Resources:

- Georgia Aquarium Animal Guide. (2015). Retrieved from <https://www.georgiaaquarium.org/animal-guide/georgia-aquarium/home/galleries/river-scout/gallery-animals/freshwater-drum>
- Georgia Department of Natural Resources Wildlife Resources Division. (2015). Retrieved from <http://www.georgiawildlife.com/Fishing/Identification>
- Green Sunfish Wikipedia. (2015). Retrieved from https://en.wikipedia.org/wiki/Green_sunfish
- How to Use Dichotomous Keys. (2014, August). Retrieved from <https://youtu.be/xW07zOQUPBs>
- Northern Hogsucker Wikipedia. (2015). Retrieved from https://en.wikipedia.org/wiki/Northern_hogsucker
- Rock Bass Wikipedia. (2015). Retrieved from https://en.wikipedia.org/wiki/Rock_bass

Details

In the design of this project, students were given multiple representations of the same content through text or audio. This correlates with the Universal Design principle 1, provide options for perception. The Learning about Dichotomous Keys page of the WebQuest demonstrates UD principle 3 where the students can learn through text, video, images, as well as practicing using a Dichotomous Key on their own. Having multiple ways to help students comprehend the information is important when they are working independently. An additional UD principle I relied on in the design of this project was principle 4, providing options for physical action, specifically navigation. Keeping in mind the way a middle school student thinks and looks for consistency, I provided two options of navigation throughout the WebQuest. The students can use the menu across the top of the screen to move from page to page, or use the buttons at the bottom of each page that direct them to the next page so they do not have to do additional scrolling or searching for what comes next.

This is an individual assignment that is designed to be completed at school so that students have access to the teacher or other students if they need assistance. I included video and audio segments to engage the students and draw attention to important descriptions and pieces of information. If a student with a disability were to be completing this project they can rely on either the text or the audio provided depending upon their disability. Other adaptive or assistive technologies could also be integrated with ease to help students produce the final product. This may mean that the student needs to create a paper product, a digital product, or even a recording of themselves explaining what they would do or what they have learned.

Development

This project was developed over the course of one week. I first looked through my resources on the topic so I would have a starting point. The examples of Dichotomous Keys and directions for how to create one are things that I have used previously with my students and have adjusted after each use to make them the most effective. I chose examples that have been of student interest and easy to understand.

I used Weebly as the host site for the WebQuest because I have become comfortable using and adjusting websites through my use of it in the ITEC program. I also structured the WebQuest similarly to the way I do my course assignments and modules on the LMS that I use in my classroom. For the reflection component of the WebQuest I chose a Google Form because I like the simplicity of the form and ease of embedding it directly on the page. The results in an Excel file is also an added bonus for a busy teacher.

I chose to develop the WebQuest by working backwards. I began with the product or task and evaluation rubric, and then created the process, introduction, and conclusion.

Aside from the documents and images that I already had, I worked to create a video for the introduction using iMovie and uploaded it to the Internet via YouTube. I have used iMovie before, but I did give myself a quick refresher using my husband who uses it quite frequently. I also recorded and edited audio for some of the text using Audacity and then uploaded it via Podomatic. Once everything was placed where I wanted on the pages, I went back and adjusted font size, color, and added images to fill empty space in a way that drew attention to appropriate areas complimented the content. The final step was publishing the WebQuest, seeking feedback from my peers, making adjustments, and verifying that links were active and documents loaded properly.

Implementation

This is a WebQuest that I plan to implement this fall in my life science classes. My students have access to computers that travel with them throughout the day and Wi-Fi that provides Internet access anywhere in the building. I would not have to rearrange my schedule or find additional devices to implement this activity. I plan to use this lesson in my Classification unit after lessons on scientific classification and the levels of classification (kingdom, phylum, genus, etc.). Students are asked to identify scientific names in the project so it is important that they are familiar with this concept before beginning or the teacher will need to provide a mini-lesson on this topic as it is assumed that students already know about it in the WebQuest.

A normal class schedule is suitable for this activity and it is intended to take four or five days depending on the level of comfort your students have with

technology and the WebQuest format. My class periods last for 55 minutes and I will give approximately 45 minutes a day to work on the WebQuest with the remaining 10 minutes devoted to class discussion and questions. I plan to implement this activity in late September so I have budgeted a little extra time because I know the sixth grade teachers in my school do not use as much technology in their classrooms so the students will need time to explore before they begin seriously working on their project. I will serve as a facilitator in the classroom while they are working by floating around the room to monitor work and answer any content or technology related questions. This might include how to save and upload work depending on the levels of the students.

On the Teacher Resource page of the WebQuest I have included suggestions for differentiation and modifications. There is a rubric for assessing the Dichotomous Key as well as templates for the students to use electronically or can be printed out for student to write on.

Evaluation

Student Learning –

To assess student learning I will be evaluating the Dichotomous Keys that are created using the rubric provided. I will be looking at accuracy, content, and the observational notes they recorded for the process of creation. In addition to the Dichotomous Key the students will also complete a reflection piece at the end where they explain what they learned and how they felt it went. This will be turned in on our LMS as they submit their final product. I will also be assessing informally throughout the lesson and provide tips and tricks as I see fit.

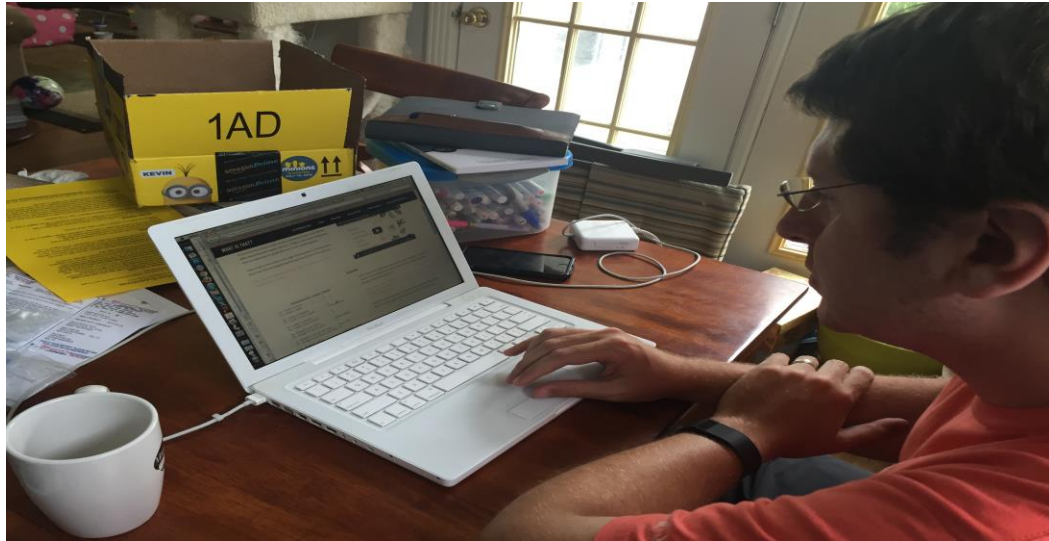
Product Design –

To determine the quality of product design and usability I will take observational notes and have discussions with the students each day they are working on it. I have also included a reflection component on the Conclusion page that will provide more feedback on what the students felt went well and what they would change for future use.

Due to it being summer, I had my husband, who is also in the ITEC ED.S program, conduct a usability test for the WebQuest. I had him work through the entire WebQuest as a student and provide feedback as to what worked well and what he would change in the future. In addition to this I also posted my link on the class discussion page and received feedback from three of my classmates.

When school begins I plan to have a few of my students from last year test out the WebQuest and provide feedback on if the task is clear and the information is presently in a manner that they can understand and follow.

Here is a picture of my husband working through a usability test:



Reflection

In the development of this project I was able to use several of the skills and tools I have learned not only in this course, but also in my other courses as part of the KSU ITEC Specialists program. I used my knowledge of Weebly and was able to create my own webpage, which is my first time using this site other than my eportfolio. I have created numerous pages in my LMS course, but it utilizes a slightly different structure and building process. I enjoyed being able to go back and apply my knowledge about things such as how to embed audio and video files on the webpage. I had not used Audacity prior to this course and found the simplicity it offers for recording and editing audio perfect for not only my use, but also student use. I look forward to using that in the future as it is a free downloadable program. In terms of building the WebQuest I liked my process of creating each page with proper navigation first and then going back to add the content. I will use this process in the future.

The instructional design of using a WebQuest is not one that I have utilized previously. Although I was aware of WebQuests, I had never created one myself or used one with students. I relied heavily on the WebQuest review that we did at the beginning of the semester to influence my opinion of what makes a good WebQuest as well as what made a not so good WebQuest. This knowledge coupled with looking at those of peers has helped me envision what I thought a good WebQuest might contain and look like. I also used my knowledge of design elements to make the pages look visually appealing to middle school students.

The creation of this WebQuest involved more work than I originally anticipated. Due to my constant use of a LMS and the amount of modules I create on a regular basis for both students and staff, I thought I would finish this project within a few days of working for a minimal amount of time. It turns out that it in fact took much more than that and in reality I have put forth countless hours developing and tweaking material to get things just the way I wanted. This has reminded me that I should be mindful when I ask or expect others, staff or students, to create something that is new to them. While it may seem like a simple task to take an assignment that already exists and turn it in to a WebQuest, it is in fact a much more robust task.

For others beginning this project, I would advise them to be realistic in their planning. If you are planning to design a learning experience from scratch, allow yourself more than enough time to plan, design, and then execute your ideas. If you do like I did and take an old assignment and enhance it, still provide yourself more time to create it. If you are teaching while you are working on this project, seek help and advice from your coworkers and students. They often know about tools or have ideas that we may not have considered on our own.