

Multimedia Design Project (MDPA) Report Template

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

Analysis

Learner Analysis

This project is intended for a co-taught, high school mathematics class. The students in this class are largely middle to low income and represent a mix of Caucasian, Black, Hispanic, and Asian cultures. The students have had very little previous experience in mathematics that is related to the real world. This project will provide students with an authentic, real-world learning experience which will help guide decisions they make about their education and career goals. I will name my WebQuest "Life's a Peach – Or Not," to illustrate how the financial and career choices we make determine our lifestyle and security.

Context Analysis

The project spans 3 days in a class of approximately 35 students. Since this is a block class of 90 minutes, the students have 4.5 hours in class to work on the project. The teacher will reserve the media center for 3 days. It houses 40 student computers with Internet access and Microsoft Office tools. The students will use Microsoft Excel to chart their expenses. They will use Microsoft Word to type their narratives. The computers also have Don Johnston "Read Outloud" and "Write Outloud" software which will assist students with learning disabilities in language. An introductory audio is embedded in the WebQuest. Headphones with microphones will be provided for students needing this accommodation. They will be available to all students who wish to use them when viewing and listening to the video and audio elements.

This WebQuest is a co-taught lesson between a 11th grade math teacher and the media specialist. The math teacher is very proficient in the content standards and teaching pedagogy for mathematics, but not as savvy with technology. The media specialist is a good complement as she is very adept with using computer software and Internet research and also with coaching teachers on technology integration.

Standards

CCGPS Standards for Mathematics

- MMFN1 – Students will use fractions, percent, and ratios to solve problems related to stock transactions, credit cards, taxes, budgets, automobile purchases, fuel economy, Social Security, Medicare, retirement planning, checking and saving accounts and other related finance applications.
- MMFA1 – Students will use basic functions to solve and model problems related to stock transactions, banking and credit, employment and taxes, rent and mortgages, retirement planning, and other related finance applications.
- MMFA2 - Students will understand the characteristics of these functions as they relate to financial situations.
- MMFA3 – Students will use formulas to investigate investments in banking and retirement planning.
- MMFG2 – Students will apply distance formula
- MMFD2 – Students will use data displays including bar graphs, line graphs, stock bar charts, candlestick charts, box and whisker plots, stem and leaf plots, circle graphs, and scatterplots to recognize and interpret trends related to the stock market, retirement planning, insurance, car purchasing, and home rental or ownership.

ISTE Standards

- 1a - Apply existing knowledge to generate new ideas, products, or processes
- 2d – Contribute to project teams to produce original works or solve problems
- 3a – Plan strategies to guide inquiry
- 3b – Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media
- 3c – Evaluate and select information sources and digital tools based on the appropriateness of the task
- 3d – Process data and report results
- 4a – Identify and define authentic problems and significant questions for investigation
- 4b – Plan and manage activities to develop a solution or complete project
- 4c – Collect and analyze data to identify solutions and/or make informed decisions
- 5a – Advocate and practice safe, legal, and responsible use of information and technology

- 5b – Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity
- 6a – Understand and use technology systems
- 6b – Select and use applications effectively and productively
- 6d – Transfer current knowledge to learning of new technologies

Task Analysis

Learning Objectives

- Students will know what expenses to expect as an adult and how to estimate cost of living expenses
- Students will know how to enter information in a spreadsheet and construct a budget based on the parameters of their income, family size, debt ratio, and city of residence
- Students will know how to modify their budgets based on unexpected events that may impact their financial situation
- Students will know how to justify the choices they make to maintain a secure household
- Students will know how to work effectively in pairs to simulate a family income and build negotiating skills

Design

Overview

This WebQuest is designed for upper high school classrooms to explore real world financial mathematics. Based on my own experience at that age, and the observations of students I work with, I have concluded that most students do not have any concept of money management when they graduate. Many students rack up tremendous debt right out of high school. This project, in addition to giving them the opportunity to practice real-life math, will give them a sharp dose of reality and the knowledge they need to recognize how impulsive financial decisions may have long-term effects on their lives.

Not being a math teacher, I was worried about finding content standards to support my WebQuest, but the CCGPS for Mathematics has detailed standards on the Mathematics of Finance which lends credence to my plan. The ISTE standards support this project in many ways as well.

The lesson will begin in the classroom. The media specialist will go over the personal monthly spreadsheet using an interactive white board to illustrate how students will enter projected and actual costs onto the spreadsheet. She will also demonstrate how to get to the link to the WebQuest through the teacher's webpage.

She will give students a checklist detailing each step of the process so they can easily pick up where they left off the day before and make sure they don't miss any steps. Last, students will be allowed to choose their partners. The class will then move to the media center to begin the WebQuest.

I selected Wikispaces initially to host my WebQuest because this platform is so interactive. However, when finished I was not pleased with the appearance or functionality so I moved everything over to Weebly.

Tasks

The hook for my introduction is a YouTube video "[Introduction to Financial Literacy 101](#)" which is an engaging look at 2 students with very different lifestyle and financial security outcomes based on the financial decisions they made during and after high school. This video appeals to the age group and has some very good information and scenarios to which students should relate. Next, the students will work in pairs, simulating 2-income families, to complete a series of 16 steps to develop their Personal Monthly Budgets. Some steps require them to search the internet for answers. Some steps recommend sites or financial calculators, but students are free to find their own. Along the way they will acquire this knowledge:

- How to use a spreadsheet
- How to calculate their taxes
- How to buy and finance a house
- How to budget for groceries, debt repayment, and insurance
- How to select and finance a car
- How to select and pay for child care
- How to select phone plans
- How to make adjustments to their budgets based on "wild card" events
- How to best present their strategies and discoveries to their peers
- How to evaluate what they have learned in a written reflection

The WebQuest will end with another YouTube video about investing. That video is titled "[The Financial Rap](#)" and it presents information in an age-appropriate way about investing. This is a good way to encourage students to scaffold on what they learned in their WebQuest in order to explore further financial strategies.

Details

In order to make this WebQuest accessible to as many people as possible I differentiated as much as possible. I attempted to embed audio of the text on each page, but Weebly does not support audio without a professional membership. I did manage to create an audio in Movie Maker Live which I was able to embed on the introduction page with an avatar. I felt it would negatively affect my WebQuest design to have an avatar on each page and that it was not necessary. All students

with reading and writing disabilities at my school have access to Don Johnston "Read Outloud" and "Write Outloud" software which will read any internet site or document to the student. It will also help them with their written reports. These students can install this software on their personal computers as well.

The WebQuest incorporates a colorful web design and repeated graphics to add interest and continuity to the navigation. In addition to the tabs at the top of each page, I added links to each next step at the bottom of each page to facilitate and provide alternative navigation methods. I highlighted all instructions requiring students to make an entry in their spreadsheets in red to make them stand out. Last, I created a checklist for the students to help keep them organized from day to day.

The multimedia mentioned under the "Tasks" section is incorporated at the beginning and end of the WebQuest in order to engage students and introduce or expand the concepts they are exploring. The assignment is also differentiated by allowing students to work in pairs without regard to gender. They will be allowed to choose their partners. They will be evaluated both on their group work and their individual reflections.

Development

I began thinking about my WebQuest early in the semester, but only began actually putting it together a few weeks ago. Since I am a media specialist, I knew I would have to find a cooperating teacher, so I chose a project based on a lesson my Honors U.S. History teacher does each year which really engages the students and provides an authentic learning task. I was not able to get in touch with her, so I developed my own WebQuest to share with her this fall. I believe it follows hers pretty closely.

When I began my web design, I initially chose Wikispaces because it is so interactive, allowing students to post and edit each other's work. However, once my WebQuest was set up I thought it was very unappealing visually. The navigation was not as smooth as I would like, and I didn't need the interactive features after all. I tested it with my daughter's college-age boyfriend and he found many difficulties. I spent several hours moving the WebQuest to Weebly, and was very happy with the result. It is much more attractive and easily navigated now.

I incorporated several digital tools into the WebQuest. I tried to put audio on each page, but Weebly does not support audio, so I was forced to drop that after the Introduction page. I used YouTube for videos, Microsoft Excel for my spreadsheet template, Word for my supporting documents, and Movie Maker Live to create the Introduction Page audio and the webcam video on the Conclusion Page. Being familiar with Weebly, I had no issues uploading, linking or embedding media. I did, however, have an issue with my webcam video in selecting the thumbnail to display.

The feedback I got from my peers on the discussion pages and again in our synchronized session was very helpful. Everyone agreed it was a good move to switch from Wikispaces to Weebly.

Implementation

I implemented this project with my son (age 16) and his friend (age 15). One is an honors student and the other takes general education classes at my school. Neither of them had issues understanding their tasks or navigating the site. One of them did find a broken link and one of them had trouble with the groceries task. I fixed the link and reworded the groceries task step. The students liked the videos I had chosen. My son was embarrassed by my audio avatar, but he is pretty much embarrassed by my presence in school overall, so I paid no attention to that criticism.

I had originally planned to implement this WebQuest with my Honors U.S. History teacher whose idea I borrowed, but coincidentally just got an email from one of my business teachers wanting to know what kind of financial resources we have in our media center. I answered her questions and sent her the link to my WebQuest to see if she would like to collaborate. If those two options fail, we have a money management math class that I feel confident would like to take advantage of my WebQuest. In a collaborative project like this, as the media specialist I would go to the teacher's classroom and, using his projector and/or interactive white board, introduce the spreadsheet and website used. I would also serve as support. The classroom teacher would be responsible for content instruction and assessments. Once the students are in the media center working on the WebQuest, both the teacher and I will move around the class offering assistance as needed and looking for teachable moments. The WebQuest will last 3 days in the media center followed by 2 days for group presentations.

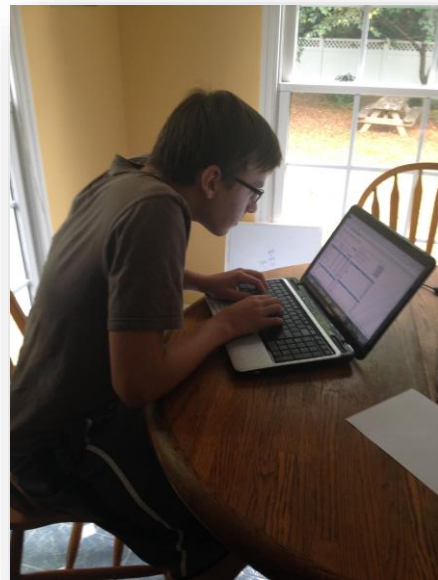
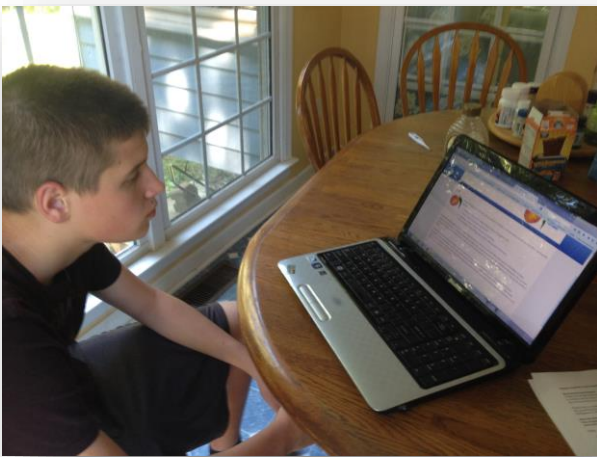
Evaluation

Student Learning

Students are assessed on 2 rubrics: a formative rubric to assess group work, and a summative rubric for content knowledge assessment. In the summative assessment students will be assessed on 2 products: an oral group project and a written reflection. A component of the written reflection will be peer-evaluation.

Product Design

I got a lot of feedback on this project from peers, a college student, and 2 teenagers in the targeted grades. I took notes of all of their comments and indications of confusion on the “Sample Usability Test for WebQuest” and made alterations to improve my WebQuest based on their feedback, including moving the whole project to a new platform. They all seemed to enjoy the videos and final general appearance. I feel confident that my WebQuest is well designed, easily navigated, easily understood, and differentiated.



Reflection

Project Development

I learned that despite its reputation as a very interactive site, Wikispaces just doesn't do a lot of things as well as some other online tools. For a WebQuest, it is not a good platform to use. Weebly, however, is a very sleek and intuitive website builder which was perfect for making a WebQuest. The only issue I had with Weebly was embedding audio, and it was too late to find another platform by the time I realized that. The audio button is there right above YouTube. Having had no issues with YouTube, it did not occur to me that audio wouldn't work until I tried using it. I'm not sure I will do things a lot differently when I plan another WebQuest. I've seen my peers' WebQuests and they were almost all done on Weebly and are outstanding. One thing I found out from my peers is that having navigation tabs on

the left side is only possible if you choose a template with that layout. I might make that change next time as I feel that has become almost a standard in web design. This process has been so intense, I think I have a great system that works.

Instructional Design

The WebQuest structure provides a scaffolding platform for student-centered, collaborative learning. Links are embedded to help learners locate important information which they have to apply to their own simulated real-life situation. This WebQuest provides an authentic, transformative experience where students have to assume an adult role, balancing income and expenditures. Knowledge is transformed as students learn to think of the content math knowledge they have and discover its relationship to the paths they choose in their lives. Students do not just learn to use financial web tools and then make calculations and fill in the blanks. They have to react to new developments, re-evaluate, and devise new strategies as their simulated situation changes. Last, they have to present what they have learned and also reflect on the experience of working with a partner and how this experience extended their content knowledge and affected their future life choices.

Personal Growth

Through this experience I learned a way to tackle a tough subject and find ways to become a technology facilitator with the math department. As the computer lab and media center schedule manager, I know math teachers rarely take advantage of computer resources. Developing a student-based learning project I can present to them has made me feel more confident in reaching out to this department to find partners for collaboration.

I also learned to choose my platform carefully. I had used Wikispaces in a project last spring and knew it to be a bit cumbersome in some ways and flexible in others. This experience has deepened my understanding of the applications of different types of web platforms that can host a project.

My frustration level throughout all the courses I have taken for this degree has been in not having a classroom of my own. I am constantly having to find ways to collaborate. This is a good thing in many ways. Although I frequently panic that I will not be able to come up with something relevant to present to my teachers or that I will seem pushy, I have gained confidence from repeatedly being able to succeed in my classes and in collaborating with my teachers. I definitely feel like this project has been a learning experience for me that will make me a better instructional technology coach.

For Others

I suggest to other teachers who want to design their own WebQuest to know what you want your students to do before you choose a platform, then choose that platform carefully. Be very precise in your instructions unless you want your students to constantly be raising their hands for directions. Most importantly, get as many people to review your site as possible and make adjustments based on their recommendations. The Usability Test was a valuable tool which I will use again in the future. Make sure this is not just a fact-finding quest. Students need some sort of authentic transformation of their knowledge which will help embed what they learned in their long-term memory.