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GAME-BASED LEARNING RESOURCE WEBSITE

Gerald J. Phillips

A Major Project

Submitted to the Graduate College of Bowling Green State University

in partial fulfillment of

the requirements for the degree of

MASTER OF EDUCATION

Spring 2015

Committee:

Dr. Fei Gao, Chair/Project Advisor

Dr. Donna Trautman

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Abstract

Dr. Fei Gao, Chair

Dr. Donna Trautman, Advisor

Motivation is a huge factor in the success of students at all ages, especially in this fast-paced technological world we live in. So - what motivates people to learn? Better yet, what, plain and simply, motivates people? Digital and non-digital games have a strong grasp on the attention of people across the world. They provide competition and mental stimulation that many people just cannot find in reality. Games engage players in unique problem solving situations, let them explore and satisfy curiosity, and connect players around the world who other wise would never meet. Every achievement offers a reward and increase in status and gratification for the player. Research shows that utilizing these game-based trends as an educational tool will help educators increase student motivation to learn and create an enhanced environment for learning to occur. The Game-Based Learning Resource site will provide a central location for links, resources, community collaboration, and up-to-date research, for any educator interested in taking advantage of game-based learning.

Acknowledgements

I would like to thank my commitee chair, Dr. Fei Gao, as well as Dr. Donna Trautman, for their help and patience with me throughout this entire process. I would also like to thank the following teachers at Clyde High School who took the time out of their busy schedule to evaluate my project: Jackie Miller, Mike Martin, Wayne Strudthoff, and Tyler Tea.

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SECTION I: BACKGROUND AND GOAL

Statement of the Project and Background Information

Game-based learning is the theory of utilizing games as a source for intense focus on a subject, resulting in increased knowledge retention and over student success. This includes *gamification* of projects and teaching methods to improve overall student participation and achievement. It can be used to add an extra spark to traditional in-class projects for a digital or non-digital gaming experience that increases student excitement and participation. Game-based learning can take place through the use of interactive media, such as Xbox, Playstation, and online math games, that provide a digital world for learning to occur.

Gamification is the art of adding the principles of games such as badges, point-scoring, leaderboards, and other characterisitics of games that make the experience challenging but rewarding for every minor accomplishment. Gamifying projects and instruction gives students clear and rewarding goals that are fun to achieve.

The use of game-based learning in high school classrooms is an interesting area of research potential. Some experts say that game-based learning can improve scores on tests over traditional teaching strategies, while others say it does not provide any significant difference in scores. Game-based learning can be expensive and time-consuming to creating these games, and gaps exist between educational experts and the experts in game development which causes issues in productivity in the field of game-based learning.

Statement of the Problem

The goal of the project is to develop a working website to function as a resource for game-based learning. There is not a significant number of resource websites or central location of links to available educational games for educators to access. Game-based learning tools have their own unique abilities to deliver content information and desireable educational outcomes. In

addition, the website will contain informational pages that define game-based learning and gamification, as well as their benefits in education and links to supporting documentation.

As it stands, there is not enough supporting evidence that says game-based learning is a *more* effective way of delivering information. Research shows in many cases that the use of games as a learning tool does not allow for any substantial improvements in learning over traditional methods, however, in many cases it does show improvements in testing scores and retention of the material learned. Additionally, gamification of traditional classroom lessons may show an increase in student interest and participation, thus increasing the amount knowledge gained and retained. It is my hope that anyone interested in adding game-based lessons to their curriculum can utilize this website as a resource of knowledge for game-based learning.

Proposed Objectives

- Create a functioning website that serves as a resource for Game-Based learning for schools in all areas of study.
- Links to other sites that have online games available, as well as options to submit links for websites with educational games.
- Console game examples and their educational values
- Description of game-based learning
- Information regarding the benefits of game-based learning
- Information on gamification and how to apply it to a traditional lesson

Identification and Description of Resources

- A functioning resource website
- Links directly to other resources available as well to educational games

Definition of Terms

- Game-Based learning (GBL) is the theory of utilizing games as a source for

intense focus on a subject, resulting in increased knowledge retention and overall student success. This includes *gamification* of projects and teaching methods to improve overall student participation and achievement. It can be used to add an extra spark to traditional in-class projects for a digital or non-digital gaming experience that increases student excitement and participation. Digital Game-based learning can take place through the use of interactive media, such as Xbox, Playstation, and online math games, that provide a digital world for learning to occur.

- Digital Game-Based Learning (DGBL) Digital game-based learning is a research field within the context of technology-enhanced learning that has attracted significant research interest (Panoutsopoulos, pg 15, 2012). It is the similar to the above GBL definition but is specific to digitally created games, rather than including *gamification.*
- Gamification: "is a much newer concept than game-based learning. It is about using 'elements' derived from video-game design, which are then deployed in a variety of contexts, rather than about using individual video games" (Perrotta, 2013). It is the art of adding the principles of games such as badges, scoring points, leaderboards, and other characterisitics of games that make the experience challenging but rewarding for every minor accomplishment. Gamifying projects and instruction gives students clear and rewarding goals that are fun to achieve.
- Scaffolding In education, refers to a variety of instructional techniques used to move students progressively toward stronger understanding and, ultimately, greater independence in the learning process (Hidden curriculum 2014).

Literature Review

The literature will cover the supporting research behind Game-Based Learning (GBL) and Digital Game-Based Learning (DGBL) including specific case studies, methods of implementation, and benefits that students can receive from it as well as motivation to learn. Although many of the studies show no statistically significant improvement in the learning outcomes from GBLs over traditional instruction styles, all studies that included an assessment on participants perception of learning outcomes and their motivation to learn showed significant increase in their motivation to learn and their overall enjoyment in the lessons and classrooms.

”The engagement and motivation that games offer alongside with their potential to provide concrete learning experiences has attracted significant research interest with regard to the integration of commercial games into formal educational settings as well as the development and use of specially-designed educational games” (Panoutsopoulos, pg 15, 2012).

Studies have shown that the use of Game-Based Learning (GBL) methods have increased student success, including a research study conducted in a Taiwan History class (Kuan-Cheng, 2012). The study shows with statistical significance that the use of interactive DGBL experiences increased learning and retention in the studied population. In addition, another study investigated the same concept that DGBL experiences could enhance the learning motivation in a group of students. While there were no statistically significant results in increasing the overall learning, the group that was introduced to DGBL in the Civics and Society classes had shown significantly increased motivation in learning, and an overall enhanced classroom atmosphere that was conducive to increasing problem-solving skill development (Yang, 2012).

One of the main issues with integrating DGBL strategies in the classroom is the ability to align the game experience with the intended educational outcome while avoiding as much distraction as possible. “Thus, selecting an appropriate pedagogical approach for framing the

game-supported educational activities is considered as highly important" (Panoutsopoulos, pg 18, 2012). Because of the difficulty of aligning the games with a prticular lesson, it is important to choose a game experience that will fit this pedagogical mind-set. Many commercial games are not designed intentionally for an overall educational experience, but rather for entertainment purposes that attract the broadest possible audience.

In another study, researchers found that there is another siginificant area of interest and research related to the integration of GBLs. Researchers from the University of Haifa, in Haifa, Israel, conducted a study on the student's perception of their intended learning outcomes while playing a business simulation game. The authors incorporated three groups: "study and play," "play and study," and "play only," with the first two recieving a supplemental *scaffolding* lessons on the intended problem-solving skill development in addition to the game-based method (Barzilai, 2014). This information is relative to this project because it includes information on another strategy that could be implemented to help educators who are interested in integrating GBLs in their classroom and can be included on the resource website.

Perhaps the most important factor in integrating GBLs in the classroom is their undeniable ability to capture attention and motivation from the players. "One strength of educational games stems from their potential to increase students' motivation and engagement during educational tasks" (Jackson, 2013). Jackson and McNamara, through Arizona State University, conducted a test to determine if a game-based version of an instructional method would be preferred over a traditional method, and whether or not either method would show a siginificant increase in learning outcomes. Based on their test results, Jackson and McNamara found that the game-based version of the lesson was signifcantly preferred over the traditional method by the participating students (Jackson, 2013). While neither method provided a significant increase in the intended learning outcomes, the game-

based model significantly increased student's motivation to complete the lessons.

SECTION II: PROCEDURES

The GBL Resource website was created using the free web design tool Weebly. It includes all of the following information and was created using the theories and design strategies studied throughout the Learning Design coursework.

Investigation (Development) Procedure

The website creator used a free web design and hosting application called Weebly. The site was designed keeping in mind all of the criteria, theories, and design elements that have been learned throughout the course of the Learning Design degree. The resource website includes: Home, About, Definition, Game Links, Research page, Discussion, and a Contacts page. A web-like design structure was implemented so that all of the major information can be found easily from any location on the site. This allows for a free-flow thought process, where users can follow their personal interest twhile navigating the site rather than be directed. Please see Appendix A for screenshots of each page.

- **"Home":**
  - Welcome statement and introduction to GBL
  - Relevant Picture and Background
    - May attract the user and keep interest but will not deter from intended learning outcomes
  - Home page will be simple and attractive to the user
  - "Next Page" button for the option of a directed site navigation
- **"About":**
  - Defines what the site is about
  - Embedded screencast that serves as an alternate method of content delivery for the page's information

        - A section about the developer's background and accomplishments

- **"Define":**
    - Embedded videos for differentiated content delivery to viewers
    - Define "GBL"
        - Digital, non-digital
    - Define "Gamification"
        - Definition
        - Badges, point scoring, rewards, achievements
        - Provide examples of "gamification" of a traditional lesson
- **"Links to Games":**
    - Links page contains hyperlinks to readily-available online games
    - Links are seperated based on Subject:
        - Math
        - Reading/writing/english
        - Science
        - Engineering
        - History
- **"Research":**
    - This page will include references to expert research that support the theories behind GBL integration
    - Will allow for users with a deeper interest to have quick and easy access to relevant research material regarding GBL
- **"Discussion":**
    - A discussion board for community collaboration

- **“Contacts”:**
  - The project creator's information is available for contact purposes through email

Timeline and Schedule of Activities

- Project will be completed by the end of the semester that the Project is due.
- Outline (approx. Sept. 14th, 2014)
- Proposal Draft (approx. Oct. 19th, 2014)
- Proposal Edits and Revisions (constant)
- Final Draft Due (November 10, 2014)
- Defense Date (Late November or Early Decemeber)
- First Draft of Final Report (March 15th, 2015)
- First Draft of Project Website (March 15th, 2015)
- Final Defense Date (Mid-April, 2015)

Budget

There is no budget required for this project, as all information used to complete the website is attained through coursework, and database and internet research studies. In addition, the website itself will be created using the free online web design tool called Weebly.

Method to Evaluate Objectives

The Game-Based Learning Resource Website was evaluated by a panel of 4 experts in the fields of learning design and education. Each panel member had a rubric that was created to evaluate the intended outcomes of this project. After review, evaluation, and recommendations, the website will be published to the web to be utilized as a resource for game-based learning.

SECTION III: DESCRIPTION/METHODOLOGY/DEVELOPMENT

Restatement of the Problem

There is not a significant number of resource websites or central location of links to available educational games for educators to access all in one stop. Game-based learning tools have their own unique abilities to deliver content information and desireable educational outcomes, as well as create a fun and effective environment for learning. The goal of this project is to create a resource website where educators can visit and find any resource they may need to implement game-based learning strategies in their classrooms.

As it stands, there is not enough supporting evidence that says game-based learning is a *more* effective way of *delivering* information. Research shows in many cases that the use of games as a learning tool does not allow for any statistically significant improvements in learning over traditional methods, however, in many cases it does show improvements in testing scores and increased retention of the material learned. Additionally, gamification of traditional classroom lessons shows an increase in student interest and participation, thus increasing the amount knowledge gained and retained over time.

To address this difficulty in finding a central location for substantial and reliable information, the researcher developed a working website that functions as a resource center for game-based learning. It contains informational pages that define game-based learning and gamification, links to supporting documentation, a collaborative forum for communication in the community, and the ability to input suggestions to the creator. The goal for this project is that anyone interested in adding game-based lessons to their curriculum can utilize this website as a resource of knowledge for game-based learning.

Website Design

Website Link: http://game-basedlearnin.weebly.com/

The website was designed using the free online creation tool Weebly.

Development Process Review

The free website development tool Weebly was used to create the Game-Based Learning Resource center. Weebly made everything simple, from designing the layout and structure of the site to including all of the information needed. Creating a site with common fonts and color schemes across each page can be tedious and frustrating, but Weebly made this a simple process as well. It even creates a mobile version of the website that can be viewed on any cell phone. One thing I found interesting is the fact that Weebly is free, however they offer a "premium" version for a small price. The premium version allows the designers to include an easy to use store for viewers to make purchases, drops the "Weebly" title from the URL, has a header slideshow, HD video and audio players, password-protected pages, membership, personalized *favorites* icon, site searches, SSL Security, and Google Advertising credit. There was hardly any difficulty in using the tool other than the small learning curve that needed to take place to develop it.

After reviewing the theories and practices on website development and content inclusion, the creator chose several images that added slight humor and meaning to each section. Images were chosen to help categorize the sections of games as well as to provide a visual stimuli when visiting each page within the website.

The "Home" page was kept quite simple and only stated a summation of the content of the entire site. This simplicity provides a welcoming page and reassures the viewer that they are viewing the site they intended to.

The "About" page contains a brief description of what this site contains. The description is followed by a short screencast video that the creator captured and streamed through YouTube.

It gives the viewer a virtual tour of the website and allows them to see what is on each page briefly with a bit more detail than the text description. This screencast was included to provide an alternative to reading the text. Also on this page, the creator included a short description of himself so that interested readers can get a better sense of the qualifications he has and a personal connection.

Definitions of the common terms used throughout the resource website were included on the "Definition" page. This is to allow for readers to get a better understanding of what the content is about before reading too deeply into it. Initially, the creator embedded a YouTube video of a TedTalks production about "gamification." TedTalks are well known and well respected conventions for modern knowledge and innovations. Additionally, a second video is embedded lower on the page that further describes game-based learning and gamification, as well as how to begin implementing it.

Next is the link to the section titled "Game Links," which is a collection of online games with educational value. Each link has been tested for validity and categorized based on subject area. Each subject area is defined with a title of that subject and an image that is related to the subject in some way. More links will be included once they have been found and tested for educational value.

After "Game Links" is a tab to take the viewers to the "Gamification" section. Here, viewers can learn more specifically about gamification and how to implement it into their classroom. Several examples of phone applications and websites are given, as well as examples of curriculum that demonstrate game-based learning principals. This page is a bit cluttered and can be organized a bit further using subheadings to categorize the different types of examples that there are.

The next page is dedicated to the "Research" behind GBL. On this page, viewers will find a general summary of the standings of research in GBL. It contains several references to scholarly articles that have been published to research databases as well as links to professional websites that continuously update information on GBL and gamification and how it is currently being used. At the bottom of the page is a list of a few the references to some of the articles that were used to include specific information for the site, as well as some other articles that users might find interesting. There are many articles and sites about GBL, these are just a few that were analyzed to develop the proposal and the final project.

"Discussion" boards are typically included on a site like this to help engage the viewers in a collaborative way. Here, viewers can comment and post in different threads and even create their own. Other viewers can learn from other people who have thoughts and ideas about the topics on the site.

Finally, there is the "Contact" page, where viewers can submit suggestions, thoughts, ideas, criticisms, and other comments via e-mail directly to me. They can fill out the form and click the *submit* button to send it. This is all that was included on the page in order to simplify it and organize the site's content better.

Development Analysis

After analyzing the initial designs and the content of the page the creator made several edits and changes to content. Some pages lacked substantial information while others contained too much and did not follow the design guidelines. The "Research" tab was the most difficult to \perfect because of the depth of information, however the literature review of this document presented viable solutions to the issue. Also, the "Gamification" section required much more time and evaluation to categorize each example provided. There are many examples of

curriculum and available applications to aid in gamifying a classroom, and no way to evaluate them all in the given time period. More will be added to the site if there is an increase in interest from viewers. Lastly, the "Contact" page contained too much content on the initial design and build, so another page titled "Discussion" was dedicated to the discussion board to help relieve the amount of content on one particular page.

SECTION IV: RESULTS/EVALUATIONS/RECOMMENDATIONS

Expert Evaluation Results

To get an outside point of view and evaluation on this project, I decided to allow four of my fellow colleagues, teachers at Clyde High School, to have access to the website and grade it using the rubric I provided. See Appendix B for the full rubric that was used. The evaluators were allowed to remain anonymous on the rubrics to allow for a more accurate review on their behalf.

According to Mr. Mike Martin, retiring Health and Physical Education teacher at Clyde High School, "The information presented on Game-Based Learning is very intriguing." Mr. Martin stated further, "if we can incorporate games into our curriculum, the students would be more willing to do assignments that are assigned."

The evaulators commonly gave a score of 4 out of 4 for Navigation, Spelling and Grammar, and Content. All four of the evalutators commonly gave a score of 3 out of 4 for both Graphics and Background. Finally it was a mix between a score of 3 out of 4 and 4 out of 4 for Learning of the Material and Fonts. An average score based on the rubrics provided gives the Project a Final score of **3.72 out of 4**. See Appendix C for specific scores.

Fulfillment of Objectives

All objectives have been met that the designer initially sought out to accomplish. Deadlines were met at a fairly consistent basis with only minor complications and delays throughout the entire process.

Recommendations

It is recommended that the designer continue to perform updates to the site and add more content as it becomes available. Some examples include more links to educational games, new research provided on game-based learning, and continue participating in the discussion board

section of the website as it all becomes available.

For future studies, it is recommended that researchers dig more into the incorporation of commercial games into the classroom. Using games that are popular with students in the classroom could create a more relatedable lesson for them to understand. There are varying methods for which these games could be implemented, but more research is needed to determine each methods‘ effectiveness.

In addition, it is recommended that researchers continue to add supporting or refuting evidence for game-based learning to add more depth to research database on the topic.

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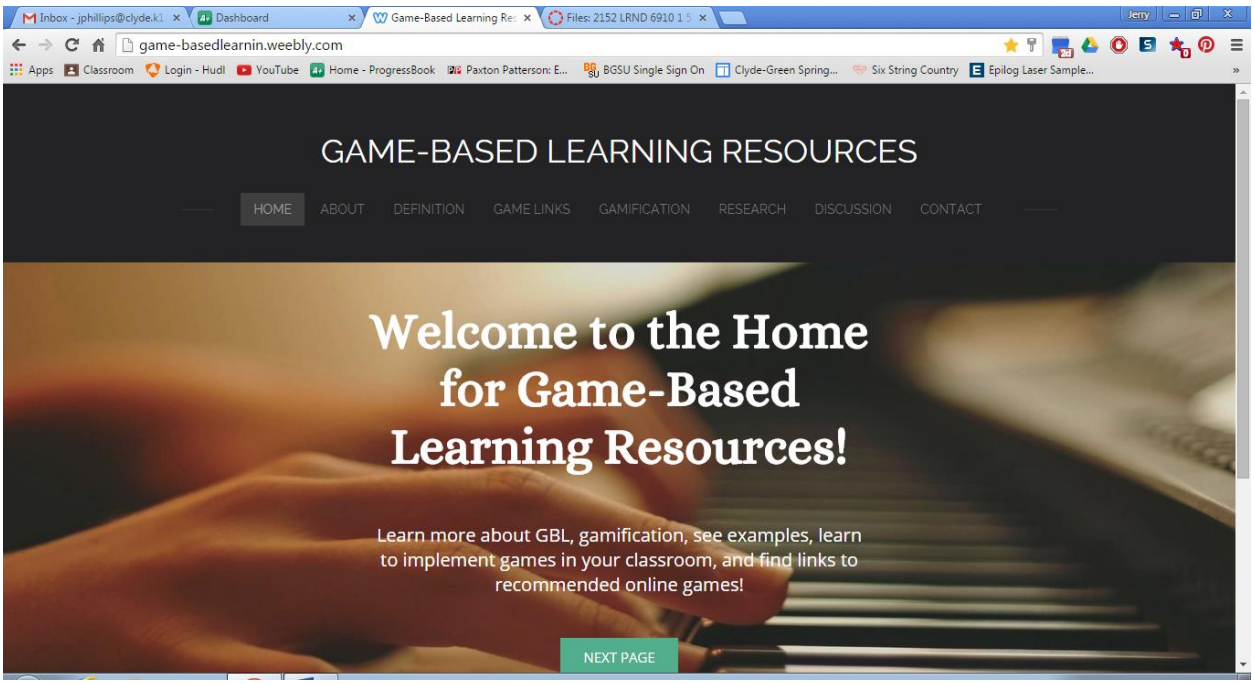
APPENDIX A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Dashboard
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game-basedlearnin.weebly.com
Apps
Classroom
Login - Hudl
YouTube
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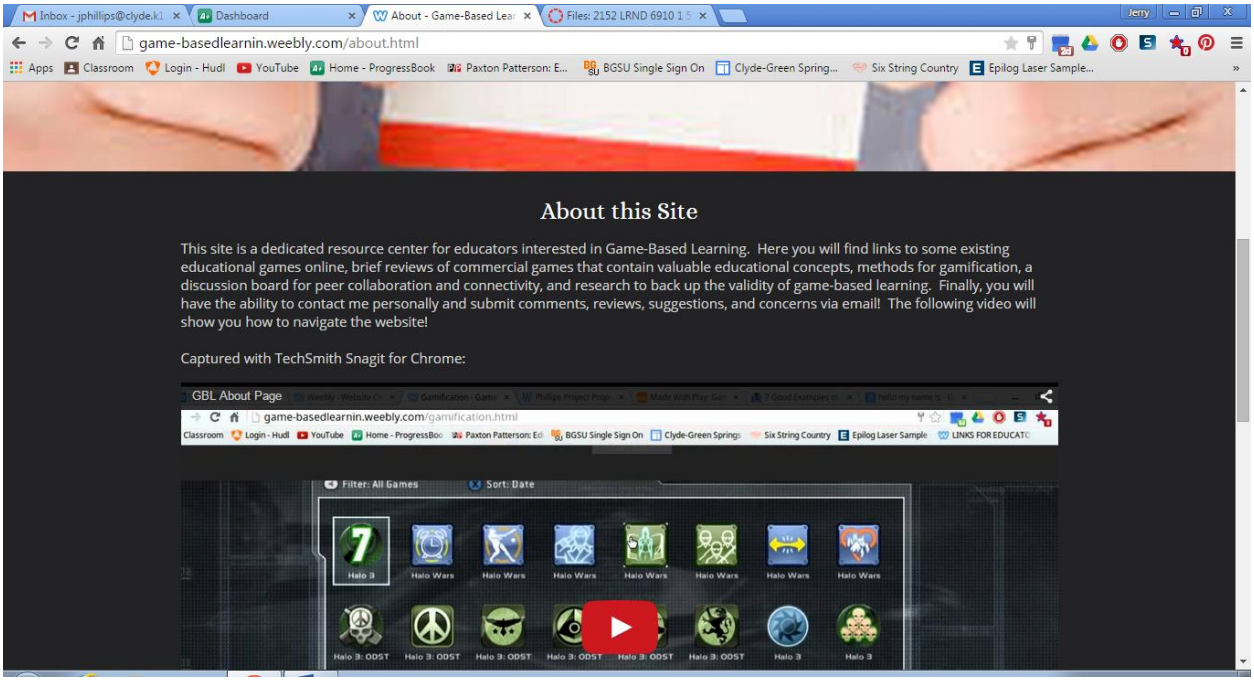
Paxton Patterson: E...
BGSU Single Sign On
Clyde-Green Spring...
Six String Country
Epilog Laser Sample...
GAME-BASED LEARNING RESOURCES
HOME
ABOUT
DEFINITION
GAME LINKS
GAMIFICATION
RESEARCH
DISCUSSION
CONTACT
Welcome to the Home for Game-Based Learning Resources!
Learn more about GBL, gamification, see examples, learn to implement games in your classroom, and find links to recommended online games!
NEXT PAGE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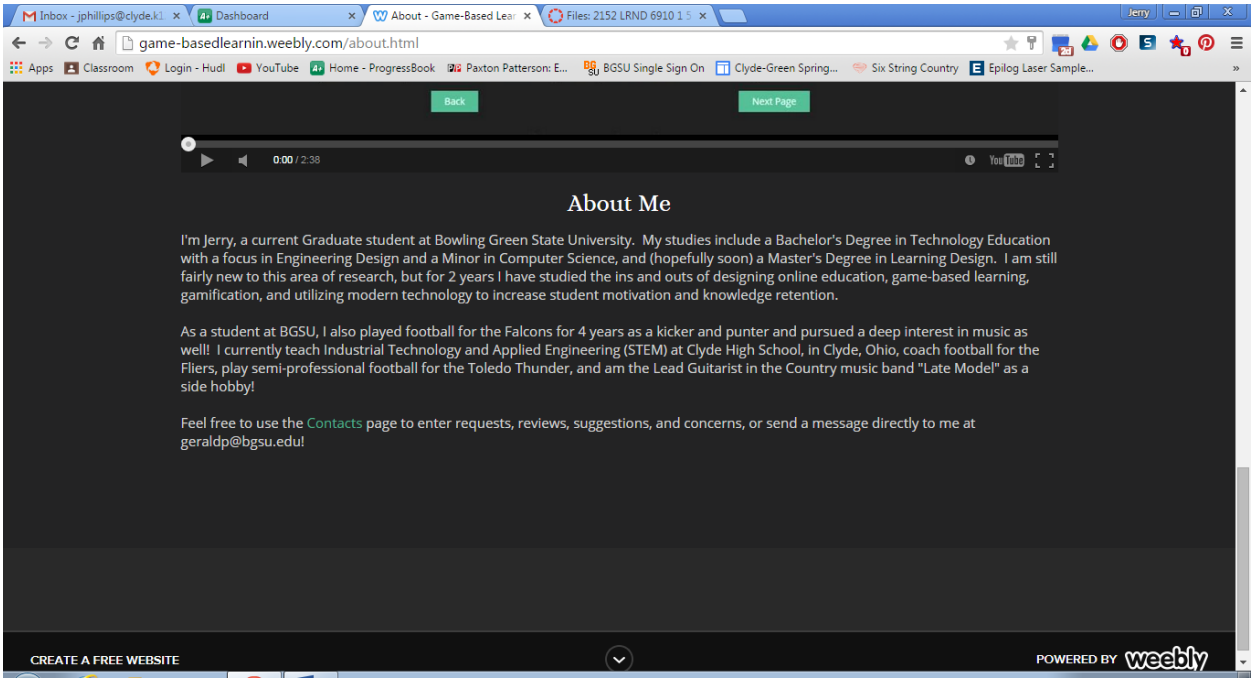
Home - ProgressBook
Paxton Patterson: E...
BGSU Single Sign On
Clyde-Green Spring...
Six String Country
Epilog Laser Sample...
About this Site
This site is a dedicated resource center for educators interested in Game-Based Learning. Here you will find links to some existing educational games online, brief reviews of commercial games that contain valuable educational concepts, methods for gamification, a discussion board for peer collaboration and connectivity, and research to back up the validity of game-based learning. Finally, you will have the ability to contact me personally and submit comments, reviews, suggestions, and concerns via email! The following video will show you how to navigate the website!
Captured with TechSmith Snagit for Chrome:
GBL About Page
game-basedlearnin.weebly.com/gamification.html
Filter: All Games
Sort: Date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About Me
I'm Jerry, a current Graduate student at Bowling Green State University. My studies include a Bachelor's Degree in Technology Education with a focus in Engineering Design and a Minor in Computer Science, and (hopefully soon) a Master's Degree in Learning Design. I am still fairly new to this area of research, but for 2 years I have studied the ins and outs of designing online education, game-based learning, gamification, and utilizing modern technology to increase student motivation and knowledge retention.
As a student at BGSU, I also played football for the Falcons for 4 years as a kicker and punter and pursued a deep interest in music as well! I currently teach Industrial Technology and Applied Engineering (STEM) at Clyde High School, in Clyde, Ohio, coach football for the Fliers, play semi-professional football for the Toledo Thunder, and am the Lead Guitarist in the Country music band "Late Model" as a side hobby!
Feel free to use the Contacts page to enter requests, reviews, suggestions, and concerns, or send a message directly to me at geraldp@bgsu.edu!
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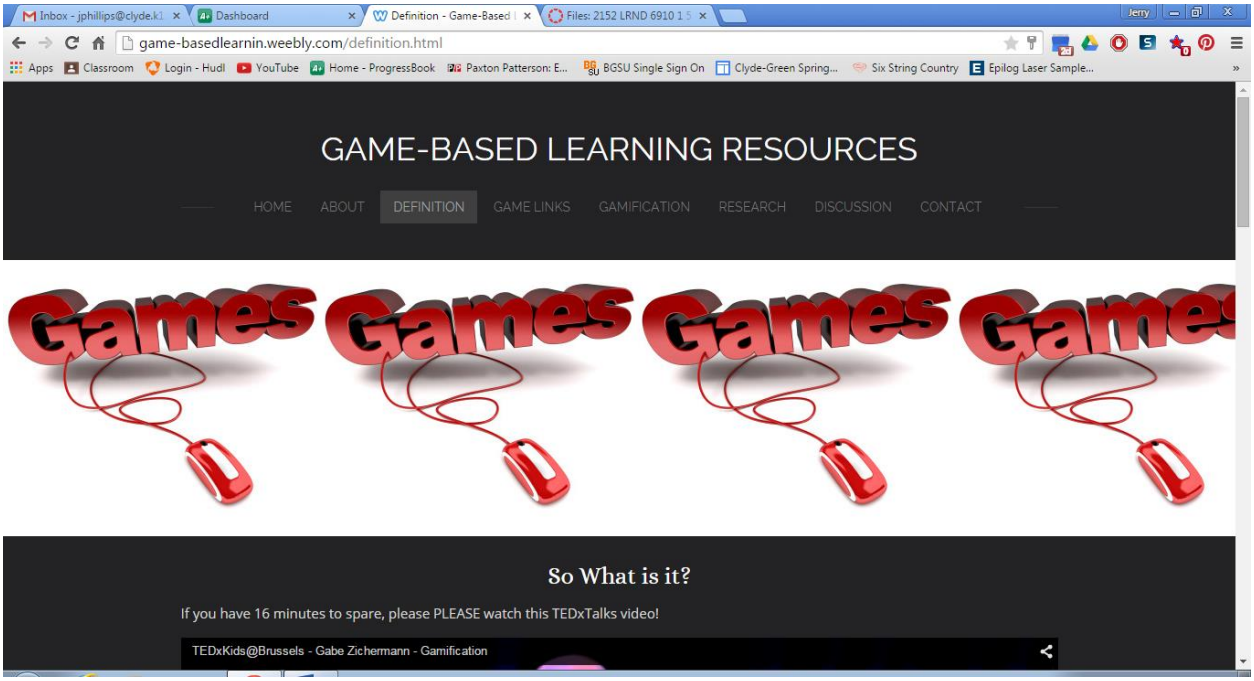
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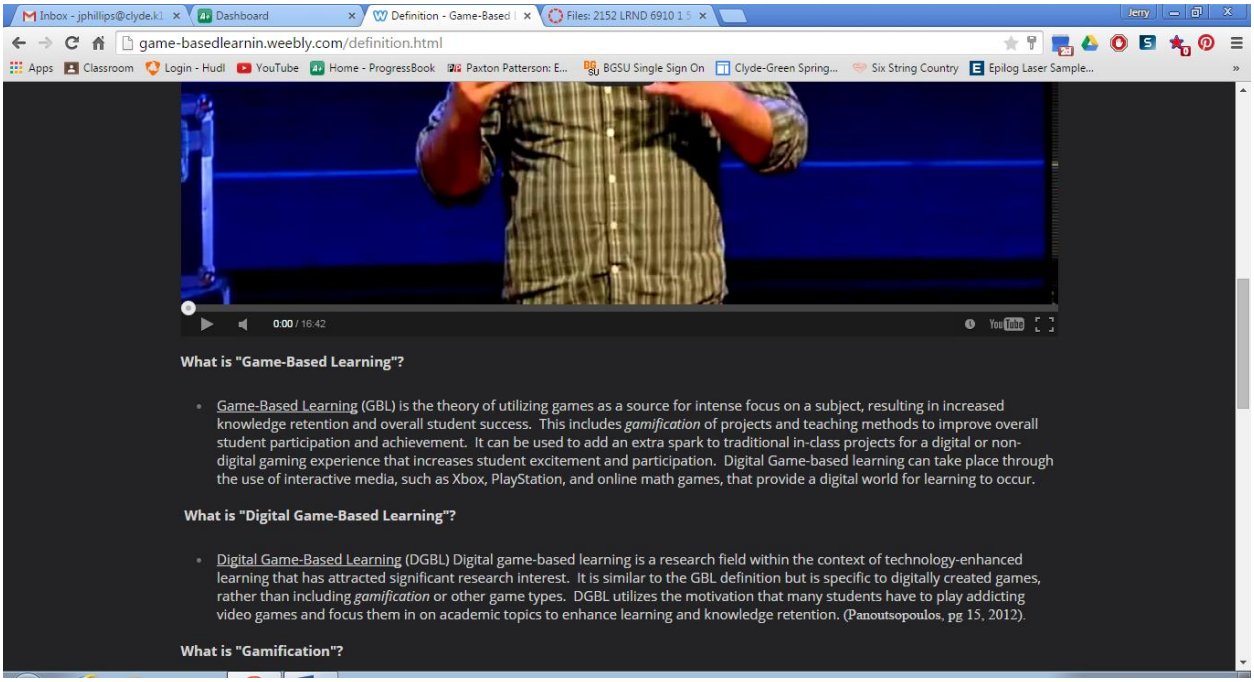
GAME-BASED LEARNING RESOURCES
HOME
ABOUT
DEFINITION
GAME LINKS
GAMIFICATION
RESEARCH
DISCUSSION
CONTACT
Games
Games
Games
Games
So What is it?
If you have 16 minutes to spare, please PLEASE watch this TEDxTalks video!
TEDxKids@Brussels - Gabe Zichermann - Gamification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Clyde-Green Spring...
Six String Country
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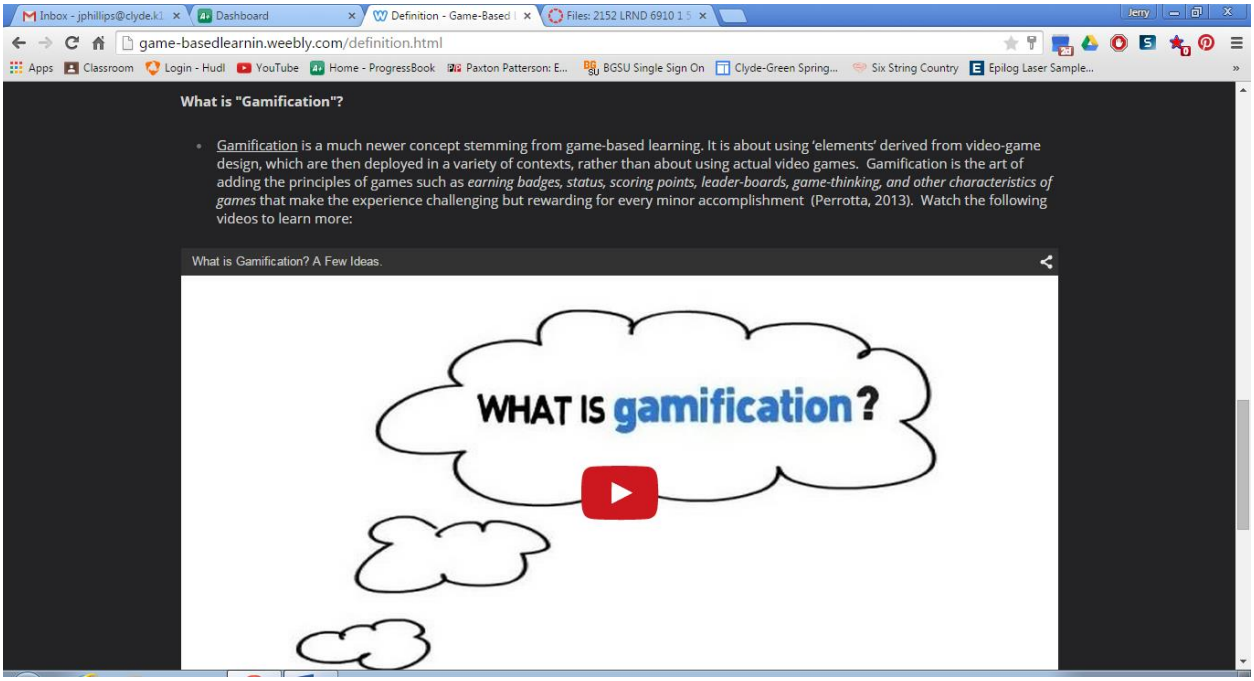
What is "Game-Based Learning"?
Game-Based Learning (GBL) is the theory of utilizing games as a source for intense focus on a subject, resulting in increased knowledge retention and overall student success. This includes gamification of projects and teaching methods to improve overall student participation and achievement. It can be used to add an extra spark to traditional in-class projects for a digital or non-digital gaming experience that increases student excitement and participation. Digital Game-based learning can take place through the use of interactive media, such as Xbox, PlayStation, and online math games, that provide a digital world for learning to occur.
What is "Digital Game-Based Learning"?
Digital Game-Based Learning (DGBL) Digital game-based learning is a research field within the context of technology-enhanced learning that has attracted significant research interest. It is similar to the GBL definition but is specific to digitally created games, rather than including gamification or other game types. DGBL utilizes the motivation that many students have to play addicting video games and focus them in on academic topics to enhance learning and knowledge retention. (Panoutsopoulos, pg 15, 2012).
What is "Gamification"?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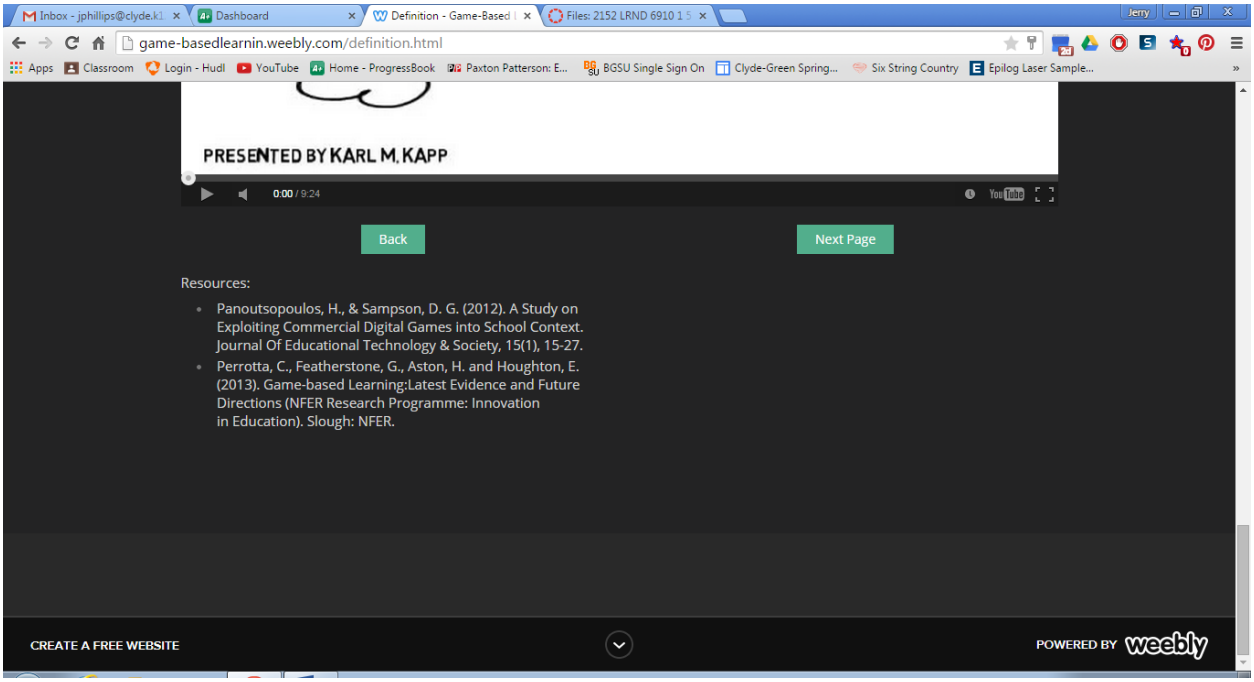
What is "Gamification"?
Gamification is a much newer concept stemming from game-based learning. It is about using 'elements' derived from video-game design, which are then deployed in a variety of contexts, rather than about using actual video games. Gamification is the art of adding the principles of games such as earning badges, status, scoring points, leader-boards, game-thinking, and other characteristics of games that make the experience challenging but rewarding for every minor accomplishment (Perrotta, 2013). Watch the following videos to learn more:
What is Gamification? A Few Ideas.
WHAT IS gamification?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Resources:
Panoutsopoulos, H., & Sampson, D. G. (2012). A Study on Exploiting Commercial Digital Games into School Context. Journal Of Educational Technology & Society, 15(1), 15-27.
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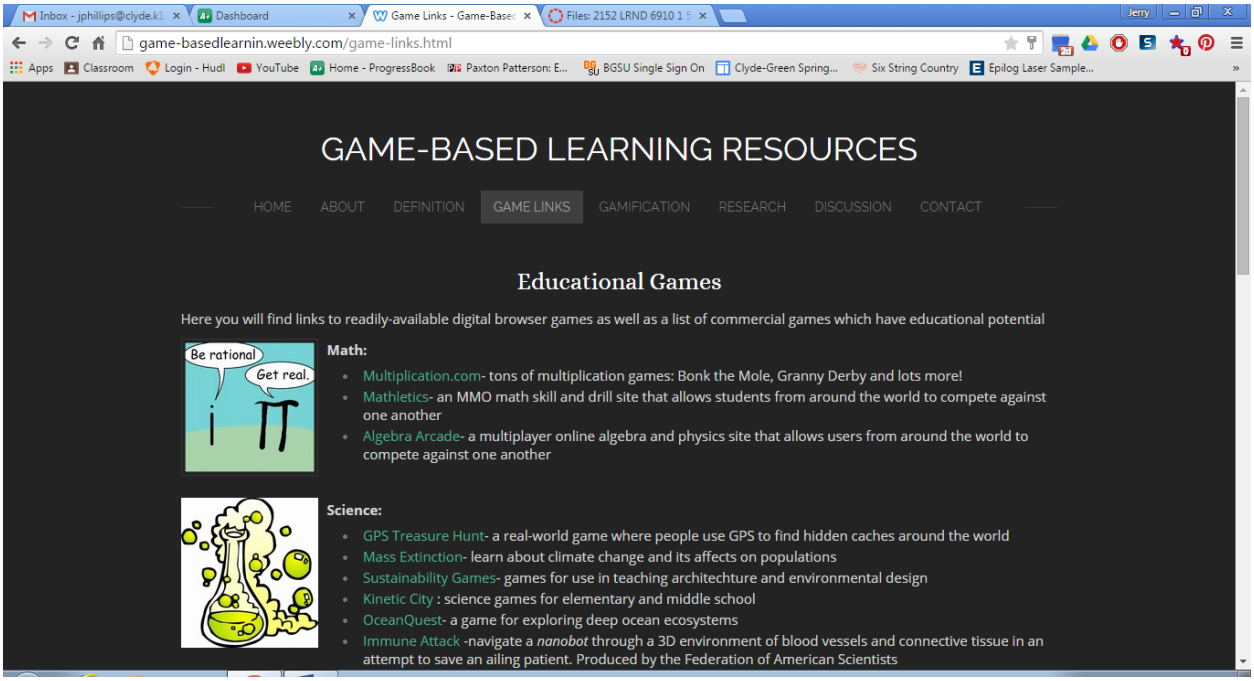
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GAME-BASED LEARNING RESOURCES
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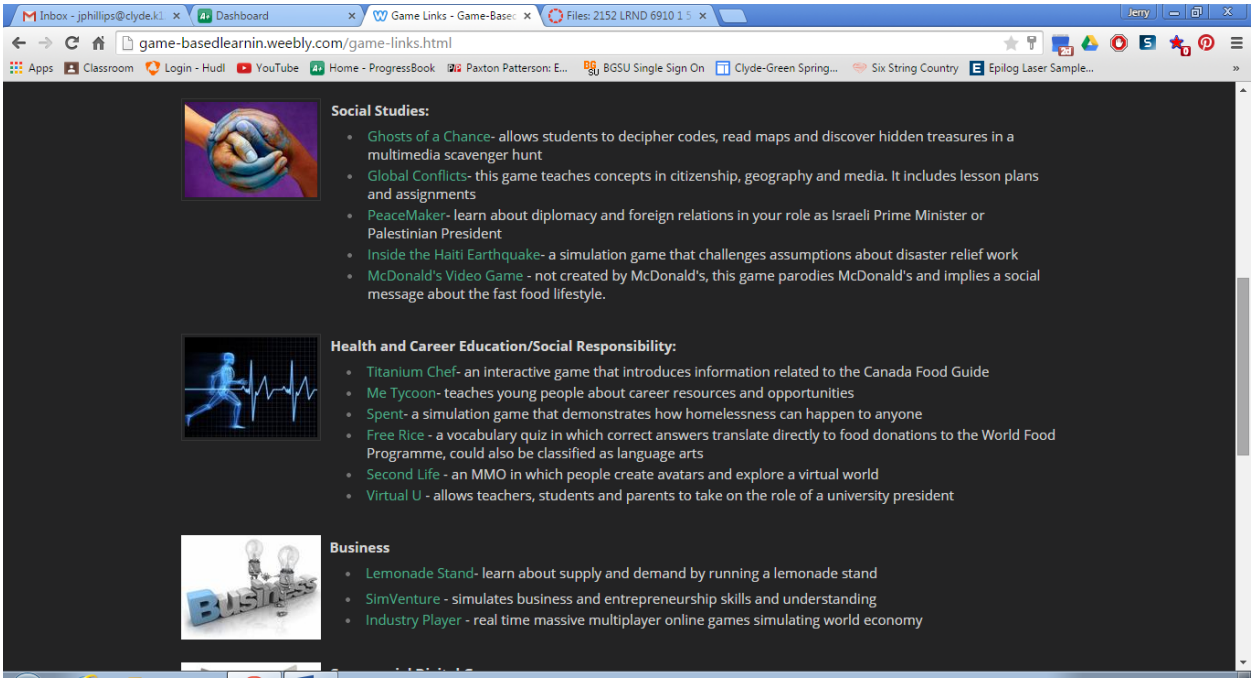
Educational Games
Here you will find links to readily-available digital browser games as well as a list of commercial games which have educational potential
Be rational
Get real.
Math:
Multiplication.com- tons of multiplication games: Bonk the Mole, Granny Derby and lots more!
Mathletics- an MMO math skill and drill site that allows students from around the world to compete against one another
Algebra Arcade- a multiplayer online algebra and physics site that allows users from around the world to compete against one another
Science:
GPS Treasure Hunt- a real-world game where people use GPS to find hidden caches around the world
Mass Extinction- learn about climate change and its affects on populations
Sustainability Games- games for use in teaching architechture and environmental design
Kinetic City : science games for elementary and middle school
OceanQuest- a game for exploring deep ocean ecosystems
Immune Attack -navigate a nanobot through a 3D environment of blood vessels and connective tissue in an attempt to save an ailing patient. Produced by the Federation of American Scientists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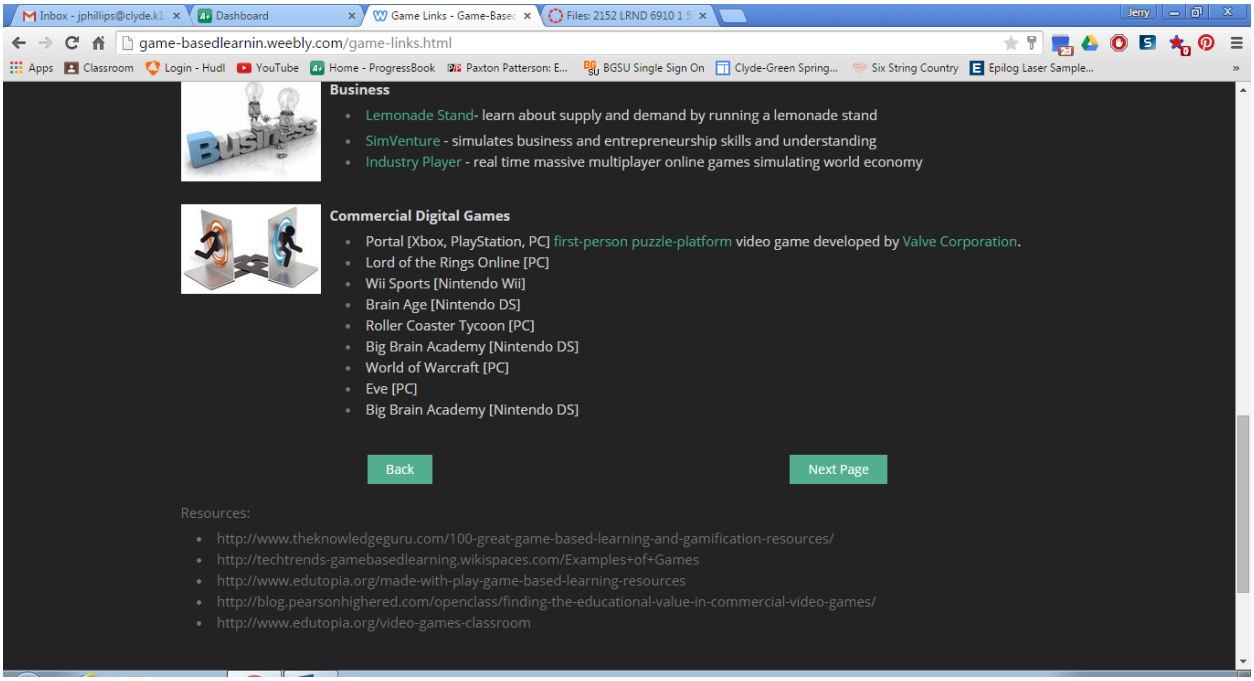
Social Studies:
Ghosts of a Chance- allows students to decipher codes, read maps and discover hidden treasures in a multimedia scavenger hunt
Global Conflicts- this game teaches concepts in citizenship, geography and media. It includes lesson plans and assignments
PeaceMaker- learn about diplomacy and foreign relations in your role as Israeli Prime Minister or Palestinian President
Inside the Haiti Earthquake- a simulation game that challenges assumptions about disaster relief work
McDonald's Video Game - not created by McDonald's, this game parodies McDonald's and implies a social message about the fast food lifestyle.
Health and Career Education/Social Responsibility:
Titanium Chef- an interactive game that introduces information related to the Canada Food Guide
Me Tycoon- teaches young people about career resources and opportunities
Spent- a simulation game that demonstrates how homelessness can happen to anyone
Free Rice - a vocabulary quiz in which correct answers translate directly to food donations to the World Food Programme, could also be classified as language arts
Second Life - an MMO in which people create avatars and explore a virtual world
Virtual U - allows teachers, students and parents to take on the role of a university president
Business
Lemonade Stand- learn about supply and demand by running a lemonade stand
SimVenture - simulates business and entrepreneurship skills and understanding
Industry Player - real time massive multiplayer online games simulating world economy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SimVenture - simulates business and entrepreneurship skills and understanding
Industry Player - real time massive multiplayer online games simulating world economy
Commercial Digital Games
Portal [Xbox, PlayStation, PC] first-person puzzle-platform video game developed by Valve Corporation.
Lord of the Rings Online [PC]
Wii Sports [Nintendo Wii]
Brain Age [Nintendo DS]
Roller Coaster Tycoon [PC]
Big Brain Academy [Nintendo DS]
World of Warcraft [PC]
Eve [PC]
Big Brain Academy [Nintendo DS]
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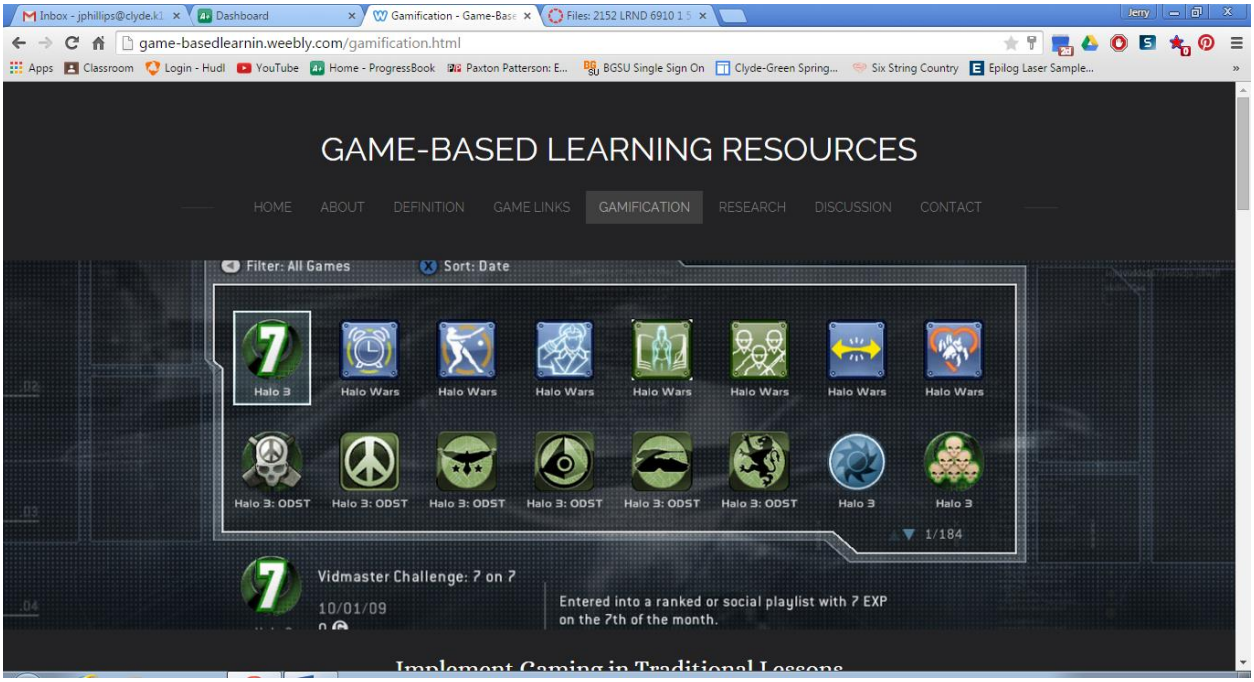
Resources:
http://www.theknowledgeguru.com/100-great-game-based-learning-and-gamification-resources/
http://techtrends-gamebasedlearning.wikispaces.com/Examples+of+Games
http://www.edutopia.org/made-with-play-game-based-learning-resources
http://blog.pearsonhighered.com/openclass/finding-the-educational-value-in-commercial-video-games/
http://www.edutopia.org/video-games-classroom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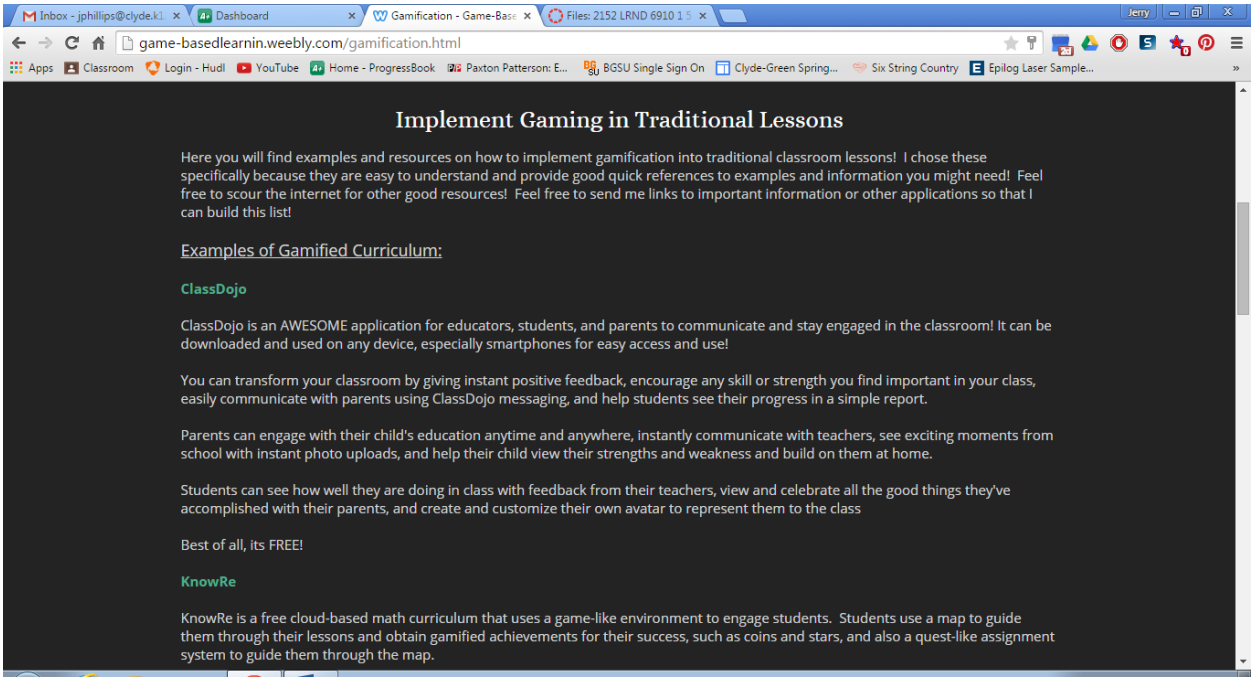
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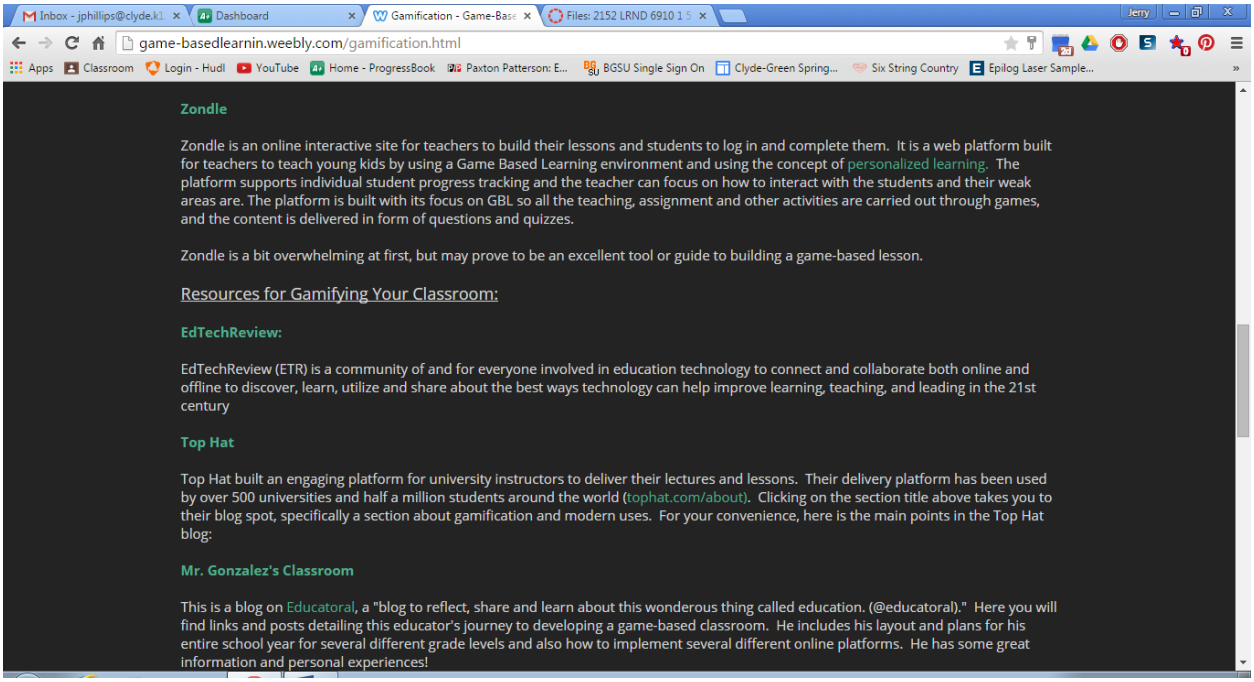
Implement Gaming in Traditional Lessons
Here you will find examples and resources on how to implement gamification into traditional classroom lessons! I chose these specifically because they are easy to understand and provide good quick references to examples and information you might need! Feel free to scour the internet for other good resources! Feel free to send me links to important information or other applications so that I can build this list!
Examples of Gamified Curriculum:
ClassDojo
ClassDojo is an AWESOME application for educators, students, and parents to communicate and stay engaged in the classroom! It can be downloaded and used on any device, especially smartphones for easy access and use!
You can transform your classroom by giving instant positive feedback, encourage any skill or strength you find important in your class, easily communicate with parents using ClassDojo messaging, and help students see their progress in a simple report.
Parents can engage with their child's education anytime and anywhere, instantly communicate with teachers, see exciting moments from school with instant photo uploads, and help their child view their strengths and weakness and build on them at home.
Students can see how well they are doing in class with feedback from their teachers, view and celebrate all the good things they've accomplished with their parents, and create and customize their own avatar to represent them to the class
Best of all, its FREE!
KnowRe
KnowRe is a free cloud-based math curriculum that uses a game-like environment to engage students. Students use a map to guide them through their lessons and obtain gamified achievements for their success, such as coins and stars, and also a quest-like assignment system to guide them through the map.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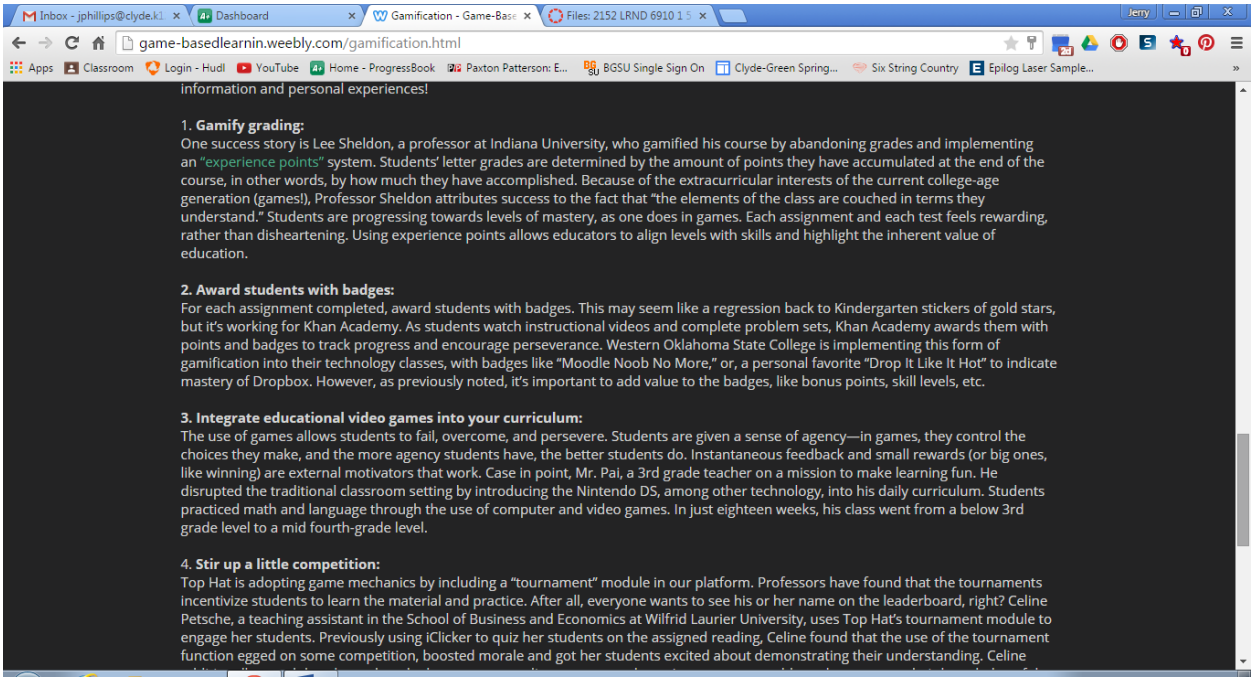
Zondle
Zondle is an online interactive site for teachers to build their lessons and students to log in and complete them. It is a web platform built for teachers to teach young kids by using a Game Based Learning environment and using the concept of personalized learning. The platform supports individual student progress tracking and the teacher can focus on how to interact with the students and their weak areas are. The platform is built with its focus on GBL so all the teaching, assignment and other activities are carried out through games, and the content is delivered in form of questions and quizzes.
Zondle is a bit overwhelming at first, but may prove to be an excellent tool or guide to building a game-based lesson.
Resources for Gamifying Your Classroom:
EdTechReview:
EdTechReview (ETR) is a community of and for everyone involved in education technology to connect and collaborate both online and offline to discover, learn, utilize and share about the best ways technology can help improve learning, teaching, and leading in the 21st century
Top Hat
Top Hat built an engaging platform for university instructors to deliver their lectures and lessons. Their delivery platform has been used by over 500 universities and half a million students around the world (tophat.com/about). Clicking on the section title above takes you to their blog spot, specifically a section about gamification and modern uses. For your convenience, here is the main points in the Top Hat blog:
Mr. Gonzalez's Classroom
This is a blog on Educatoral, a "blog to reflect, share and learn about this wonderous thing called education. (@educatoral)." Here you will find links and posts detailing this educator's journey to developing a game-based classroom. He includes his layout and plans for his entire school year for several different grade levels and also how to implement several different online platforms. He has some great information and personal experiences!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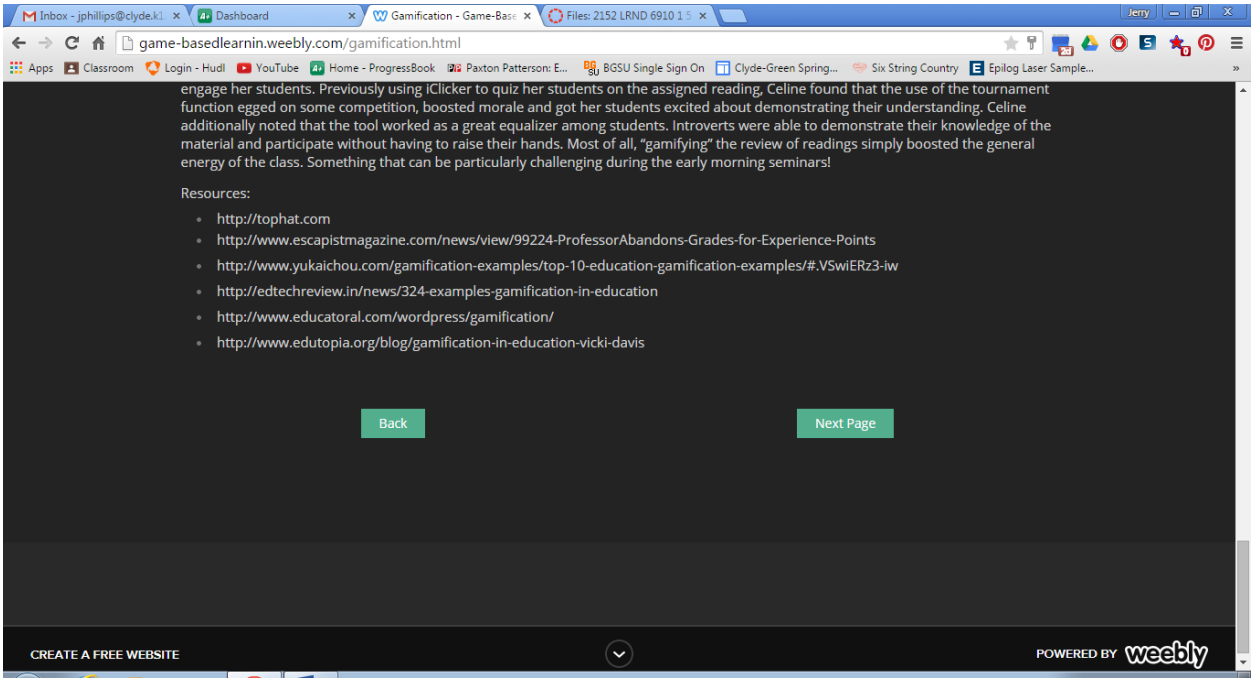
information and personal experiences!
1. Gamify grading:
One success story is Lee Sheldon, a professor at Indiana University, who gamified his course by abandoning grades and implementing an "experience points" system. Students' letter grades are determined by the amount of points they have accumulated at the end of the course, in other words, by how much they have accomplished. Because of the extracurricular interests of the current college-age generation (games!), Professor Sheldon attributes success to the fact that "the elements of the class are couched in terms they understand." Students are progressing towards levels of mastery, as one does in games. Each assignment and each test feels rewarding, rather than disheartening. Using experience points allows educators to align levels with skills and highlight the inherent value of education.
2. Award students with badges:
For each assignment completed, award students with badges. This may seem like a regression back to Kindergarten stickers of gold stars, but it's working for Khan Academy. As students watch instructional videos and complete problem sets, Khan Academy awards them with points and badges to track progress and encourage perseverance. Western Oklahoma State College is implementing this form of gamification into their technology classes, with badges like "Moodle Noob No More," or, a personal favorite "Drop It Like It Hot" to indicate mastery of Dropbox. However, as previously noted, it's important to add value to the badges, like bonus points, skill levels, etc.
3. Integrate educational video games into your curriculum:
The use of games allows students to fail, overcome, and persevere. Students are given a sense of agency—in games, they control the choices they make, and the more agency students have, the better students do. Instantaneous feedback and small rewards (or big ones, like winning) are external motivators that work. Case in point, Mr. Pai, a 3rd grade teacher on a mission to make learning fun. He disrupted the traditional classroom setting by introducing the Nintendo DS, among other technology, into his daily curriculum. Students practiced math and language through the use of computer and video games. In just eighteen weeks, his class went from a below 3rd grade level to a mid fourth-grade level.
4. Stir up a little competition:
Top Hat is adopting game mechanics by including a "tournament" module in our platform. Professors have found that the tournaments incentivize students to learn the material and practice. After all, everyone wants to see his or her name on the leaderboard, right? Celine Petsche, a teaching assistant in the School of Business and Economics at Wilfrid Laurier University, uses Top Hat's tournament module to engage her students. Previously using iClicker to quiz her students on the assigned reading, Celine found that the use of the tournament function egged on some competition, boosted morale and got her students excited about demonstrating their understanding. Celine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engage her students. Previously using iClicker to quiz her students on the assigned reading, Celine found that the use of the tournament function egged on some competition, boosted morale and got her students excited about demonstrating their understanding. Celine additionally noted that the tool worked as a great equalizer among students. Introverts were able to demonstrate their knowledge of the material and participate without having to raise their hands. Most of all, "gamifying" the review of readings simply boosted the general energy of the class. Something that can be particularly challenging during the early morning seminars!
Resources:
http://tophat.com
http://www.escapistmagazine.com/news/view/99224-ProfessorAbandons-Grades-for-Experience-Points
http://www.yukaichou.com/gamification-examples/top-10-education-gamification-examples/#.VSwiERz3-iw
http://edtechreview.in/news/324-examples-gamification-in-education
http://www.educatoral.com/wordpress/gamification/
http://www.edutopia.org/blog/gamification-in-education-vicki-davis
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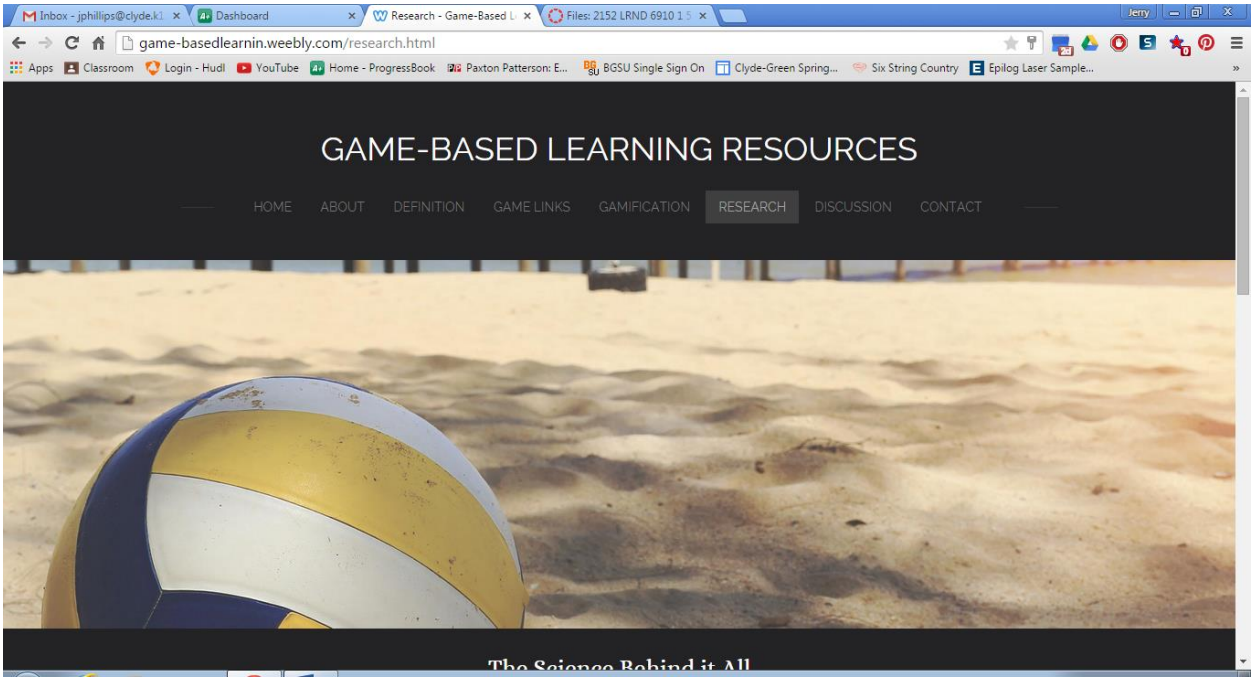
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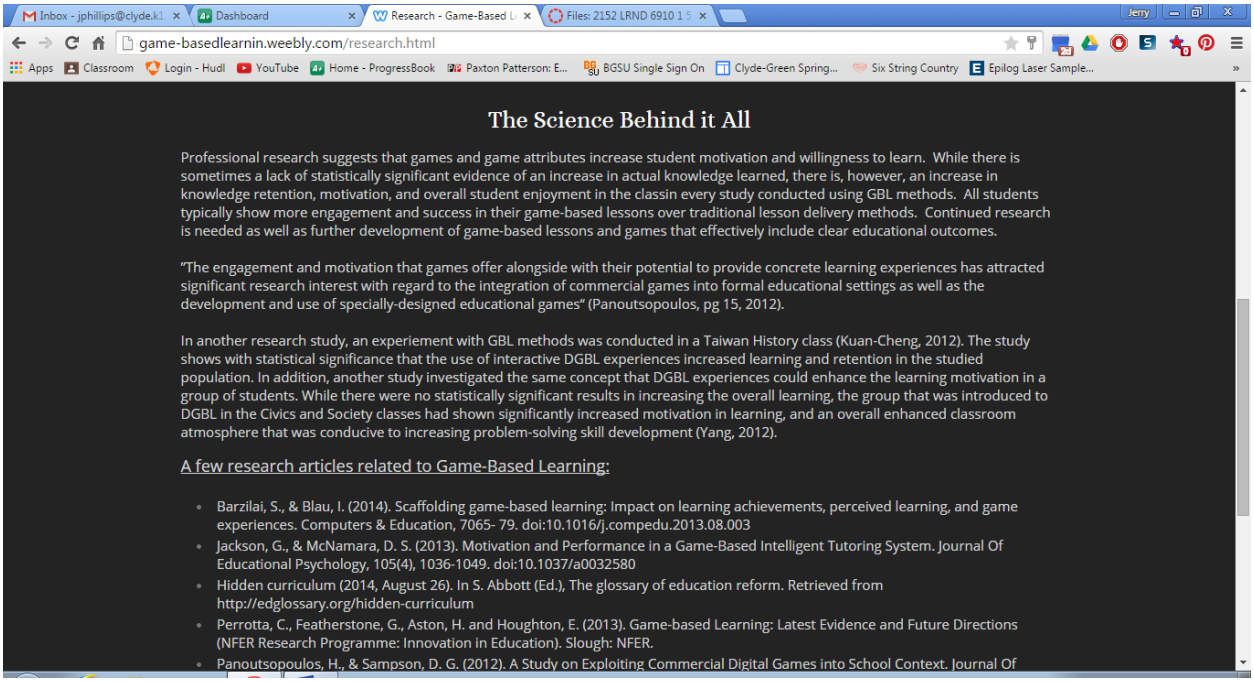
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The Science Behind it All
Professional research suggests that games and game attributes increase student motivation and willingness to learn. While there is sometimes a lack of statistically significant evidence of an increase in actual knowledge learned, there is, however, an increase in knowledge retention, motivation, and overall student enjoyment in the classin every study conducted using GBL methods. All students typically show more engagement and success in their game-based lessons over traditional lesson delivery methods. Continued research is needed as well as further development of game-based lessons and games that effectively include clear educational outcomes.
"The engagement and motivation that games offer alongside with their potential to provide concrete learning experiences has attracted significant research interest with regard to the integration of commercial games into formal educational settings as well as the development and use of specially-designed educational games" (Panoutsopoulos, pg 15, 2012).
In another research study, an experiement with GBL methods was conducted in a Taiwan History class (Kuan-Cheng, 2012). The study shows with statistical significance that the use of interactive DGBL experiences increased learning and retention in the studied population. In addition, another study investigated the same concept that DGBL experiences could enhance the learning motivation in a group of students. While there were no statistically significant results in increasing the overall learning, the group that was introduced to DGBL in the Civics and Society classes had shown significantly increased motivation in learning, and an overall enhanced classroom atmosphere that was conducive to increasing problem-solving skill development (Yang, 2012).
A few research articles related to Game-Based Learning:
Barzilai, S., & Blau, I. (2014). Scaffolding game-based learning: Impact on learning achievements, perceived learning, and game experiences. Computers & Education, 7065- 79. doi:10.1016/j.compedu.2013.08.003
Jackson, G., & McNamara, D. S. (2013). Motivation and Performance in a Game-Based Intelligent Tutoring System. Journal Of Educational Psychology, 105(4), 1036-1049. doi:10.1037/a0032580
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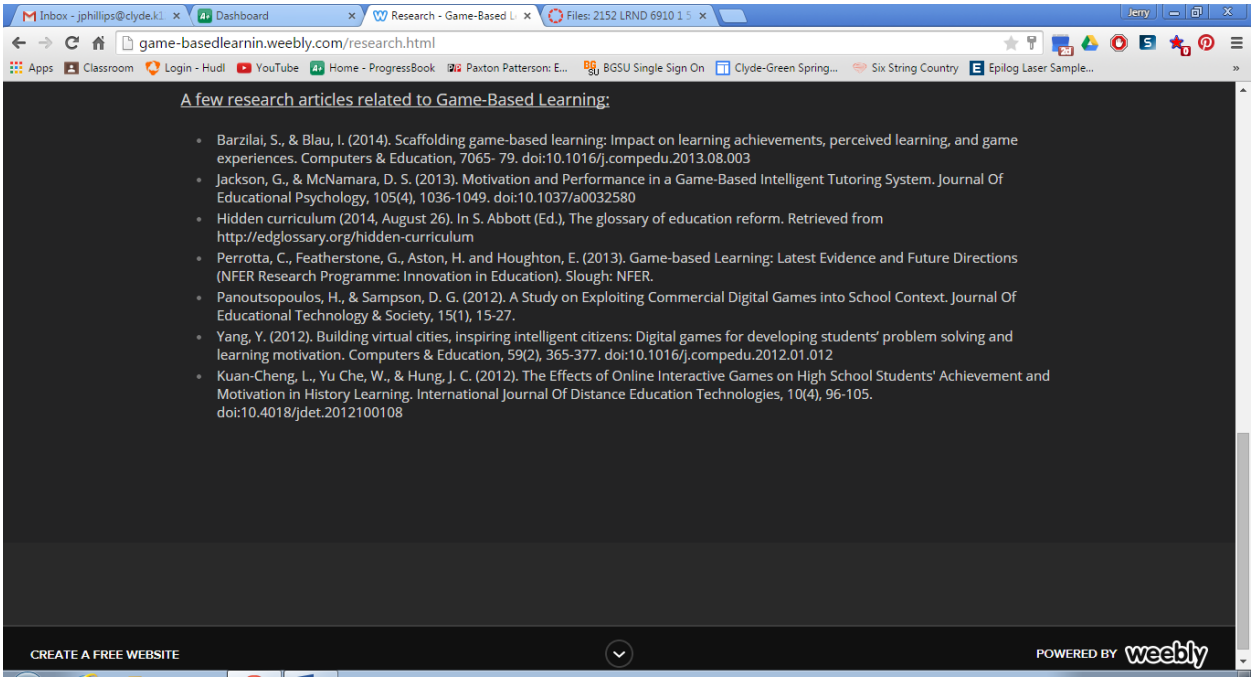
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Panoutsopoulos, H., & Sampson, D. G. (2012). A Study on Exploiting Commercial Digital Games into School Context. Journal Of Educational Technology & Society, 15(1), 15-27.
Yang, Y. (2012). Building virtual cities, inspiring intelligent citizens: Digital games for developing students' problem solving and learning motivation. Computers & Education, 59(2), 365-377. doi:10.1016/j.compedu.2012.01.012
Kuan-Cheng, L., Yu Che, W., & Hung, J. C. (2012). The Effects of Online Interactive Games on High School Students' Achievement and Motivation in History Learning. International Journal Of Distance Education Technologies, 10(4), 96-105. doi:10.4018/jdet.2012100108
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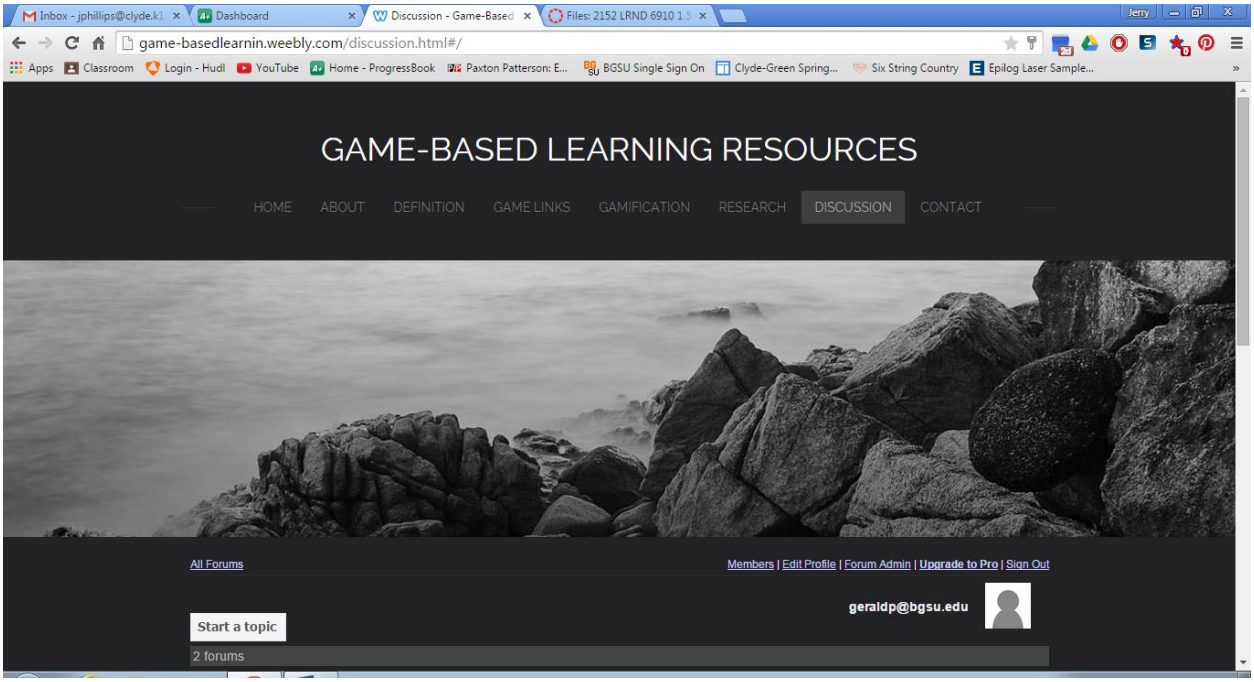
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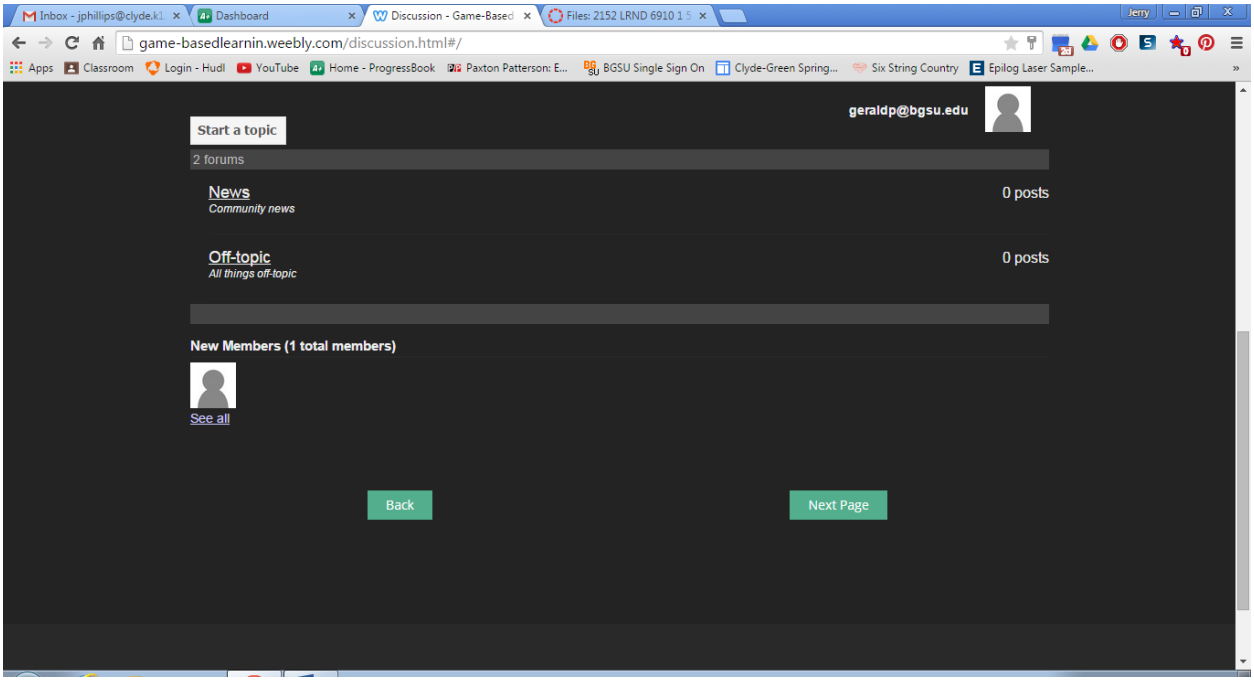
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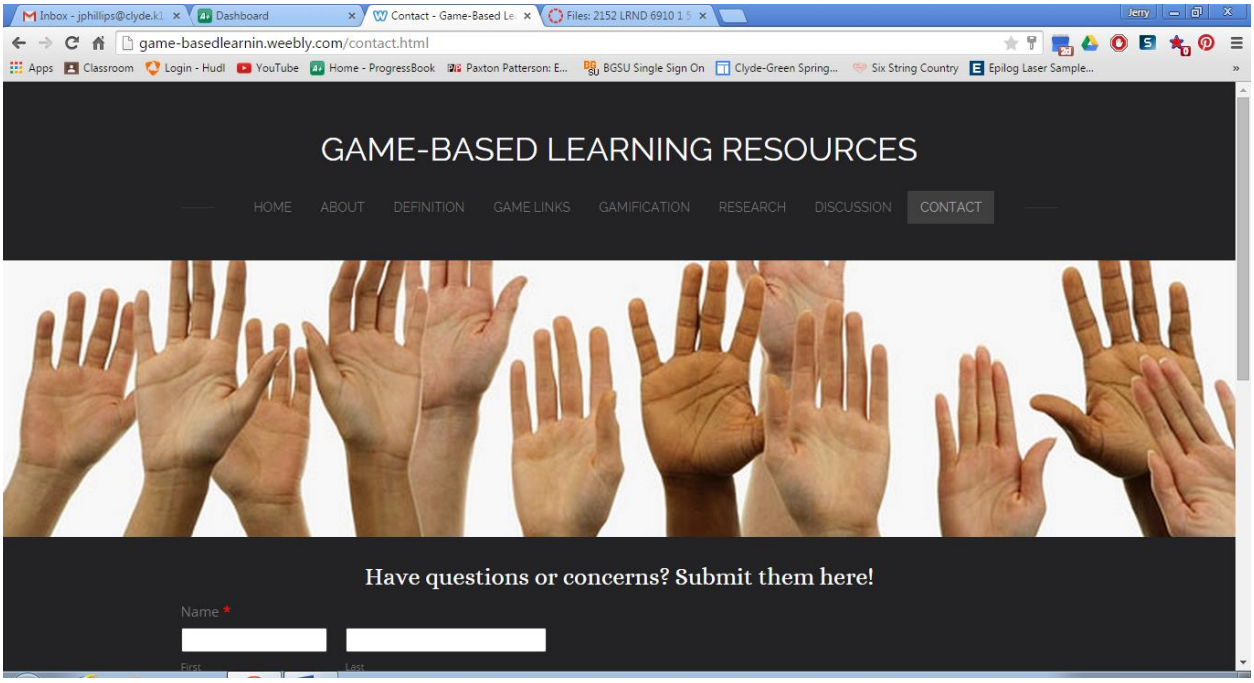
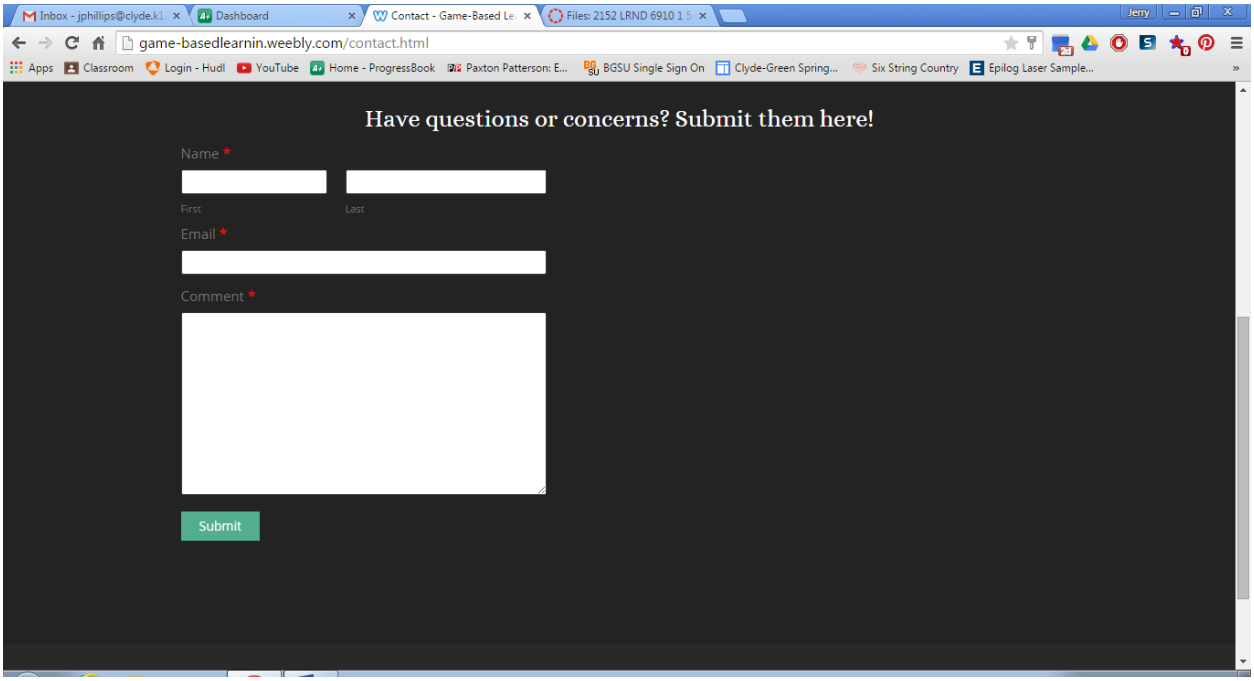
geraldp@bgsu.edu
Start a topic
2 forums
News
Community news
0 posts
Off-topic
All things off-topic
0 posts
New Members (1 total members)
See all
Back
Next Page


Inbox - jphillips@clyde.k1
Dashboard
Contact - Game-Based Le
Files: 2152 LRND 6910 1 5
Jerry
game-basedlearnin.weebly.com/contact.html
Apps
Classroom
Login - Hudl
YouTube
Home - ProgressBook
Paxton Patterson: E...
BGSU Single Sign On
Clyde-Green Spring...
Six String Country
Epilog Laser Sample...
GAME-BASED LEARNING RESOURCES
HOME
ABOUT
DEFINITION
GAME LINKS
GAMIFICATION
RESEARCH
DISCUSSION
CONTACT
Have questions or concerns? Submit them here!
Name *
First
Last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Have questions or concerns? Submit them here!
Name *
First
Last
Email *
Comment *
Submit

APPENDIX B

Rubric for evaluation of the Game-Based Learning Resource Site

CATEGORY	4	3	2	1
Navigation	Links for navigation are clearly labeled, consistently placed, allow the reader to easily move from a page to related pages (forward and back), and take the reader where s/he expects to go. A user does not become lost.	Links for navigation are clearly labeled, allow the reader to easily move from a page to related pages (forward and back), and internal links take the reader where s/he expects to go. A user rarely becomes lost.	Links for navigation take the reader where s/he expects to go, but some needed links seem to be missing. A user sometimes gets lost.	Some links do not take the reader to the sites described. A user typically feels lost.
Spelling and Grammar	There are no errors in spelling, punctuation or grammar in the final draft of the Web site.	There are 1-3 errors in spelling, punctuation or grammar in the final draft of the Web site.	There are 4-5 errors in spelling, punctuation or grammar in the final draft of the Web site.	There are more than 5 errors in spelling, punctuation or grammar in the final draft of the Web site.
Content	The site has a well-stated clear purpose and theme that is carried out throughout the site.	The site has a clearly stated purpose and theme, but may have one or two elements that do not seem to be related to it.	The purpose and theme of the site is somewhat muddy or vague.	The site lacks a purpose and theme.
Fonts	The fonts are consistent, easy to read and point size varies appropriately for headings and text. Use of font styles (italic, bold, underline) is used consistently and improves readability.	The fonts are consistent, easy to read and point size varies appropriately for headings and text.	The fonts are consistent and point size varies appropriately for headings and text.	A wide variety of fonts, styles and point sizes was used.

Learning of Material	The designer has an exceptional understanding of the material included in the site and where to find additional information. Can easily answer questions about the content and procedures used to make the web site.	The designers has a good understanding of the material included in the site. Can easily answer questions about the content and procedures used to make the web site.	The designer has a fair understanding of the material included in the site. Can easily answer most questions about the content and procedures used to make the web site.	The designer did not appear to learn much from this project. Cannot answer most questions about the content and the procedures used to make the web site.
Background	Background is exceptionally attractive, consistent across pages, adds to the theme or purpose of the site, and does not detract from readability.	Background is attractive, consistent across pages, adds to the theme or purpose of the site, and does not detract from readability.	Background is consistent across pages and does not detract from readability.	Background detracts from the readability of the site.
Graphics	Graphics are related to the theme/purpose of the site, are thoughtfully cropped, are of high quality and enhance reader interest or understanding.	Graphics are related to the theme/purpose of the site, are of good quality and enhance reader interest or understanding.	Graphics are related to the theme/purpose of the site, and are of good quality.	Graphics seem randomly chosen, are of low quality, OR distract the reader.

APPENDIX C

Table of scores recieved using the rubric:

CATEGORY	4	3	2	1	Mean
Navigation	4	0	0	0	4
Spelling and Grammar	3	1	0	0	3.75
Content	4	0	0	0	4
Fonts	3	1	0	0	3.75
Learning of Material	3	1	0	0	3.75
Background	1	3	0	0	3.25
Graphics	2	2	0	0	3.5