Dungeons and Dragons in Education: A Usability Study

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How many of you know what Dungeons and Dragons is?
Tonight’s Agenda

- Introduction
- Design approach
- Technology/Methodology
- Results/Findings
- Next Steps
- Final thoughts
What’s the issue?

- Student engagement
- Assessing learning transfer

Why is this important?

- In order for students to learn effectively “they must be engaged in the material and subject matters. If students lack interest in a topic, they will be less inclined to retain the content.” (Kuh, 2003)
- Students must be provided the opportunity to practice and implement their skills that they have learned. This is to ensure students are building upon foundational skills. (Kuh, 2003)
How did I propose to solve it?

- Created a resource website for Dungeons and Dragons in Education
- Why Dungeons and Dragons?
  - “Dungeons and Dragons is a strategic role-playing game that gives learners the opportunity to explore and apply learned concepts, increases interest, and facilitates collaboration and communication. (Carter, 2011)
- What is included in the website:
  - Information on game-based learning, Dungeons and Dragons, tips/strategies, and resources
Site walkthrough
Purpose

The purpose of my study was to conduct a usability test on a web-based resource site on Dungeons and Dragons in Education.
Target Audience
- Elementary school educators on Oahu
  - Tech savvy
  - Able to navigate the Internet comfortably
  - Interested in game-based learning/Dungeons and Dragons
What is usability?

According to the Usability.gov site: usability is defined as “a quality attribute that assesses how easy user interfaces are to use.”

Why is usability important?
Research Questions

1. How easy is it for educators to navigate a web-based resource site on Dungeons and Dragons in Education?
2. How satisfied are educators with the information provided on a web-based resource site for Dungeons and Dragons in Education?
3. How appealing is the visual design of the web-based resource site for Dungeons and Dragons in Education?
Design Approach

- Gestalts Principles of Visual Perception
  - Figure-Ground
  - Similarity
  - Proximity
  - Common Region
  - Continuity
  - Closure
  - Focal Point
**Tips and Strategies**

Finding out how to implement games is always a challenge. Here's some tips and strategies for integrating D&D into instruction.

**English**

- Have students to develop background for their characters where they will need to write a short paper on who their characters are. (Describe what character looks, their motivations, history, etc)

- Have students keep a journal to record events that happened during the game and have them reflect on what happened, what they would do differently next time or what worked out well.

- Develop and write a set of rules and instructions for sessions, have students demonstrate their understanding and comprehension through gameplay.

- Integrate vocabulary words into the adventure to test students understand the meaning of the words

**Math**

- Develop math problems for students to solve during their quests (Ex: When in combat, if players move in increments of 5 feet and the max movement is 30 feet. How many times can the player move?)

- Use basic mathematic concepts throughout game (Ex: Give your players' characters' a set amount money to keep in their pockets, when they need to purchase an item, have them solve the amount to give and the proper change.)
Planning a D&D session, is similar to planning a lesson

- Consider your learning objectives
  - What do you want your students to learn?
  - How do you want them to demonstrate that knowledge?
- Consider the materials you'll need
  - Maps, short readings, pictures, videos, etc. (See Resources for pre-generated material)
- Plan to incorporate obstacles and problems (lessons)
  - Present these as learning opportunities.
    - What do they need to do here? How do they overcome this obstacle? (These will help your students build upon their skills and gain experience)

- Incorporate "dungeons" or "puzzle rooms"
  - Consider these your tests/quizzes to check how much your students have absorbed
- Create a story/world
  - Your job as the DM is not to get your students actively involved in this adventure you have planned for them. You will work together to collaboratively tell this story.
    - Actions directly affect the story and evolve based on choices
Technology

- Wix
- Google Forms (Pre/Post-surveys)
- Zoom
Methodology

- Pre-survey evaluations
  - Age
  - Experience
  - Internet use
  - Knowledge of content
- Zoom sessions
- Post-test Interviews
  - In-depth feedback about the site
- Post-Survey
  - Specific questions about the site
    - Navigation
    - Visual Design
    - Satisfaction
Participants

- 6 total
- 2 groups
  - Group 1: 3 participants
  - Group 2: 5 participants (2 were included from the first group
- 3 men and 3 women
- 3 website iterations
Diagram representing project process for usability testing.
Usability Test

- Think out loud
- Usability performance tasks
  - “Please identify this feature...”
  - “Please find information on this...”
  - “Can you tell me how you would do this...”
Demographic Info

**Age**
- 2: 30+
- 4: 23-28

**Experience teaching**
- 2: 6+ years
- 2: Less than a year
- 2: 2-3 years
Survey Results

SURVEY RESULTS ARE IN!
Navigation

I could locate the information a I needed easily.

The overall navigation of the site
Visual Design

Layout made sense and was well-organized.
Visual Design pt 2

Did you like the color scheme?

- Yes: 28.6%
- Maybe: 28.6%
- No: 42.9%
I am overall satisfied with the information shared on the site.
Satisfaction pt. 2

Overall experience with the site was positive
100% agreed!
Feedback - Needs Improvement

“Maybe cut down on large bodies of text so it’s easier to read.”

“Please change the color scheme and maybe pick a different font”

“While the tab names are really cool, I think it might be confusing for someone who is not familiar with D&D.”

“Needs more original content, student work, examples, etc”

“Some of your links are broken.”
Welcome to Dungeons and Dragons in Education!
This website is dedicated to teachers who want to try something new and explore game-based learning in the form of the popular role-playing game Dungeons and Dragons.
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Legend:

- Home
- Home (Top and Left)
- Game-Based Learning
- Learn about game-based learning
- Dungeons and Dragons
- How to play Dungeons and Dragons
- Implementation
- Implementing Dungeons and Dragons in the classroom
- Resources
- Additional links and resources
- Contact Us

Second Iteration
Welcome to Dungeons and Dragons in Education!

This website is dedicated to teachers who want to try something new and explore game-based learning in the form of the popular role-playing game Dungeons and Dragons.

Third iteration
First iteration

Second Iteration

Third Iteration
Positive Feedback!

“The layout is very intuitive and easy to navigate!”

“The site works!”

“Your content was informative and the site itself is a great resource and way to get people introduced to the game!”

“I would love to recommend this to some of my colleagues!”

Being able to gain access to more tools in the classroom is always beneficial. This site is a great example for a resource of a tool we can use.”
Next Steps..

- Continue to work to improve the site and add more original content
- Share with more people so that this resource can maybe be utilized by more teachers who may need it or feel like trying something new
My takeaway

- The process was very difficult and there were many challenges.
- The struggle was worth it
- Got to introduce teachers to a new resource
- By putting this resource out there, it will help teachers find inspiration to try something new like D&D, and help them engage students in lessons.
Thank you!
Works cited

