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From Course Creation to Final Examination: Using Video Game Concepts to Inform the Writing Classroom

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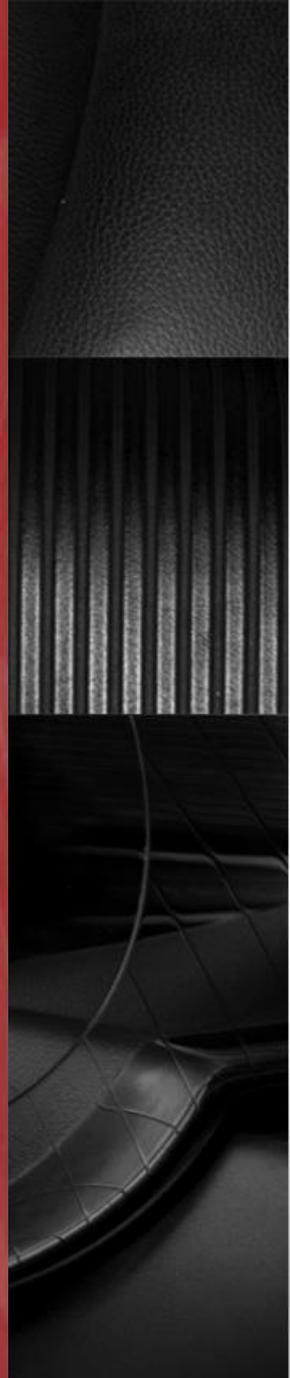
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Video Game Transfer

Building on students' prior knowledge





Initial statement/questions

- This information is mostly in regards to recreational video games, not the genre of educational video games
- Questions to be asked about the relationship of video games and composition, as described by Colby, Johnson, and Colby (2013), include:
 - How can playing a video game encourage students to (re)consider how they write, read, and research?
 - How do gaming spaces function rhetorically and in what ways can/do gamers conduct rhetorical readings of them?
 - How do video games represent identity and community and how are these representations interpreted by gamers?
 - How do video games and gaming serve as metaphors for written discourse and writing?
 - How do video games' rhetorical techniques differ from comparatively traditional texts?
 - In what ways do video game designers take into account audience (beyond its commercial function of consumption)?
 - In what ways do electronic games help us to reconceptualize classroom spaces?

Why video games?

“Today’s popular culture may not be showing us the righteous path, but it is making us smarter”

- Steven Johnson, *Everything Bad is Good for You*

- Eighty percent of game players say the reasons they play have nothing to do with any particular game (Hamlin, 2011, qtd in Blumberg et al, 2013)
- Gamers enjoy challenges without repercussions (Hamlin, 2011, qtd in Blumberg et al, 2013)
- Includes benefits of cross-platform learning, multiple entry-points, and knowledge transfer because content is seen in different contexts showing that it *can* be applied to different contexts (Fisch, 2013)
- Can increase student engagement (Levine and Vaala, 2013)
 - “Quest to Learn” Charter Schools founded in New York on basis of game design
- Intrinsically motivated “master orientation” promotes greater long-term school success than extrinsically motives “performance orientations” (Revelle, 2013)
- Can Help with
 - Literacy crisis – only one in six African Americans or Hispanic 4th graders are proficient in reading
 - Engagement crisis – one in five minority students drop out of school
 - STEM and college graduation crisis – U.S. behind other countries in math, science and college graduation (Revelle, 2013)
- Can increase social interaction and 21st Century Skills such as problem solving, critical thinking, creativity, collaboration, and systems thinking (Revelle, 2013)



Why Video Games?

- Underline productive skills instead of merely passively consuming knowledge (Colby, Johnson, & Colby, 2013)
- Provide immediate rhetorical feedback loop
- Embody attributes of playing such as pretending, competing, AND cooperating (Colby, Johnson, & Colby, 2013)
- Games are experiential and participatory, embrace trial and error, are open-ended, focus on process over product and are fun (Alberti, 2013)
- Video games embody 36 Principles of Learning (Gee, 2003) – see handout
- Games trigger the brain's natural reward circuitry (Johnson, 2005)
- Games represent Marx's "creativity of capitalism", which leads to progressively better designs for good and challenging learning (Gee, 2003)
- They inspire multiplicity of literary practices (Robison, 2008) and are the literary environments in which students have developed (Alberti, 2008)



Reconceiving video games as text

- Video games have been upheld in the United States Supreme Court as protected speech under the first amendment in *Brown v. Entertainment Merchants Association*, 546, US, 2011
- Video games as text are both accessible and rich (Smith, 2008), and are exemplar multimodal texts (Colby, Johnson, & Colby, 2013)
- Games are neither better nor worse than other texts, just different (Johnson and Colby, 2013)
 - Johnson (2005) imagines if video games had been invented before books that “we might think of a book as a ‘barren string of words’, ‘tragically isolating’ narratives that can’t be controlled, and of reading as an entirely too submissive process
- Communities of practice = gaming affinity spaces (Hayes and Duncan, 2012)
 - Common endeavor
 - “Newbs” and masters share a common space
- Rosenblatt’s transactional theory = relationship of player to game
 - Players not only impact content in their own and others’ gameplay, but also can affect content through their feedback to game designers (Hayes and Duncan, 2012)



Game Characteristics

- Games force you to make decisions
- Involve probing and telescoping
- Withhold information about underlying rules, requiring explorations; success lies in deciphering the rules and physics of the virtual world
- Encourage participatory thinking and analysis
- Provide immersion in writing and reading practices that stress interactivity, visuality, fluidity and fun (Alberti, 2008)

Video Games vs. Writing Class/Education

	School	Video Games
Educational	✓	✓
Requires Practice	✓	✓
Lack of consequences		✓
Ungraded		✓
Unpenalized mistakes		✓
Unevaluated		✓
Provides choices in tasks		✓
Individual control of pace and level of difficulty		✓
General personal control		✓
Manifestation of play		✓
Immediate rhetorical feedback loop		✓
Embrace trial and error		✓
Participatory and experiential		✓
Open ended		✓
Focus on process over product		✓
Low stakes		✓

John Huizinga's (1955) *Homo Ludens*

**except where noted*

CLASSES ARE **LIKE** VIDEO GAMES BECAUSE:

- They are demarcated from “ordinary” life
- They proceed according to set times and spaces
- Have fixed rules
- Promote social groupings

CLASSES ARE **UNLIKE** VIDEO GAMES BECAUSE:

- Classes have higher stakes
- Games are designed around “play” experience, while this is secondary in course design
- Fun is central to success of game, but not learning
- Context is privileged in course; experience is privileged in gameplay

Video Games can be like word problems (Johnson, 2005)

TYPICAL **MATH** PROBLEMS:

Simon is conducting a probability experiment. He randomly selects a tag from a set of tags that are numbered from 1 to 100 and then returns the tag to the set. He is trying to draw a tag that matches his favorite number, 21. He has not matched his number after 99 draws.

What are the chances he will match his number on the 100th draw?

- A. 1 out of 100
- B. 99 out of 100
- C. 1 out of 1
- D. 1 out of 2

TYPICAL **VIDEO GAME** PROBLEM:

You need to cross a gorge to reach a valuable destination. At one end of the gorge, a large rock stands in front of a river, blocking the flow of water. Around the edge of the rock a number of small flowers are growing. You have been given a jar by another character.

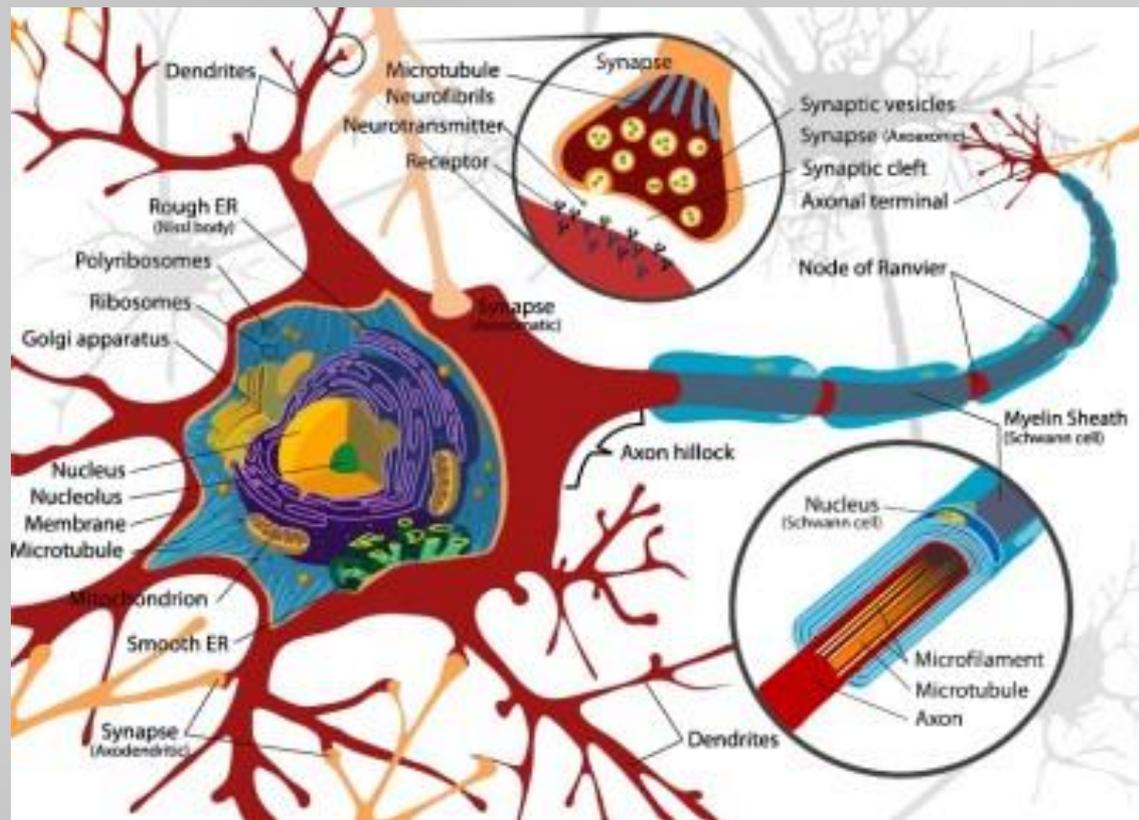
How can you cross the gorge?

- A. Jump across it.
- B. Carry small pails of water from the river and pour them in the gorge, and then swim across.
- C. Water the plants, and then use the bombs they grow to blow up the rock, releasing the water, and then swim across.
- D. Go back and see if you've missed some important tool in an earlier scene.

“Five Rules of How the Brain Learns”

(Smilkstein, 2003, qtd in Alberti, 2013)

1. Dendrites, synapses, and neural networks grow only from what is already there
2. Dendrites, synapses, and neural networks grow from what is actively, personally, and specifically experienced and practiced
3. Dendrites, synapses, and neural networks grow from stimulating experiences
4. Use it or lose it
5. Emotions affect learning





Cognitive skills gained through game play

- It is not *what* you're thinking, but the *way* you're thinking that matters (Johnson, 2005)
- Linked to problem solving, systems thinking, creativity, literacy and teamwork skills (Hayes and Duncan, 2012)
- Improve 21st Century Literacies such as communication, time management and leadership (Hayes and Duncan, 2012)
- Acquisition of specialist language (Hayes and Duncan, 2012)
- Learn how to read and represent identity, communicating and gauging authority and ethos, collaboration and cooperation, using language tools and reading, composing texts within special communities (Colby, Johnson, & Colby, 2013)
- Improves reasoning and strategy skills (Blumberg, Altschuler, Almonte, Mileaf, 2013)
 - Girls tend to use observation, exploration and innovation
 - Boys tend to use cheat codes and ask friends for help (research and social skills)

Cognitive Skills Gained

Problem Solving	Systems Thinking
Creativity	Literacy
Teamwork/Collaboration/Cooperation	Time Management
Leadership	Acquisition of Specialist Language
Reading and Representing Identity	Communicating and Gauging Ethos
Composing Texts in Special Communities	Reasoning
Strategy	Probing/Telescoping

The glazed-over look individuals get when playing games is not a sign of mental atrophy but of intense concentration.

- Steven Johnson, *Everything Bad is Good For You*



Earlier video game such as *PacMan* and *Super Mario Brothers* were more linear in nature, but still offered many cognitive benefits.



Today's video games are complex and exploratory in nature, offering even more opportunities to develop cognitively; this will only increase as gaming technology increases



Spectrum of Incorporation



NO INCORPORATION/MINIMAL

FULL INCORPORATION/FOCUS

Understand
prior game
knowledge

Game-as-metaphor

Game-as-artifact

Course-as-game

Game-as-course



General advice for incorporation:

- Treat course as play space (Hodgson, 2013)
 - Give students opportunities to “safely fail” (Hodgson, 2013)
 - Use self-selected difficulty levels (Hodgson, 2013) – see handout
 - Use questing structures
 - Incorporate opportunities for “probing”
 - Provide instant and impactful feedback
 - Consider “experience points” accumulation and “high score” systems
 - Like games, classes must be challenging but also provide tools to navigate the difficulty (Gee, J.P., qtd in Miller, 2013)

MINIMAL INCORPORATION

- Understand prior knowledge associated with video game play and digital literacies with which students enter course
- Use game characteristics for course items
 - Associate rubric levels with game levels – see handout (<http://tvtropes.org/pmwiki/pmwiki.php/Main/IdiosyncraticDifficultyLevels>)
- Game-as-artifact (Colby, Johnson, & Colby, 2013, Hodgson, 2013)
 - Study game as a text
 - Analysis, Narrative, Dialogue, Procedural Rhetoric, Labels, Text/Image Relationship, Sound, Interactivity, and other linguistic and literary angles (Garrett, 2013), as well as representations of identity (Warren, 2013)
 - Game criticism
 - Participate in game play/ game design forums (Beason, 2013)
- Game –as-metaphor
 - Use games as metaphor, bringing the connections to consciousness to achieve transfer (Johnson and Colby, 2013)
- “Debriefing” of games has been linked to knowledge transfer (Blumberg et al)





Game-as-Artifact

- Mullen (2013) describes using game criticism to teach constraints such as audience, prior and current state of subject, and how bias and assumptions shape argumentative practices
 - Used defamiliarization and Kairos (timing)
 - Built in opportunities for students to choose
 - Suggests not using mainstream/ popular games in order to increase defamiliarization
- Colby (2013) describes using *World of Warcraft* to teach qualitative, quantitative, and text-based research methods
 - Quantitative – examine game mechanics
 - Qualitative – analyze arguments within game forums or game narratives
- In my ENGL 1101 in Fall 2013, the first assignment was a diagnostic essay prompt: “What is Good Writing?”. For the next assignment, students were asked to play *The Game of Life* app on iPhone. The first assignment was a narrative essay explaining their “life” in their game experience. A class discussion regarding how writing and rhetoric are used at different points in life was built on the simulated life experience in the game, and students then wrote an expository essay on how writing and rhetoric are used throughout life. The final assignment revisited the initial prompt, “What is Good Writing?”.



Game-as-Metaphor Example

- Think of composition as “playing a game” (Alberti, 2008)
- Bring metaphors to consciousness to achieve transfer (Johnson and Colby, 2013)
 - Pre/post writing prompt: “Writing is like . . .”
 - Locked doors = writer’s block
 - Wandering without a map to get bearings = research
 - Draw upon language of quests to explain non-linear writing process
 - When thwarted by writing difficulties, the reward increases just as with challenges in games
 - Map curricula that reward lateral movement and revisiting old rooms
 - Link from core readings to optional commentary
 - Include recursive assignments
- Smith (2008) used the metaphor of telescoping in game to show how telescoping is used in learning in general; students were then able to apply the concept interdisciplinarily

MEDIAL INCORPORATION

- Course-as-game: model course after good video game design and principles (Colby, Johnson, & Colby, 2013; Hodgson, 2013)
 - Offer content choices
 - Flexibility in completing and advancing
 - Opportunities for cooperative learning
 - Incorporate negotiation of challenging tasks
- Provides immersion and metaawareness (Hodgson, 2013)





Course-as-Game Example

- Choose game and identify features, i.e. “questing”
- Design course using game design process
 - Robison (2008) describes how a game designer thinks about what he wants people to say about the game, articulates what will make the game a fun experience, discuss and iterate to achieve a clear vision and make an argument for why the choices will work
- Design course based on game features, i.e. “questing lines”
 - Hodgson (2013) described a course in which he developed four “quest lines” or projects to complete in class in increasing difficulty and weight
 - Students had to successfully complete “lower” quests before moving on
 - Built in options of choice of seven different questions, five optional and two required
 - Only due date was last day of class; utilized revise-and-resubmit policy to mimic safety-to-fail
 - Used experience points instead of traditional grading
 - Built in opportunities for collaboration, i.e. points for peer reviews
 - According to Hodgson, collaborative learning was phenomenal and competitive grading worked well, but course design requires rapid and voluminous grading
- See: www.dwrl.utexas.edu/hodgson/JH/Rhetoric-and-Serious-Games.html

FULL INCORPORATION

- Game-as-course: (Colby, Johnson, & Colby, 2013; Hodgson, 2013)
 - Game play is part of course
 - Compose game reviews
 - Design games as part of course
 - Not only “read” or analyze games, but “write” games





Game-as-Course example

- Game design is a major component of a course described by LaVague-Manty (2013)
 - Introduce concepts for analyzing texts and have students analyze a game
 - Have students present game proposals and obtain feedback
 - Play game drafts and obtain peer review
 - Final project is playable game “written” by student

Free online access to drag and drop software at:

“Game Salad” and “Game Maker” as well as other sights

Considerations

- Teachers who will incorporate video games MUST also play themselves (Johnson and Colby, 2013)
- The “digital divide” (Hayes and Duncan, 2012)
- Females may be at disadvantage in classes that privilege gaming literacy (Colby, 2013)
 - Girls are increasingly playing; Largest category of video game players is middle-aged women playing card games on the net (Gee, 2003)
- Inequity of apprenticeship (Hayes and Duncan, 2012)
- Not all games are equal
 - Every medium carries its own affordances; match content to medium (Fisch, 2013)
 - Specific games hone specific skills (Fisch, 2013)
 - Research needs to reflect the differential impact of individual games (Levin and Vaala, 2013)
 - Make game selections based on cognitive challenge, not content (Johnson, 2005)
- Possible negatives of gameplay include:
 - Violent content
 - However, Johnson (2013) reports that violent crimes has actually decreased in the last decade
 - Encourage criminal activity or aggression
 - May be addictive
 - Stunt social development
 - “Melt” the brains of youth
 - Do not teach morality (Johnson and Colby, 2013)
- “Fun” does not always mean “learning (Johnson and Colby, 2013)
 - Goal is not to substitute “play” for “work”, but to recognize that binary as false
- Concern that games contribute to sedentary lifestyle (Calert, Staino, and Bond, 2013)
 - Exergames can contribute to solution



Recommended Reading

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