

Teaching intellectually diverse students through games

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My Classroom

- 12 students
- Aged 13-15
- Diagnosed with a mild to moderate intellectual disability
- Numeracy skills vary from counting on to division
- Literacy skills in Grade Prep to 7 range

Reading Recovery Levels	Rigby Catalog Reading Stages	Grade Level Equivalent	Rigby PM Plus Levels	Fountas & Pinnell Level	Dominie Levels	Wright Group McGraw-Hill	
A,B	Emergent	Beginning Kindergarten	Starters 1	A	1	A	
1		Middle K	Starters 2	B**	2	B	
2	Early	End K	3-4 red	C	3	C	
3		Beginning Grade 1	5-6 red/yellow	D	4	D	
4					5	E	
5					6		
6					7	F	
7		Middle Grade 1	7-8 yellow	E	8		
8			9-10 blue	F	9	G	
9			11-12 blue/green	G	10		
10			End Grade 1	13-14 green	H	11	H
11						12	
12	13					I	
13	14						
14	15-16 orange	I**	15	J			
16			16				
18	Early Fluent	Beg. Grade 2	17-18 turquoise	J	17	K	
		Middle Grade 2	19-20 purple	K	18	L	
			21 gold	L**	19	M	
20		End Grade 2	22 gold	M	20	N	
22	Fluent	Grade 3	23 silver	N	21	O	
			24 silver	O**	22	P	
24		Grade 4	25 emerald	P	23	Q	
			26 emerald	Q,R	24	R	
			27 ruby	S,T	25	S,T	
			28 ruby				
26		Grade 5	29 sapphire*	U,V,W	27	28	
			30 sapphire				
28			Grade 6				X,Y
30		Grade 7		Z		30	
			31				
32			32				
					33		

http://title1.spps.org/uploads/text_correlation_chart.pdf

Teach to the bottom, then extend upwards

First...

- Teach a storytelling unit by first letting students learn a video game
- Over several lessons, as they play the game, teach them about simple narrative elements (character, setting, etc)
- The game creates a context for learning

Teach to the bottom, then extend upwards

- A video game can be used as a context to teach skills (storytelling, spatial awareness, etc)
- Context is important for understanding new concepts
- Context allows the student to relate what is being learnt to something tangible.

Teach to the bottom, then extend upwards

Then...

- Have them write their own stories – starting with repeating what they know about the game
- For those of higher ability, extend their tasks by having them incorporate original ideas and/or make creative changes to the games' story

Games and Storytelling

- But not all games are alike – choose games that have a narrative component (e.g. a “Quest”)



http://www.fretshirt.com/media/catalog/product/cache/1/image/465x465/9df78eab33525d08d6e5fb8d27136e95/k/e/keep-calm-and-save-the-princess_black.jpg

The Legend of Zelda



- <http://i.kinja-img.com/gawker-media/image/upload/uddtluxgjagwtur7x8h7.jpg>

The 'Quest'

THE LEGEND OF ZELDA

MANY YEARS AGO PRINCE DARKNESS "GANNON" STOLE ONE OF THE TRIFORCE WITH POWER. PRINCESS ZELDA HAD ONE OF THE TRIFORCE WITH WISDOM. SHE DIVIDED IT INTO "8" UNITS TO HIDE IT FROM "GANNON" BEFORE SHE WAS CAPTURED.

GO FIND THE "8" UNITS "LINK" TO SAVE HER.

<http://www.controlpadblues.com/wp-content/uploads/2013/03/zeldaintro.jpg>

Simple 'Quest' characters

Hero



Villain

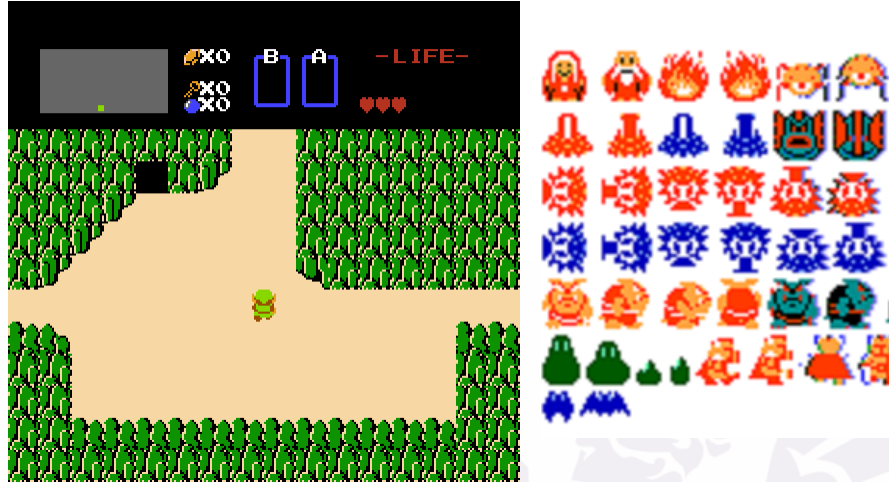


Goal



http://fc09.deviantart.net/fs71/i/2010/029/a/f/Nes_Link_by_BKiceman77.jpg
http://static.giantbomb.com/uploads/original/9/95666/1892493-link_ganon_legend_of_zelda.png
http://orig07.deviantart.net/f21e/f/2012/220/8/e/nes_zelda_by_eri_tchi-d4mc3m6.png

Simple Settings & Objects



http://3.bp.blogspot.com/-zMtRd00JYQ/TdDFNcs5J/AAAAAAAAE3Q/V9MPZQeCulc/s1600/Legend_of_Zelda_NES_05.png
<http://3.bp.blogspot.com/-jcBF-H-6aY/U2iYuqkHGFI/AAAAAAAAABq4/99vaaYHFIXQ/s1600/legendofzeldasheet1.gif>

Engagement

The Legend of Zelda Project

The Legend of Zelda Project Game information and downloads here: <http://www.zeldaclassic.com/>

YouTube documentaries

The timeline and story of the Legend of Zelda by Game Trailers:
Part 1 of 3: <https://www.youtube.com/watch?v=fgzPeVe5POQ>

The history and creation of the Legend of Zelda:
Part 1 of 5: <https://www.youtube.com/watch?v=B0jkt7cqkp0>

My unit plan (in brief)

1. Whole Group preview of the game on the IWB
2. Students individually played it
3. Lesson on the characters, setting, and story.
4. Showed YouTube videos about the history
5. Students played the game again
6. Then students played a new map downloaded from zeldaclassic.com

(I chose "A Hero's Story" because it was a bit more linear)

Before Play Discussion



Before Gameplay Questions: *The Legend of Zelda*

Players will form predictions and evaluate after gameplay.

1. How can a player keep track of the map they explored, destinations they have visited, and experiences they have endured? How can this learning be transferred to the real world with real people and in real places?
2. How can a player keep track of the sequence of their experiences?
3. What are cardinal directions?
4. Why would cardinal directions be used during a video game?


After Play Discussion

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Making School

A GAME WORTH PLAYING

DIGITAL GAMES IN THE CLASSROOM



Ryan Schaaf
Nicky Mohan

Introduction by Jason Ohler

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Post Gameplay Debriefing: *The Legend of Zelda*

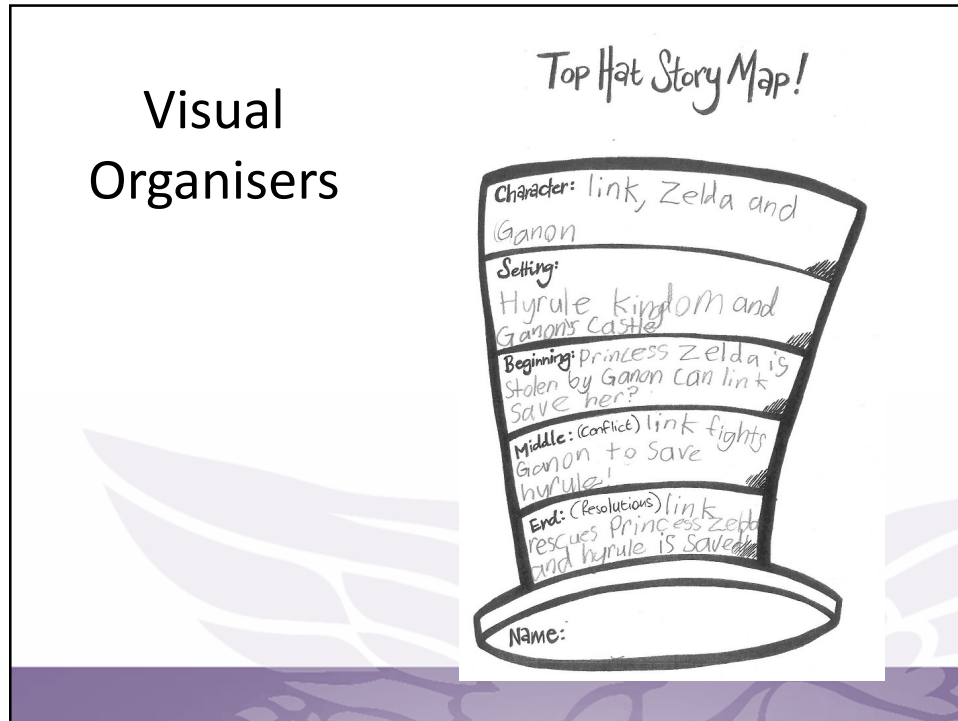
Players will discuss and answer after gameplay.

1. Explain how the player used cardinal directions during the game.
2. How will the use of cardinal directions help if you are working with a team?
3. Name three tools or weapons Link used during gameplay.
4. What resources did Link use during gameplay? How do you think these resources were produced?
5. Did you have to give up a resource or did you lose a resource during gameplay?
6. Did you purchase or collect anything during gameplay?

Storytelling Lesson

1. Students learned about story structure (Beginning, Middle, End) – Story Builder
2. And started writing the Zelda story
3. I then did this as a whole group activity showing ways students could add to their story
4. Students try writing their own Zelda story (on paper, then on PowerPoint)

Visual Organisers



Redesigning the Game (& the story)

- Then they started creating their own characters (villains & heros), settings (a different village, new castles), and weapons & tools
- Students could then write a few sentences describing the new place, person, object
- Game Mashups - put things from two games together as a new game


Other Activities

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A GAME WORTH PLAYING

DIGITAL GAMES IN THE CLASSROOM



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Media Product Examples: *The Legend of Zelda*

- Create a gameplay adventure map describing Link's travels, experiences, and directions in the form of a narrative or a role play. Have students create a video, podcast, slideshow, or presentation of their story.
- Write a story of a brief adventure or mission Link performs during gameplay. Use cardinal directions and clear, descriptive instructions to encourage other students to try and recreate the adventure. Players and writers will participate in an interview to determine if the story was accurately replayed.
- Players take on the role of a game designer and construct their own *Legend of Zelda* map using a digital art program or service such as Pixie, KidPix, or Google Draw. Next, the player creates directions for a player to perform a simple mission using cardinal directions and resources and tools used during the game.

Numeracy activities

- Map & Spatial awareness
 - (Cardinal Directions)
- “Draw your own Zelda map”



Money & Shopping



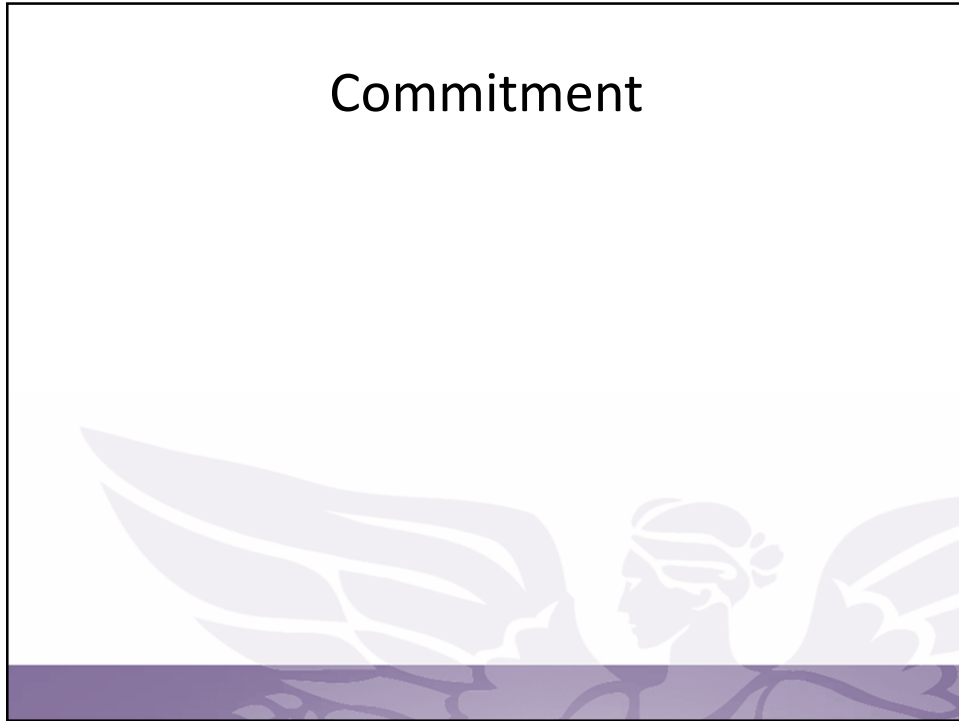
- https://img1.etsystatic.com/000/0/6212639/il_570xN.222439301.jpg

Assessment

4 Student groups thoroughly examined and explored new pathways, using cardinal directions to fulfill student-generated missions (e.g., find a cave). The written game level narrative was compelling and included a detailed description of the adventure. The student group illustrated a detailed and accurate map of their new level with 100 percent of all map elements included. Student groups generated a long list of the resources acquired by Link during his adventure and determined how they were constructed.

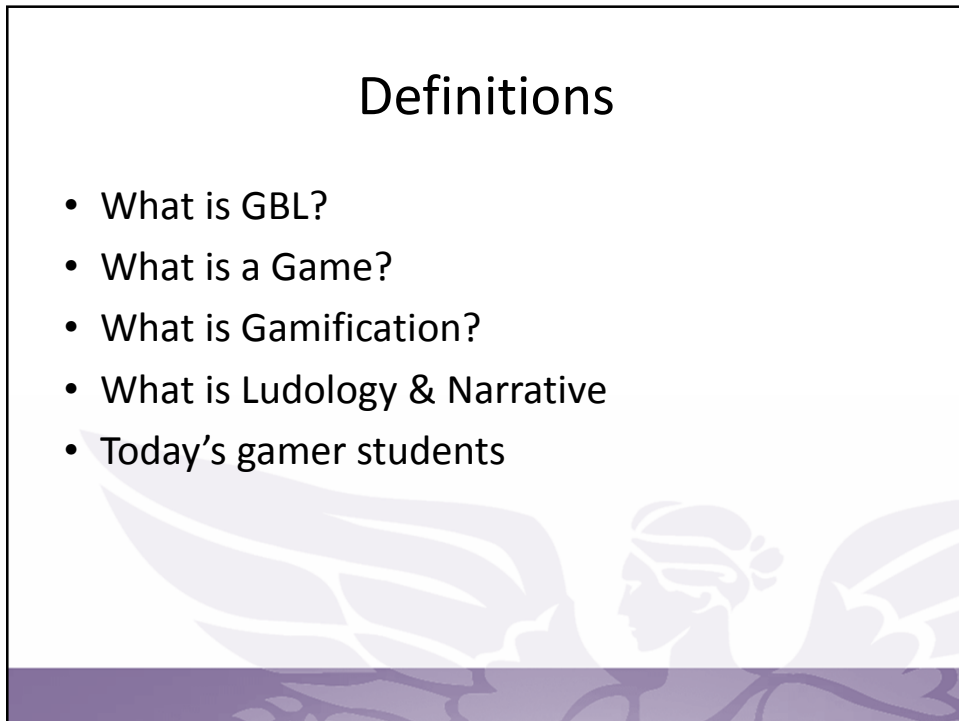
3 Student groups examined and explored new pathways, using cardinal directions to fulfill student-generated missions (e.g., find a cave). The written game level narrative was interesting and included a fairly detailed description of the adventure. The student group illustrated a fairly detailed and mostly accurate map of their new level with at least 80 percent of all map elements included. Student groups generated a considerable list of the resources acquired by Link during his adventure and determined how they were constructed.

Commitment



Definitions

- What is GBL?
- What is a Game?
- What is Gamification?
- What is Ludology & Narrative
- Today's gamer students



What is GBL?

- Games-Based Learning is using a game to provide context to a learning activity
- GBL uses games' characteristics like competition, strategy, rewards, and goals to create engagement in the learning process
- Active, "hands-on" learning, that encourages practice and proficiency

What is a game?

- An activity where decisions result in risks and payoffs
- Immediate feedback on decisions made
- A simulation bounded by rules but with no 'real-world' consequences
- Often where learning the rules develops in stages and with experience
- Some say a game should be voluntary

What is Gamification?

- The use of rewards, badges, and points to:
 - encourage participation and continued engagement
 - demonstrate completion of tasks and progression of skills

Ludology & Narrative

Two ways of looking at games:

- Games as a set of rules – Ludology
- Games as a story – Narrative

In education – I argue that you can bridge these two concepts together by focusing on 'Quest' games

A well designed game (and lesson) can trigger dopamine release

Dopamine

- Not necessarily a pleasure hormone
- Not necessarily a learning chemical
- Latest research shows it's a: 'wanting' chemical

Thus:

**“dopamine is about wanting and motivation”
(Lewis-Evans, 2013a)**

Dopamine

- Makes us seek out rewards
- Uncertain rewards produce more dopamine
- Often, more dopamine released in anticipation of a reward, not in receiving the reward itself. (Lewis-Evans 2013b)
- Brain isn't interested if you are happy—it just wants to keep you alive

Dopamine

- As with anything, you build up a tolerance over time
- So a child, used to high levels of dopamine from video games, will go through 'withdrawal' at school.

Today's students

- Today's students are better at:
 - 'twitch speed'
 - Parallel Processing
 - making connections between random information, but not as good as sequencing information

Prensky (2005)

Creative Commons Kids

- Primary kids of today were born after the:
 - Internet
 - iPod
 - xBox
- They are now producers as well as consumers
- They show creativity through YouTube channels, remixing/mashups/song covers, product reviews and instructional videos

Technology and video games have changed children's lives

- The students coming into the classrooms today are different than 10 years ago
- Students' brains may be wired differently as a result of playing video games growing up
- It is up to us, the school, to change

Putting it all together

- For literacy learning, chose games that have a rich story: 'Quest' games
- Let students learn about the game (ideally by playing it)
- Then use it to explain new literacy concepts
- If possible, use it to teach other concepts (math, science, history)

Putting it all together

- But the game is only a context
- You are not teaching the game, you are teaching curriculum
- Everything comes back to the lesson topic
- GBL can engage a new generation of producers while achieving lesson objectives.

References

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