www.clarkburt.com   twitter @clarkburt

Video Games to Teach Literacy in Special Education

K. Clark Burt
Ashwood School &
The University of Melbourne

Summary

- 21st Century Students

- Learning Literacy:
  - Reading Comprehension
  - Vocabulary
  - Storytelling

- Theories:
  - Dual Coding Theory (Paivio)
  - Experiential Learning (Kolb)

Technology for Students with Disabilities

A voice for those who cannot speak
Proloquo2Go

English and Spanish symbol-supported communication app to promote language development and grow communication skills, from beginning to advanced communicators

http://www.assistiveware.com/product/proloquo2go

https://www.microsoft.com/microsoft-hololens/en-us

21ˢᵗ Century Students

"[Apps are] accepted as being mainstream technology, without any associated stigma. Students have fun using them as they are intuitive and little training is required. They are almost immediately accessible to most students" (Kennedy, 2012)

Great for:
Communication
Writing
Practicing Skills
Providing Feedback

https://en.wikipedia.org/wiki/List_of_iPod_models#/media/File:Ipod_2G.png

Students with ID

- "Children with ID need to revisit the same learning objectives repeatedly through a variety of activities that maintain their interest and motivation. " (Kennedy, 2012)

- Students want...
  - A purpose when they learn
  - To interact (both with and without technology)
  - Different ways to express themselves
  - To play (but not childish play)

Video Games

- Actually, let's call it Games-Based Learning (GBL)

- GBL 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

- Why? Provides a context

Reading Comprehension with Context
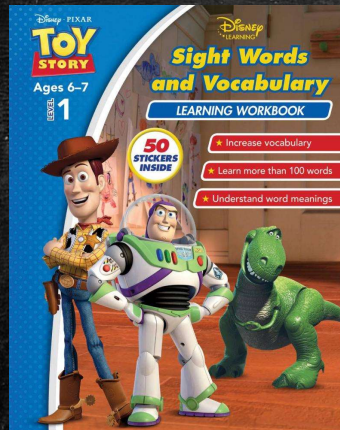
Getting Knowledge Ready

teach readers to 'get their knowledge ready' for reading, to make initial decisions about it, decide its likely topic and purpose.

They link the text with what they know
- stimulate relevant experiential knowledge
- stimulate relevant language
- bridge to the text

http://www.booktopia.com.au/books-online/children-teenagers-young-adults/educational-material/english-language-literacy-educational-material/cYQC-p1.html?keywordsFilter=toy%20story

My Classroom

- 10 students
- Aged 13-15
- Diagnosed with a mild to moderate intellectual disability
- Numeracy skills vary from counting on to simple division
- Literacy skills in Grade Prep to 4 range

http://odc2-scc-nnu.wikispaces.com/file/view/actreslg.gif/502336622/actreslg.gif

The Electric Company
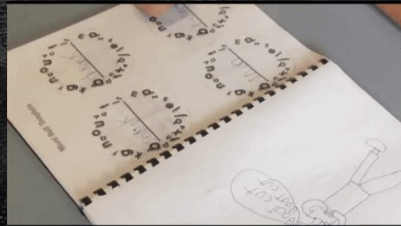
A Hybrid Model called Transmedia: both digital and non-digital resources made together to teach a common theme
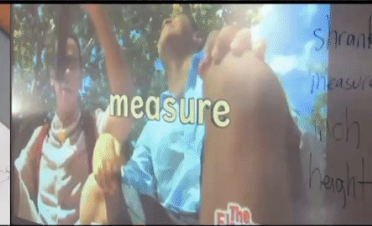

YouTube: The Electric Company Summer Learning Program

Modifications for Vocabulary Learning

Visualising/Drawing   Motion/Movement

Results? Fun at first, then students were bored by everything except the games

How do you teach new vocabulary?

- Writing the word on the board and saying the definition is **abstract**

What is the definition of this word?

Redoubtable

What do you need to learn the definition?

Growing up in the great depression, starting a farm and family, and persevering through all of life's struggles proves my grandfather is a redoubtable man.

Redoubtable

Redoubtable means daunting, honorable, maybe even intimidatingly so, creating fear.

The adjective *redoubtable* traces back to the French word *redute*, meaning "to dread," a combination of the prefix *re-*, which adds emphasis, and *duter*, which mean "to doubt." But it isn't the redoubtable person that you doubt — it's yourself or your ability to compete against or be compared to him or her. That's where the dread comes in. But you can learn a lot from and be inspired by redoubtable people, if you can just get over being afraid of them.

https://www.vocabulary.com/dictionary/redoubtable

What games do you use to teach vocabulary?

- Roll-playing

- Hangman

- iPad app Chicktionary

- Kahoot! or Quizlet

Why do games engage so well?

Provides a context

Good game design scaffolds player so game is neither too difficulty nor too easy

Provides rewards & "Leveling up"

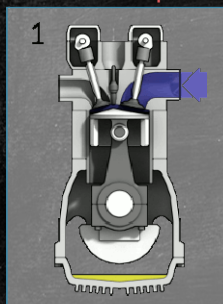Students can demonstrate progress

Interactive

Dual Coding Theory (Paivio)

The brain processes information in two ways:
- Images (Imagens) – Visual system
- Language (Logogens) – Verbal system (includes written text)

Add a picture, image, sound, video along with traditional written text

Video games use: pictures, sounds, text, movement to provide the right amount of information to the player
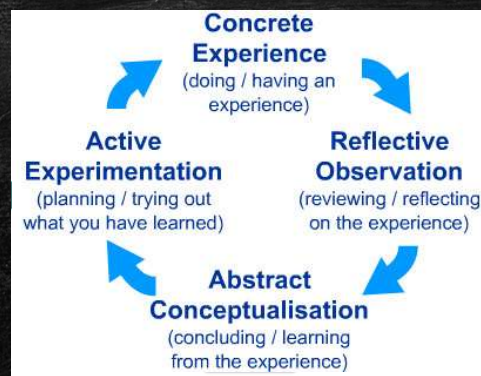
https://en.wikipedia.org/wiki/Four-stroke_engine

Storytelling (narrative)

http://www.clarkburt.com/my-research/

Experiential Learning (Kolb)

Video games have actions. Action and movement is another part of the brain that is used for learning

http://giphy.com/gifs/nintendo-mario-OVqu2VqG0Yslq
http://www.simplypsychology.org/learning-kolb.html

Which of these principles excites you about games in the classroom??

GAME-LIKE LEARNING PRINCIPLES

1. Everyone is a Participant
2. Learning Feels Like Play
3. Everything is Interconnected
4. Learning Happens By Doing
5. Failure is Reframed as Iteration
6. Feedback is Immediate and Ongoing
7. Challenge is Constant

© Institute of Play 2015   INSTITUTE of PLAY

Some other games

Grammatikus – World of Warcraft style gameplay for upper primary
StudyLadder – a free resource for teachers to set up classes with individual student logins
Project Spark – Windows 10 or xBox one – game creator but with storytelling elements
Reading Raven – A paid app that is great for learning phonics.
Sight Words 2 – Designed for Grades 1 & 2, this app reads out common site words and the student needs to pick the right one.
Clarospeak Plus – Students speak and this app converts it into text.
Toontastic – A storytelling/animation app that every student seems to enjoy.
Dino-Store – for iPad, a simple but cute story with some interactivity
Grandpa in Space (part of a series) - practice math, sorting, and rhyming
EdShelf.com – a search engine for apps/software for teachers
http://www.clarkburt.com/literacy-games-apps/

References

Cain, K., Oakhill, J., & Lemmon, K. (2004). Individual differences in the inference of word meanings from context: The influence of reading comprehension, vocabulary knowledge, and memory capacity. *Journal of educational psychology*, *96*(4), 671.

Dickens, L., & Watkins, K. (1999). Action Research: Rethinking Lewin. *Management Learning,30*(2), 127.

Kennedy, G. (2012, May 15). Using iPads with Students with Intellectual Disabilities. Retrieved from: http://www.spectronics.com.au/blog/tools-and-resources/using-ipads-with-students-with-intellectual-disabilities/

McLeod, S. (2013). Kolb – Learning Styles. Retrieved from: http://www.simplypsychology.org/learning-kolb.html