


Homemade
PowerPoint
Games



in a Secondary Laptop Environment

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Introducing

- schools typically have access to PowerPoint
- teachers already have some facility with the tool
- students are also familiar with the tool
- everyone would like to be able to use it for more than just another PowerPoint presentation

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It's better because it's homemade!

Develop Deeper Understanding

Level I is characterized by “just because” explanations given by students and is heavily based on factual representations.

Level II understanding is also very superficial and is characterized by very rational, logical thinking processes — students seeing facts as being like pieces of a puzzle that have to fit together.

Level III understanding begins to show a more sophisticated awareness of the role of interpretation and how different interpretations based on the same evidence can occur.

Level IV understanding is a mature level of understanding where students are able to analyze and interpret information using the original context. (Wineburg, 2001)

Develop Deeper Understanding

Constructionism

- the act of designing the game (Blumenfeld et al., 1991; Harel & Papert, 1991; Kafai & Resnick, 1996)

Writing About A Subject Area

- the writing of the game narrative is a concise form of writing that assist students in understanding the content (Berthoff, 1982; Griffin, 1983; Raimes, 1980)

Writing Questions

- the act of writing higher order questions assist students comprehension (Rickards & DiVesta, 1974; Wong, 1985)

University High Projects

US Studies

- laptop class with course taught in hybrid format
- data from 2006-07 & 2007-08
- review for mid-term and final exams
- ~50 students each sample
- designed games on one of 7 (mid-term) or 10 (final) topics to review for exams

Creating a PPT Game

1. Introduce PPT games
2. Sharing game ideas and stories
3. Different levels of questioning
4. Create prototype of the game
5. Peer review
6. Share games with the class

Methodology

- mid-term & final exams
 - multiple-choice questions
- 10 questions per topic
 - compared how students did on their game topic to other topics



2006-07 Mid-term

- from a statistical standpoint, there were no significant difference in student performance
 - paired sample *t*-test: $F(1, 48) = -1.445, p > .05.$
 - ANCOVA: $F(1, 48) = 10.311, p < .05$

Student Average Scores By Class By Topic On Mid-Term Exam

	Class 1	Class 2	Total
Exam Score in Game Area	5.76	4.72	5.35
Average Exam Score in Non-Game Areas	5.10	4.71	5.01

2006-07 Final

- from a statistical standpoint, there were no significant difference in student performance
 - paired sample *t*-test: $F(1, 34) = .376, p > .05$
 - ANCOVA: $F(1, 35) = .272, p > .05$

Student Average Scores By Class By Topic On Final Exam

	Class 1	Class 2	Total
Exam Score in Game Area	6.89	6.07	6.49
Average Exam Score in Non-Game Areas	6.50	6.50	6.50

2007-08 Data

- still conducting analysis
- appears to be similar trends
 - descriptive statistics and *t*-tests
 - although we are still exploring the data (i.e., game topic vs. non-game topic; between topics; gender; etc.)

Initial Conclusions

- PPT Games were as effective as the other methods students used to review
 - but the initial potential was not realized
- both the teacher and the students that they enjoyed the activity

Future Research

- continue working with 2007-08 data
- data set from an English Language Arts class using essay questions
- collecting new data set with a Science class
- Wednesday, 04 March 2009
 - 1:30pm to 2:00pm in room 12


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<http://it.coe.uga.edu/wwild/pptgames/index.html>

**Your
Questions
and
Comments**



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