


Testing an Assumption of  
*Homemade*  
**PowerPoint**  
*Games*



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*Homemade*  
**PowerPoint**  
*Games*



*It's better because it's homemade!*

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

### 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)

### The Problem

**No statistically significant differences**

- Barbour, Kinsella & Rieber, 2007; Barbour, Kinsella, Toker, 2009
- Clesson, Adams & Barbour, 2007
- Parker, 2004

**Why?**

- measures don't capture deeper understanding
- small sample sizes / non-randomized samples
- poor teacher resources and/or job aids
- students aren't following the theoretical framework

### 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

### 3. Different levels of questioning

Students are introduced to the concept of different levels of questioning based on Bloom's Taxonomy. Students work in pairs to improve their three sample questions to ensure that the games will promote higher-order thinking skills rather than the basic recall of facts. Students are also encouraged to make sure questions relate back to the original story. Instead of, "What is the definition of inertia?" a game might ask, "Why will the riders on your roller coaster need to wear seatbelts?" This activity encourages students to write short answer and open-ended questions instead of simply multiple choice. (Barbour et al., in press, p. 17)

### Writing Questions

#### Job Aids

Creating Action Buttons in PowerPoint ([HTML](#) / [DOC](#) / [PDF](#)) - Gretchen Thomas & Michael Barbour

[Cr](#)  
[Da](#)

Bloom's Taxonomy ([DOC](#) / [PDF](#))

[Cr](#)  
[Da](#)

Bloom's Taxonomy Guide to Writing Questions ([DOC](#) / [PDF](#))

[Giv](#)  
[Da](#)

Question Frames for Developing Higher-Level Questions ([DOC](#) / [PDF](#))

[Shi](#)  
[Pla](#)

Creating a Rubric ([DOC](#) / [PDF](#))

[Shi](#)  
[Lio](#)

### The Sample

US Studies course @ University High School

- 2 sections with 25 students/section
- created PPT games twice annually
- from 2006-07 & 2007-08
- 64 games
- 1885 individual questions

### Methodology

- 6 coders
  - standardized on 1 game
- each individuals coded 21 games
- each game was coded twice
  - 96.5% level of inter-rater reliability

### Data

Bloom's Category	Number of questions coded	Percentage
6 – Evaluation	0	-
5 – Synthesis	0	-
4 – Analysis	0	-
3 – Application	6	0.1%
2 – Comprehension	233	6.2%
1 – Knowledge	3543	93.7%

### Knowledge Level

Who was the cold war between?

- The United States and England
- The United States and Cuba
- The United States and The Soviet Union
- The United States and The Netherlands

## Knowledge Level

How did the cold war get its title?

- a) Both sides were harsh to each other
- b) Both sides were afraid, fought "indirectly"  
– outcome of nuclear weapons would destroy everything
- c) People lived during poor times during the war
- d) The cold war was a terrible war and wasn't talked about

## Knowledge Level

Who was the cold war between?

- a) The United States and England
- b) The United States and Cuba
- c) The United States and The Soviet Union
- d) The United States and The Netherlands

## Comprehension Level

How are the French and Indian Wars, the Third Carnatic War, and the Seven Years' War, all connected to each other?

- a) The Third Carnatic War in Asia lead to the French and Indian Wars in America, and then those lead to the Seven Years' War in Europe
- b) The Seven Years' War in Europe lead to the French and Indian Wars in America, and those lead to the Third Carnatic War in Asia
- c) The Seven Years' War in Europe lead to the Third Carnatic War in Asia, which lead to the French and Indian Wars in America
- d) The French and Indian Wars in America lead to the Seven Years' War in Europe, which later lead to the Third Carnatic War in Asia

## Comprehension Level

Which of the following is NOT stated in Articles IV-VII?

- a) The Constitution is at the top of the ladder in the Supremacy clause
- b) Constitution cannot be amended
- c) States cannot discriminate against other states
- d) Cannot flee state if you commit a crime

## Application Level

Read and Interpret then answer the question.

SECTION 2. JUDICIAL DISTRICTS The State is divided into five Judicial Districts for the selection of Supreme and Appellate Court Judges. The First Judicial District consists of Cook County. The remainder of the State shall be divided by law into four Judicial Districts of substantially equal population, each of which shall be compact and composed of contiguous counties. (Source: Illinois Constitution.)

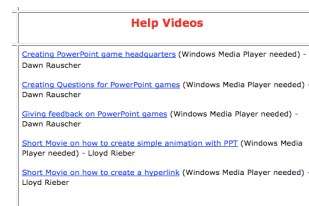
SECTION 3. SUPREME COURT - ORGANIZATION The Supreme Court shall consist of seven Judges. Three shall be selected from the First Judicial District and one from each of the other Judicial Districts.

How many judges in the Illinois Supreme Court are from the district that Mclean County is in?

- a) 3
- b) 1
- c) 7
- d) 4

## What's Missing?

- Samples from various subject areas and grade levels



- Teacher modeling
- Peer modeling

Your  
Questions  
and  
Comments



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