The Beatles: Song Keys

Pictograms derived by mapping each album’s relative key distribution over the Circle of Fifths.

- Major key
- Minor key
- Diatonic Mode

1. Please Please Me
2. With The Beatles
3. A Hard Day’s Night
4. Beatles For Sale
5. Help!
6. Rubber Soul
7. Revolver
8. Sgt. Pepper’s Lonely Hearts Club Band
9. Magical Mystery Tour
10. Yellow Submarine
Oklahoma City Thunder

TOTAL SHOTS  5,228  |  POINTS PER SHOT  1.03  |  F.G. PERCENT  47.1%
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- **Diatonic Mode**

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- Yellow Submarine
11. A water tank is in the form of a regular octagonal prism. The base octagon has side length 11.9 cm. The lateral edge of the water tank is 36 cm.

   a) What is the surface area of the base?
   b) What is the volume of the water tank?
   c) If you pour water into the tank at a rate of 1.8 oz./sec., how long will it take you to fill the tank?

12. Madeleine’s hot tub has the shape of a regular hexagonal prism. The chart on the hot-tub heater tells how long it takes to warm different amounts of water by 10°F. Help Madeleine determine how long it will take to raise the water temperature from 93°F to 103°F.
“Reversing the Flow”

“That is, we start in practice, and practice drives us to content. Or, more likely, the optimal way to learn is reciprocally or spirally between practice and content.”


Key: Developing pedagogies that blend practice and content, both in and out of the classroom.
Kolb’s Learning Cycle

Concrete Experience
- Experiencing

Abstract Conceptualization
- Explaining

Reflective Observation
- Examining

Active Experimentation
- Applying

*denotes student experience
Lead With Experience
Class time for...

• Informal Assessment
• Practice and feedback opportunities
  – Experimentation
  – Social comparison/correction
  – Expert oversight
• Tool-making
• Application (putting rote learning in the service of reasoning)
Examples

• Students create a set of guidelines for their upcoming application
• Students create a set of criteria for self-evaluation
• Students get hands-on software experience
• Students create something typical to authentic practice (e.g., a map + abstract)
Figure 2. Instructional activities that may support different aspects of the learning cycle.

(From Svinicki and Dixon, 1987)
Website serves as resource for instructors, providing online materials intended for out-of-class use (tutorials, including a substantial case study, and ideas for writing prompts) as well as suggested in-class strategies. A complete sample curriculum for a two-day module on spatial thinking is also provided.

**Screencast Tutorials:**
Map Literacy
Histograms, etc.
Case Study
Creating Your Own Map

**Teacher’s Notes:**
Writing, activity, and assignment ideas for adapting into your course

**Sample Curriculum:**
More-developed example of an adaptation/implementation within a political science course.
Map Literacy Example

Apply your guidelines in the written evaluation of a new set of maps, and see if the guidelines are aligned with your own critical response to the maps. Note revisions you would make to the guidelines.

Working in groups, create a set of guidelines for map-making that reflect the criteria you’ve worked together to refine.

Answer questions, reply to prompts

Discuss homework as a class.

(Individually) write list of pros and cons for a chosen map, using criteria you’ve developed.
Map Literacy Example

Apply your guidelines in the written evaluation of a new set of maps, and see if the guidelines are aligned with your own critical response to the maps. Note revisions you would make to the guidelines.

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Answer questions, reply to prompts

(Tutorial:)

Video: Looking critically at maps

(Out of class)

Discuss homework as a class.

(Individually) write list of pros and cons for a chosen map, using criteria you’ve developed.
Map Literacy Example

Apply your guidelines in the written evaluation of a new set of maps, and see if the guidelines are aligned with your own critical response to the maps. Note revisions you would make to the guidelines.

(Out of class)

Answer questions, reply to prompts

(Individually) write list of pros and cons for a chosen map, using criteria you’ve developed.

In class

Working in groups, create a set of guidelines for map-making that reflect the criteria you’ve worked together to refine.

Discuss homework as a class.
Map Literacy Example

Apply your guidelines in the written evaluation of a new set of maps, and see if the guidelines are aligned with your own critical response to the maps. Note revisions you would make to the guidelines.

Real-time assessment/feedback opportunities

Working in groups, create a set of guidelines for map-making that reflect the criteria you’ve worked together to refine.

(Out of class)
Answer questions, reply to prompts

(Individually) write list of pros and cons for a chosen map, using criteria you’ve developed.

Discuss homework as a class.
Map Literacy Example

Apply your guidelines in the written evaluation of a new set of maps, and see if the guidelines are aligned with your own critical response to the maps. Note revisions you would make to the guidelines.

Answer questions, reply to prompts.

(Out of class)

Tutorial:

Working in groups, create a set of guidelines for map-making that reflect the criteria you’ve worked together to refine.

Discuss homework as a class.

(Individually) write list of pros and cons for a chosen map, using criteria you’ve developed.

(In class)

(Out of class)

(Homework)
GIS Analysis Example

Present original analysis of novel data with maps and an abstract that explains design choices. Revise guidelines and critical thinking steps based on this experience. (Homework)

Outline main ideas, articulate critical thinking steps for map design. (Out of class)

Working in groups, use software to explore novel dataset and evaluate possible symbology and classification schemes. (In class)

Review tutorial content, discuss critical thinking steps.
writing-to-learn assignments
conceptual workshops
problem-based assignment design
contextual learning experience design
References


Slide 4: Political Parties - http://xkcd.com/1127/


