



## What is Inquiry Learning?

GK-12 Workshop  
2008  
Louis Keiner

### Why Inquiry?

Apply Concepts → get students to engage  
in h.l.t.

Learning thru experim.

Engaging students

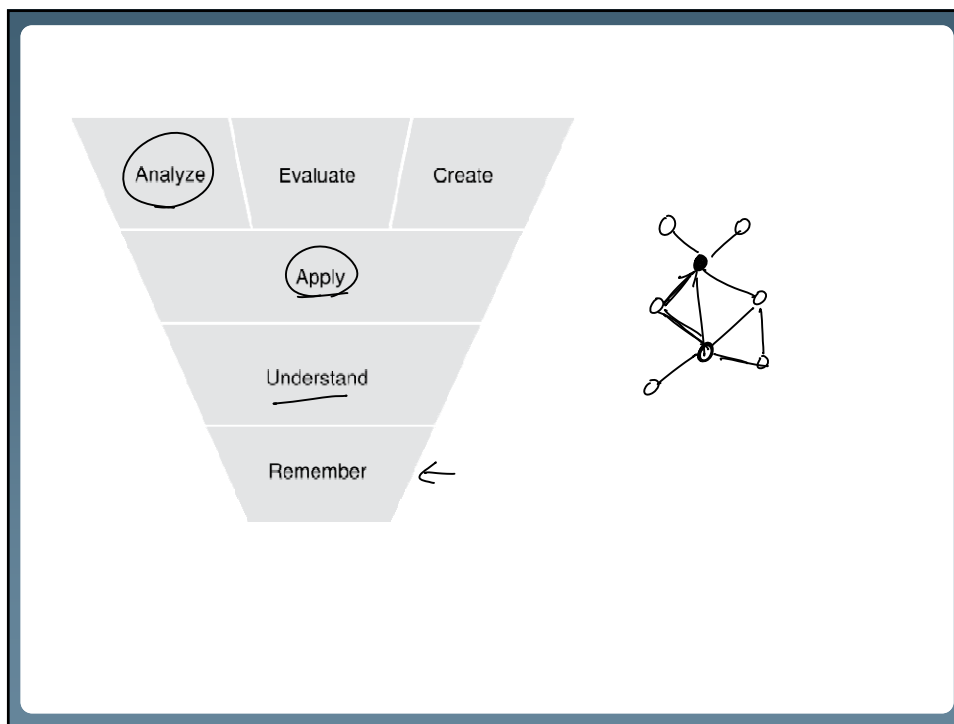
Make it memorable → fun!

Build Confidence.

Includes different learning styles.

Independent acting and thinking

Collaborative work → teamwork.



### Six characteristics of Guided Inquiry:

1. Students learn by being actively engaged and reflecting on that experience
2. Students learn by building on what they already know
3. Students develop higher order thinking through guidance at critical points in the learning process
4. Students' development occurs in a sequence of stages
5. Students have different ways of learning
6. Students learn through social interaction with others

Compare to...

*Carol C. Kuhlthau and Dr. Ross Todd, CISSL*

## Cognitive Principles

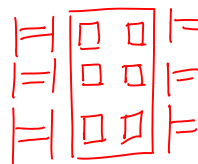
1. The constructivism principle
2. The context principle
3. The change principle
4. The individuality principle
5. The social learning principle

Adapted from Redish, "The Implications of Cognitive Studies for Teaching Physics"  
*Am. J. Phys.*, 1994

## Levels of Inquiry

	↓	↓	↓	After 1st year.
	Demonstration	Activity	Teacher Guided Inquiry	Student Initiated Inquiry
Pose the Question	Teacher	Teacher	Teacher	Students
Planning the Procedure	Teacher	Teacher	Students	Students
Formulating the Results	Teacher	Students.	Students	Students

Scaffolding: base knowledge  
 " concepts  
 Amount of help teacher provides



## 5E Method

- Engage -
- Explore -
- Explain -
- Elaborate -
- Evaluate -

Bybee, et al.

## Engage:

The teacher determines the topic of inquiry and provides a discrepant event or focus question or problem to *engage* student interest and curiosity.

Jorgenson, Cleveland, Vanosdall - Doing Good Science...

## Explore

The students, with their teacher as a guide and co-investigator, begin to *explore* the problem or question.

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## Explain

They make further observations and attempt to *explain* the phenomena they observe.

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## Elaborate

The teacher then challenges students to *elaborate* on their understandings by linking observations to prior knowledge and by applying the concepts and skills in new situations.

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## Evaluate

Finally, the teacher encourages students to *evaluate* their understandings and abilities, and the teacher *evaluates*, or assesses, the areas of strength and weakness exposed by student performance in the activity.

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