WHAT IS A “DISCREPANT EVENT” IN TEACHING?
(H. Weller – EDW 471/SMS 491 – Spring 2008)

What is a discrepant event?
It is a “puzzling” happening. It is a surprising phenomenon. It is an unexpected turn of events. It causes the observer to wonder why the event occurred as it did. It leaves the observer at a momentary, or longer, loss to explain what has taken place.

Why use the discrepant event?
• Get the attention of the observer.
• Provoke thought.
• Upset the student’s usual way of thinking (i.e., to create “cognitive disequilibrium”), so that the student will (often with help) attempt to figure out the discrepancy and search for a reasonable explanation for the situation.
• Initiate inquiry by the observer.
• Help the student become better equipped mentally to approach new situations that may cause curiosity and puzzlement.

Some ways to create discrepant events
• Demonstration
• Film
• Reading a description of events
• Laboratory activities
• Field trip to the site of a natural phenomenon (e.g., Thunder Hole in Acadia National Park).

Steps in creating a discrepant event
1. Focus the students’ attention on what they are about to observe (but do not tell them so much it spoils the surprise).
2. Students experience discrepant event.
3. Allow students time to think about, discuss, and try to explain the discrepant event.

Pedagogical uses of a discrepant event
1. Initiation: Initiate a lesson and get the students’ attention and interest on an area of science.
2. Question generation: Elicit questions from the students.
3. Informal evaluation of understanding: During a lesson, to evaluate students’ understanding (called “formative evaluation”).
4. Address student misconceptions: Use a discrepant event that contradicts an incorrect student framework of thinking (like a feather and a brick falling with the same acceleration ... in a vacuum).
5. Application: Test whether the students can apply what they have learned to explain a similar, but unexpected, phenomenon.
6. Formal evaluation of understanding: After a lesson as part of a formal test of students’ understanding (called “summative evaluation”).

Reference