Personal Reponse System

Definition: A method of gathering responses from a target audience (i.e. students) that are private, individual and immediate.

Examples:

- -Counting Raised Hands (not private)
- -Discussion Groups (not individual)
- -Quizzes and Exams (not immediate)
- -Electronic PRS

Peer Instruction - Using student interaction during lecture to help communicate conceptual understanding

In Other Words:
Structured discussion of the lecture topic aids in the comprehension and retention of key concepts

Implementation:

1. Required Reading
   -Reading Quizzes

2. Question and Answers

3. Concept Quiz (PRS)
   -Tests understanding

4. Peer Instruction

5. Retake Same Concept Quiz

6. Discuss

7. Repeat from Step 2
   (Question and Answer)

8. Comprehension Quiz
   -End of section

Demo: I will drop a magnet through a plastic pipe and in the air. Which will take longer for the magnet to reach the ground?

1.) The plastic pipe
2.) The air
3.) The times will be the same
4.) It will be random
5.) None of the above

Demo: I will drop a magnet through a plastic pipe and a copper pipe. Which will take longer for the magnet to reach the ground?

1.) The plastic pipe
2.) The copper pipe
3.) The times will be the same
4.) It will be random
5.) None of the above

1. Draw a picture of your observations.

2. Compare and discuss your drawing with a neighbor.

1. Draw a picture of your observations.

2. Compare and discuss your drawing with a neighbor.

3. Use your diagram to explain (to the best of your ability) your observations.

1. Draw a picture of your observations.

2. Compare and discuss your drawing with a neighbor.

3. Use your diagram to explain (to the best of your ability) your observations.

4. Suggest a way to test your hypothesis.

Drawing 3

Imagine if I hung the magnet from a string, and let it swing back and forth. What would happen as I brought the copper tube near it?

1. The pendulum would swing faster
2. The pendulum would swing slower
3. The pendulum would stop
4. There would be no change

Drawing 4

Imagine if I hung the magnet from a string, and let it swing back and forth. What would happen as I brought the plastic tube near it?

1. The pendulum would swing faster
2. The pendulum would swing slower
3. The pendulum would stop
4. There would be no change

Drawing 5

Results:

- Immediate assessment of conceptual understanding

- Immediate Assessment of scientific habits of mind

- Guided construction of knowledge seems to be more permanent

My Observations:

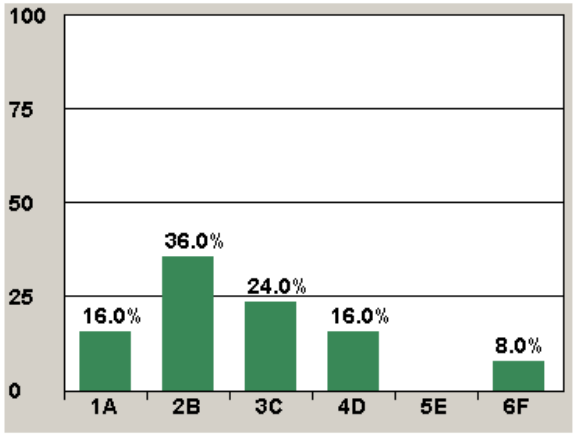
- Writing good questions is very HARD!!!
- Coming up with good demos is very HARD!!!
- Students are not used to working like this
- They grow to like it (Ancedotal Evidence)

Survey Question:

The PRS system helped me.

1.) Strongly Agree
2.) Agree
3.) Slightly Agree
4.) Slightly Disagree
5.) Disagree
6.) Strongly Disagree

76% - Some form of agreement

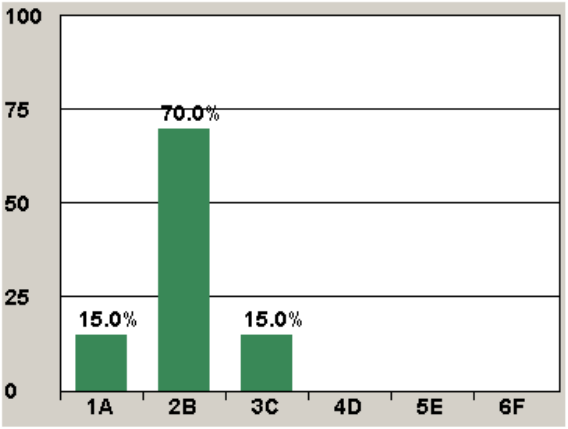


Survey Question:

My ability to think critically about scientific issues has improved.

1.) Strongly Agree
2.) Agree
3.) Slightly Agree
4.) Slightly Disagree
5.) Disagree
6.) Strongly Disagree

100% - Some form of agreement

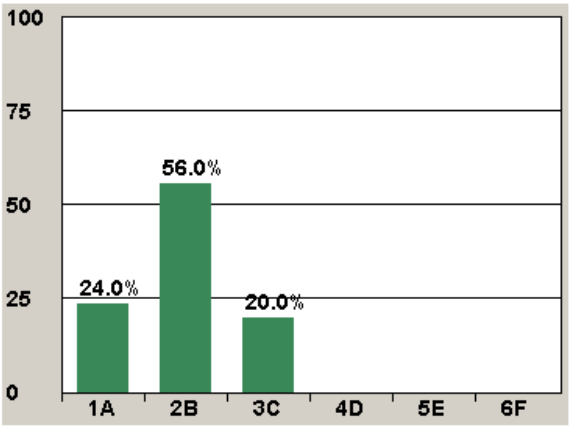


Survey Question:

I am more curious about science.

1.) Strongly Agree
2.) Agree
3.) Slightly Agree
4.) Slightly Disagree
5.) Disagree
6.) Strongly Disagree

100% - Some form of agreement

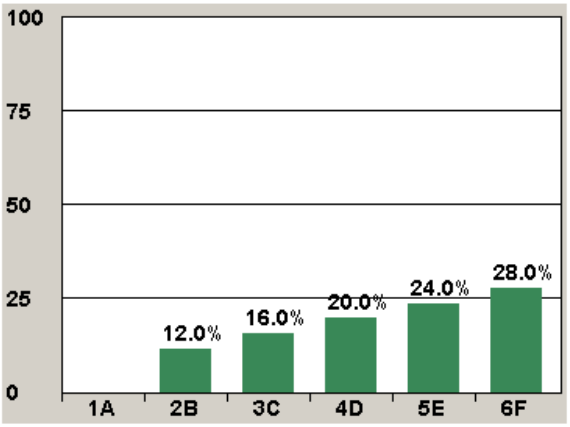


Survey Question:

I wish this class had been taught as a more traditional lecture.

1.) Strongly Agree
2.) Agree
3.) Slightly Agree
4.) Slightly Disagree
5.) Disagree
6.) Strongly Disagree

72% - Some form of disagreement



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