

Stand Back

Tips for Incorporating Inquiry-Based Learning into Your Courses

SFASU CTL Teaching Showcase

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Jane Long

Department of Mathematics & Statistics

What Is Inquiry-Based Learning?

Inquiry-based learning (IBL) is a method of instruction that places the student, the subject, and their interaction at the center of the learning experience. At the same time, it transforms the role of the teacher from that of dispensing knowledge to one of facilitating learning. It repositions him or her, physically, from the front and center of the classroom to someplace in the middle or back of it, as it subtly yet significantly increases his or her involvement in the thought-processes of the students.

-- E. Lee May, Salisbury State University

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What Does IBL Look Like?

- **In class:**

- *Students present and discuss work*
- Questions directed at students, not instructor
- Instructor facilitates, *usually from the back of the room*
- Minimal lecturing – not even every day
- In 100-level course: work on problems during class, present and discuss
- Upper-level courses: present and discuss work done outside class
- “Notes” are annotations of a student’s own work

What Does IBL Look Like?

SM

1. How many packages of pencils? 6

24 4

How many packages of erasers? 6

18 3

How many total pencils? 100

432 72

How many total erasers? 100

432 72

What Does IBL Look Like?

Class Activity 2S



Can We Reason This Way?

Claire says that

$$\frac{4}{9} > \frac{3}{8}$$

because

$$4 > 3 \text{ and } 9 > 8$$

Discuss whether Claire's reasoning is correct.

Practical Tips

- Be encouraging!
- Tell students what to expect
- Tell students why you're teaching this way
- ***Remind students often***
- ***Don't expect results from student presentations here-and-there***
- ***Be consistent***
- Tell your chair when you make a teaching change
- Reassure students about grades

Why Use IBL?

The best way to learn is to do; the worst way to teach is to talk.

-- Paul Halmos, *The Problem of Learning to Teach*

- Promotes *understanding* of procedures and their results
- Promotes effective communication
- Promotes transfer of knowledge to new situations
- Studies show:
 - Greater learning gains, especially among women and lower-achieving students
 - Student take more math courses, do as well or better in them
 - No harmful effects for any groups studied

References

- Laursen, S. et al. *Evaluation of the IBL Mathematics Project*, University of Colorado Boulder. April 2011.
- Beckmann, S. *Mathematics for Elementary Teachers with Activities*, 4th ed. Pearson.
- Jane Long, longjh@sfasu.edu

Thank you!