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What Clicks? Why Click?

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Suffolk County Community College 50 YEARS

35th AMATYC Annual Conference (Las Vegas, NV)

November 13, 2009

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What Clicks?

- Concepts & ***students***
- Instructors & ***students***
- Success & ***students***

Who Clicks?

Students

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What are the big problems in Basic Math Skills class?

- **PEDMSA or PEMDAS**
- **Fraction operations (+, –, ×, ÷)**
- **Decimal division & multiplication**
- **Ratio, rate, and proportion**
- **Bermuda triangle ➔ percent, decimal & fraction**
- **Solving proportion problems by cross-multiplication (IS/OF = PERCENT/100) or the percent equation (amount = % * base)**
- **1-D, 2-D, and 3-D geometry**
- **Signed number operations (+, –, ×, ÷)**

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Challenges?

- Why do I need to take this class?
- Why can't I use a calculator?
- Why do I need to learn all these?
- **Why^{2009}?**

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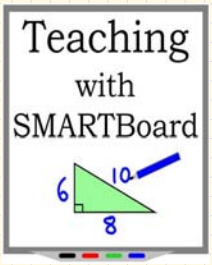
Teaching Techniques



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What is the Clicker Teaching Technique (CT^2)?

- After each basic math skill is lectured, **Clicker Questions (CQs)**, in the form of multiple-choice, are quizzed, submitted, and discussed.
- ***An appropriate amount*** of time is applied on each **CQ** according to the **30%-70% rule**.

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What are the *strengths* of the CT²?

- Instant feedback on skills just lectured
- One-to-one tutoring time during CQ session
- Real-time learning right in the classroom!

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What are the *pitfalls* of the CT²?

- **Cost** to students (approx. **$25 ~ $45** each)
- Preparation time for lecture notes PLUS appropriate **numbers and types** of Clicker Questions

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How do you know when learning has taken place?

"… the best teachers believe that learning involves both personal and intellectual development … People can change, and those changes – not just the accumulation of information – represent true learning."

What the Best College Teachers Do
Ken Bain, Harvard University Press

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What to do if …?

- Correct-response percentage is **above 70%**

- Spend **less** time when reviewing the problem
- Pinpoint out the possible mistake

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It is  to say

that these changes in philosophy will *require a shift in the way many math teachers teach* as well as in what they expect of their students.

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What to do if …?

- Correct-response percentage is **below 30%**

- Spend **more** time when reviewing the problem
- **Peer-Instruction**
- **Re-Poll**

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What Clicks? Why Click?

What to do if …?

- Correct-response percentage is

between 30% and 70%?

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Finally,

Why Click?

Because it works!

… at least for now and active learners!

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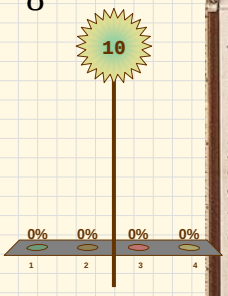
Q1. Multiply. $\frac{5}{7} \times \frac{3}{8}$

1.. $\frac{15}{56}$

2.. $\frac{21}{40}$

3.. $\frac{8}{15}$

4.. $\frac{40}{21}$



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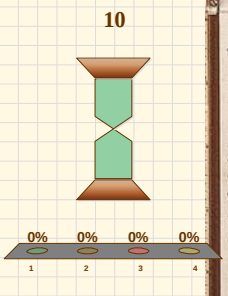
Q2. Determine which equation is a true statement?

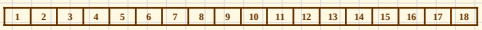
1.. $\frac{12}{42} \stackrel{?}{=} \frac{10}{35}$

2.. $\frac{1}{2} \stackrel{?}{=} \frac{3}{4}$

3.. $\frac{10}{9} \stackrel{?}{=} \frac{11}{10}$

4.. $\frac{48}{56} \stackrel{?}{=} \frac{40}{48}$





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