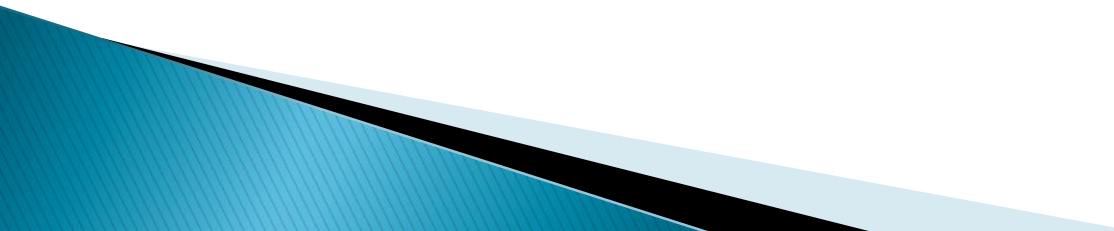
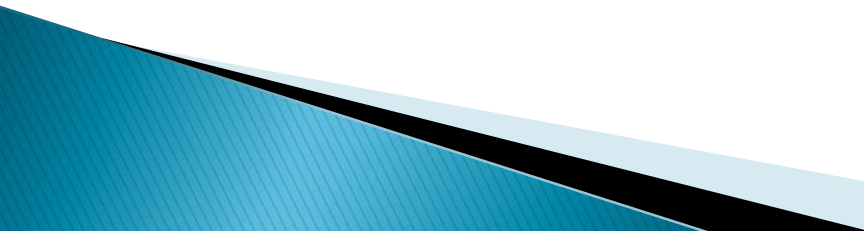


Using a Practicum to Train Tutors for Developmental Mathematics

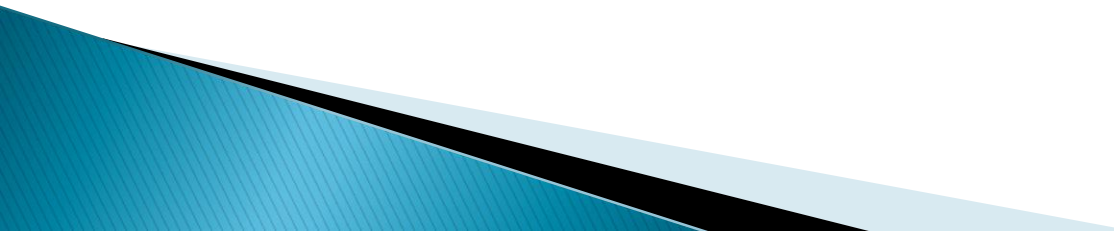
Laura Bracken
Lewis-Clark State College
bracken@lcsc.edu

- ▶ Different approaches to tutoring
 - ▶ Advantages of a practicum
 - ▶ Credits and schedule
 - ▶ Instructor
 - ▶ Content
 - ▶ Assessment
 - ▶ Identifying students
 - ▶ Issues
 - ▶ Questions
- 

Approach One

- ▶ The student learns by
 - Being retaught.
 - Watching others do similar problems.
 - Being told what to do step-by-step.
 - Looks like...
- 

Approach One

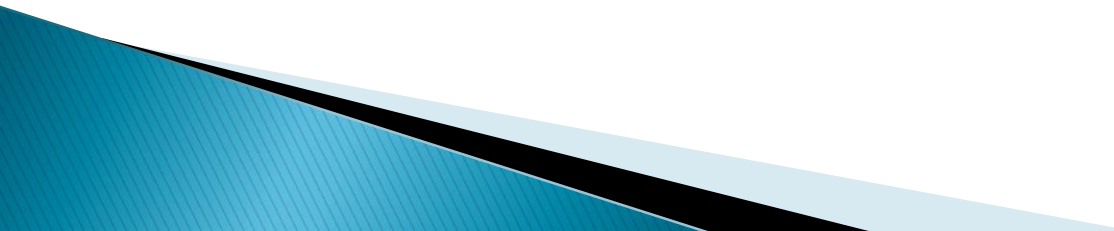
- ▶ Assumes that the student gains enough conceptual understanding from examples to generalize and solve other problems.
 - ▶ May be focused on algorithms and “problem types” rather than concepts.
- 

Approach One

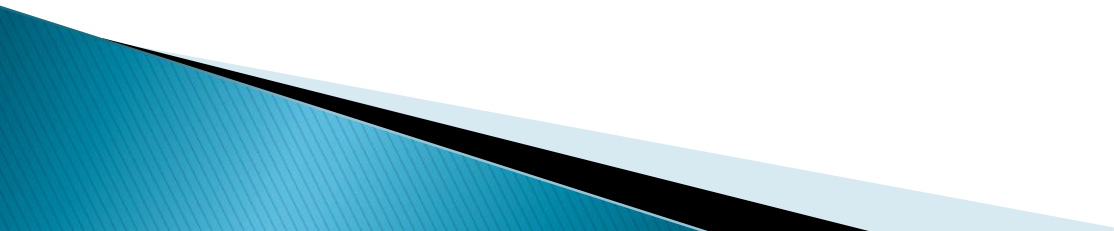
- ▶ Evaluate

$$\frac{3}{8} + \frac{5}{6}$$

Approach Two

- ▶ The student learns by
 - Answering questions.
 - Explaining his/her thinking.
 - Explaining why.
 - Finding similarities and differences.
 - Looks like...
- 

Approach Two

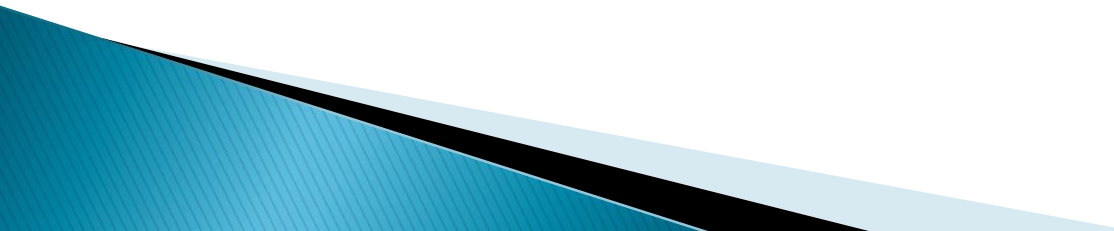
- ▶ Assumes that the student needs conceptual understanding before practicing algorithms.
 - ▶ Assumes that a student who needs help benefits less from showing and more from doing.
- 

Approach Two

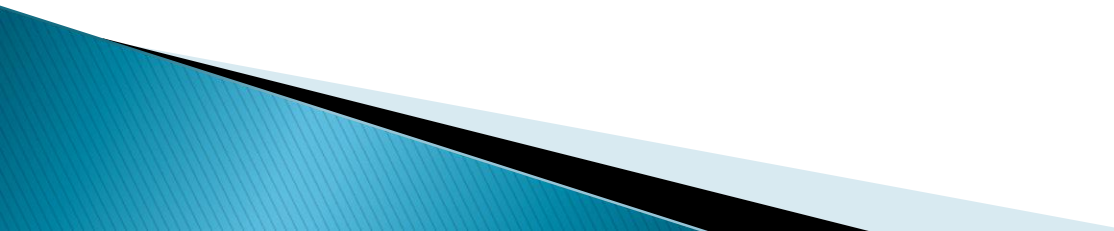
- ▶ Evaluate

$$\frac{3}{8} + \frac{5}{6}$$

Advantages of Practicum

- ▶ Cost
 - ▶ Student schedules
 - ▶ Connection to content and classroom practices
 - ▶ Observation and mentoring
 - ▶ Demonstration project
- 

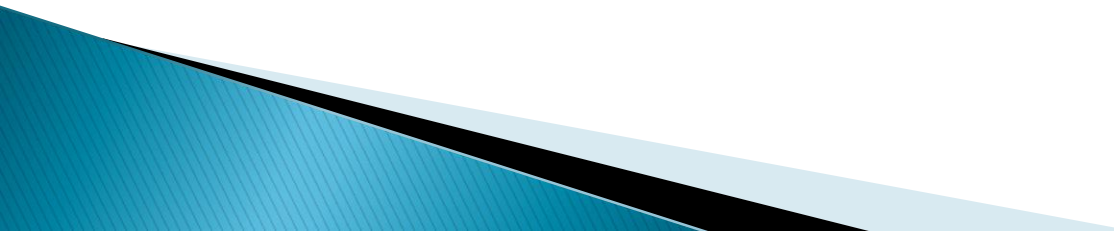
Instructor

- ▶ Developmental math faculty
 - ▶ Talks to other faculty
 - ▶ Interested in learning theory
 - ▶ Model of good tutoring
 - ▶ Coach
 - ▶ Can build a climate of trust
 - ▶ Encourager and listener
- 

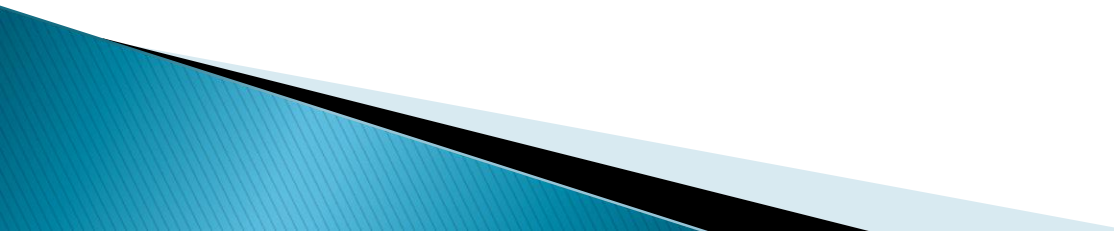
Credits and Schedule

- ▶ One class per week (1 hr 15 min)
- ▶ Two credits – 200 level
 - Class, 3 hr tutoring ,1 hr observation
 - Homework
- ▶ Three–four credits – 400 level
 - Class, 4 hr tutoring, 2 hr observation
 - Homework

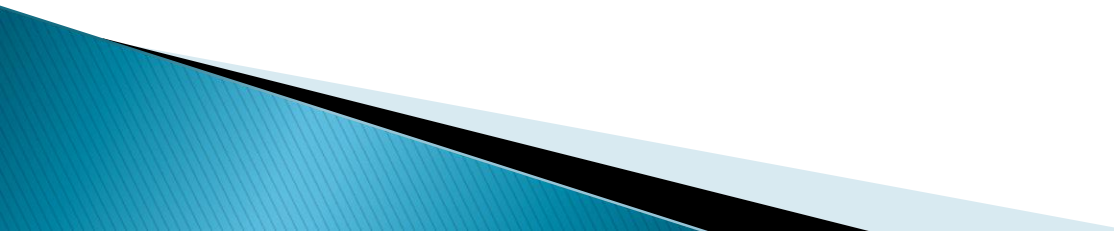
Practicum Content

- ▶ Professionalism
 - ▶ How to Tutor
 - ▶ Mathematics Content
 - ▶ Learning Theory
 - ▶ Class Observation
- 

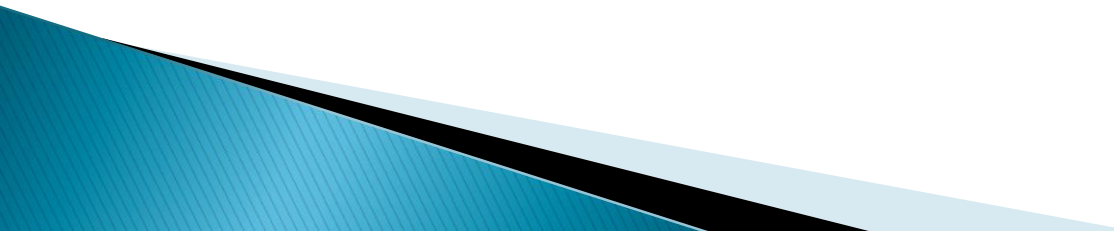
Professionalism

- ▶ Academic dishonesty
 - ▶ Confidentiality
 - ▶ Dress, speech, attitude
 - ▶ Boundaries
 - ▶ Safety
 - ▶ Instructors and other tutors
 - ▶ Student in crisis
- 

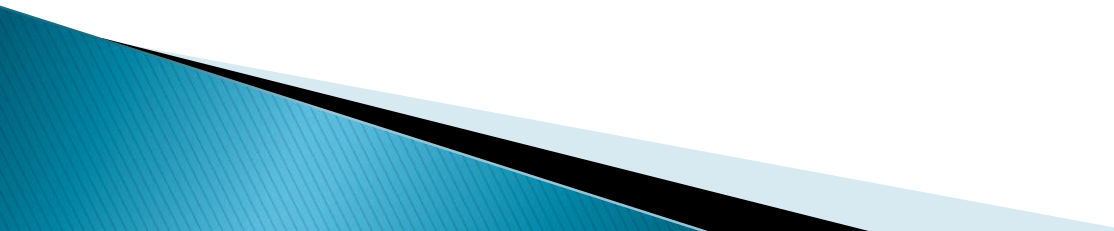
How To Tutor

- ▶ Ask questions
 - ▶ Emphasis on concepts
 - ▶ Seldom write; sit on left
 - ▶ Realistic encouragement
 - ▶ Control the tutoring
 - ▶ Admit that you don't know
- 

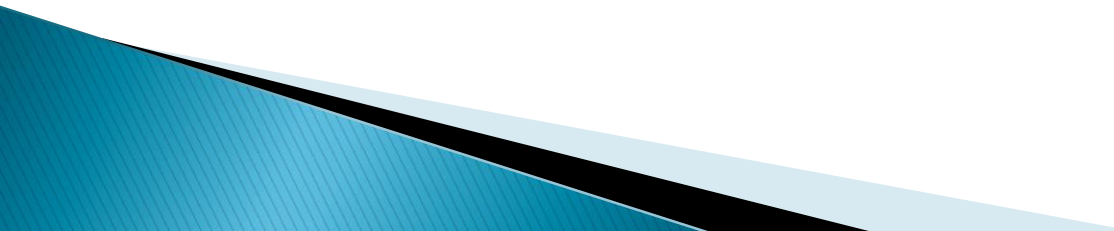
Mathematics Content

- ▶ Compare content and approach within courses and in sequence.
 - ▶ Improve conceptual understanding.
 - ▶ Emphasize application problems.
- 

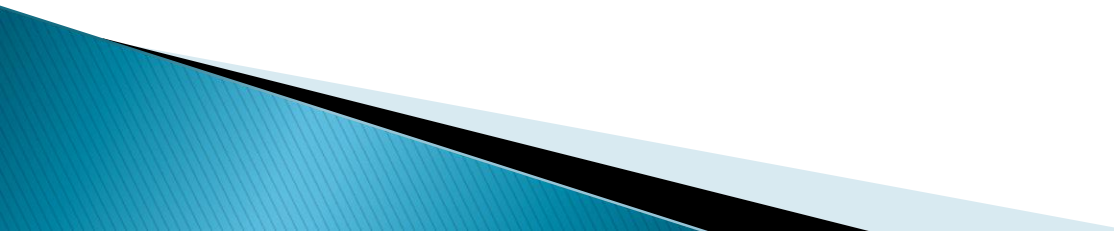
Learning Theory/Psychology

- ▶ Background for tutor
 - ▶ Fear of failure
 - ▶ Learned helplessness
 - ▶ Personal responsibility
 - ▶ Anxiety
 - ▶ Learning styles
 - ▶ Constructivism
- 

Class Observation

- ▶ Different pedagogies
 - ▶ Different approaches to content
 - ▶ Students know their face.
 - ▶ Improves conceptual understanding
- 

Typical Class

- ▶ **How's it going...**
 - ▶ **Discussion of reading**
 - ▶ **Short content lecture with questions**
 - ▶ **Practice tutoring; instructor observation and comment.**
- 

Assessment

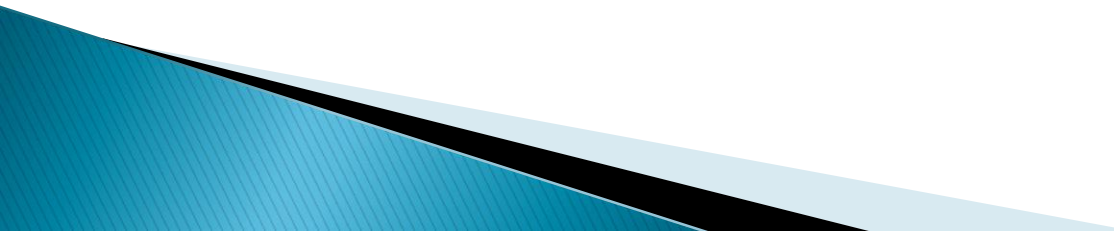
- ▶ **Journal (loose leaf notebook)**
 - Activities / notes and reflection
 - Tutoring log and reflection
 - Observation log and reflection
 - Readings and Responses
- ▶ **Homework**

Activities / Notes and Reflection

Date _____

Description of Class Activity or Lecture

Reflections about this activity or lecture

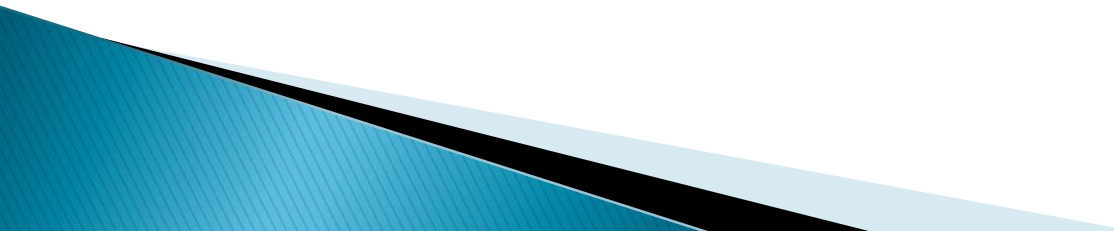


Tutoring Log and Reflection

Date _____ Number of students _____

Topics in which I need more preparation:

Reflection:



Observation Log and Reflection

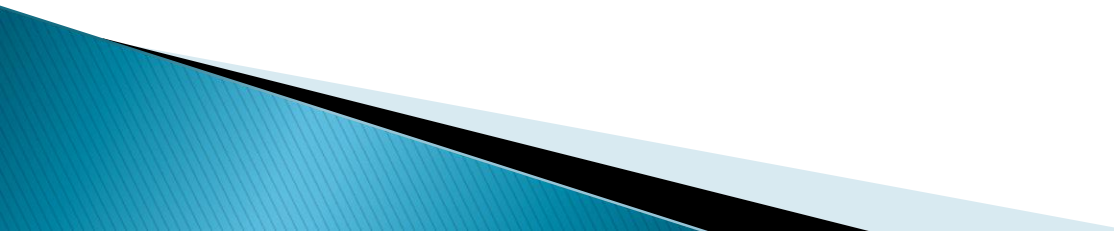
Date ____ Class _____ Instructor _____

General observations:

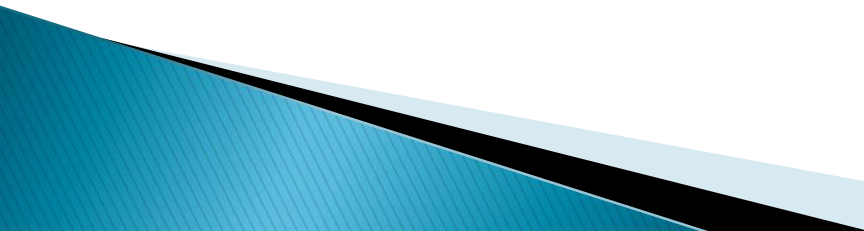
Most difficult topic for students in this class:



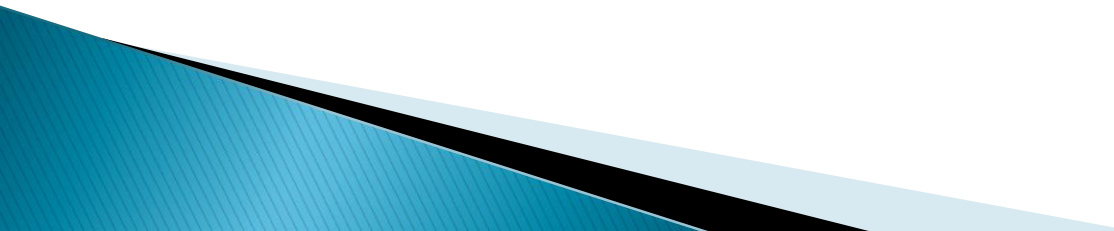
Response to Assigned Readings

- ▶ Answer assigned questions.
 - ▶ Word processed
 - ▶ Appropriate English.
 - ▶ Reading and response included in journal
- 

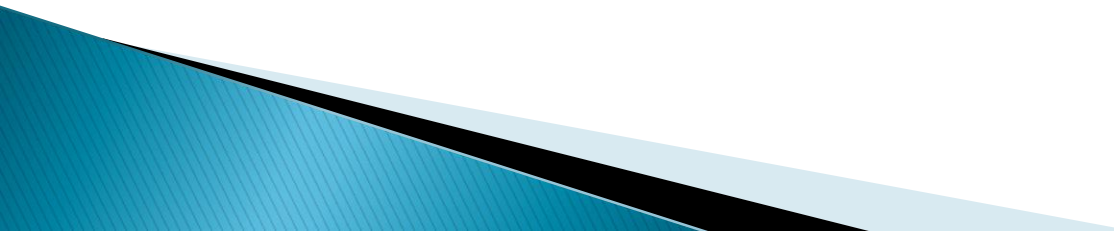
Response to Assigned Readings

- ▶ Summarize what you have learned about “learned helplessness.”
 - ▶ Have you ever known anyone who had “learned helplessness” about math or something else? Describe their behavior.
 - ▶ What do you think you might observe when tutoring a student with learned helplessness?
- 

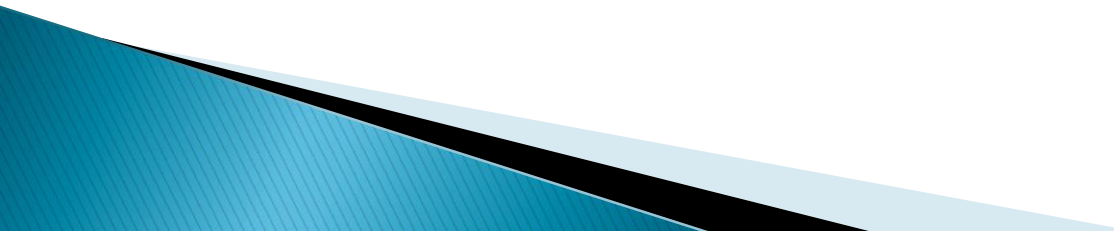
Response to Assigned Readings

- ▶ Summarize what you have learned about “learning styles.”
 - ▶ What do you think is your dominant learning style?
 - ▶ Describe how a teacher who you have observed has taught to a variety of learning styles.
 - ▶ Will knowing about learning styles change the way you tutor? Explain.
- 

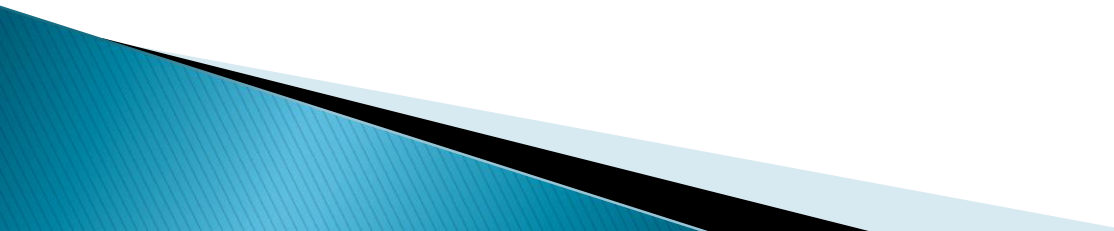
Homework

- ▶ Exercises from dev. math classes.
 - ▶ Emphasis on applications and using the problem solving format.
 - ▶ Questions that require students to “explain why” or “describe how you would teach this.”
- 

Identifying Students

- ▶ **Minimum requirement: completion of Intermediate Algebra with an A or B. and instructor recommendation.**
 - ▶ Liberal arts math; science classes
 - ▶ Mathematics for Elementary Teachers
 - ▶ Elementary ed/math minor
 - ▶ Math secondary education
- 

Issues

- ▶ **Tutors**
 - ▶ **Tutees**
 - ▶ **Tutoring Location**
 - ▶ **Faculty**
 - ▶ **Tutoring after Practicum**
- 

Questions

▶ bracken@lcsc.edu