

Condition	Correctness, Guided, or Discovery.
Sequence	Order of first 6 tutor problems. SMU = 2 Same denominator, 2 with one denominator being a multiple of the other, and 2 with unrelated denominators. SUM = 2 same, 2 unrelated, 2 multiple. Random = 2 of each type, in a random
ID	Anonymous Student ID
Class	Classes 1 and 6 are high achieving, 2 and 5 are low achieving, and 3 and 4 are in the middle. Classes 1 and 2 were taught by one teacher, 3 and 4 by another, and 5 and 6 by a third.
Pre or Post	Pretest or Post test
Test Form	I used 3 test forms, counterbalanced across pretest, posttest, and delayed post-
Category	Target = fraction addition problems, Prior = basic pre-requisite knowledge for adding fractions, Transfer STD = transfer items from standardized tests, Metacog = a student sees a worked example and has to evaluate if the work is correct. for the target problems only. Same, one is a Multiple of the other, or Unrelated
Denominator Type	The Metacognitive questions had 3 worked-example types. The worked example could be Correct, or the error could be adding both numerators and both denominators (Add Both) or it could be finding a common denominator but not converting the numerators (No Conversion).
metacog error	
metacog scaffold	The Metacognitive questions had 3 scaffold types. There could be No Scaffold, a Procedural scaffold (text hint) or Conceptual scaffold (rectangle area models of all the fractions in the problem)
Item	The question
Answer	The student's answer
Target numerator	For target questions, the numerator of the student's answer
Target Denominator	For target questions, the denominator of the student's answer
Denominator Correct	For target questions, 1 if the denominator is correct
Error Code	cor = Correct, otherwise I have a bunch of error codes to categorize what the student did wrong
comment	anything interesting about the answer
question score	1 for fully correct, 0 otherwise
metacog overall correct	Metacognitive questions have 2 parts. This score is 1 if the student correctly evaluated the worked example OVERALL as having an error or not, 0 otherwise
metacog addition	Metacognitive questions have 2 parts. This score is 1 if the student correctly evaluated THE ADDITION STEP of the worked example as having an error or not, 0