Data, Assessments, & Instruction: Documenting Comprehensibly & Efficiently

NCTM Regional Conference, Atlantic City, NJ

October 23, 2015

Katie Westby
Brattleboro Union High School
Brattleboro, VT
kwestby@wsesu.org
@katie_westby

Betsy McEneaney
UMass-Amherst
Amherst, MA
emcenean@educ.umass.edu

MT : 10/19/13 $\frac{1}{4} \cdot \frac{3}{5}$ #1

Prompt	Response	Notes / conjectures / Nexts
You look like you're having trouble w/ that problem; tell me what you're thinking →	— well, one over 4 uh and three over five so plus fractions — — we did this — Something similar uh — — Oh- in my notes, I'm going to find those with the steps — — — — [She had trouble finding it]	2 over and for multiply - word + symbol retrieval
Do you remember what it looked like?	It's that flow chart thing — — Here it is OK so - - - -	Need B, labels
How are the problems similar?	Well, $\frac{1}{3} \cdot \frac{3}{5}$ is like this one [points to multiply ex.] They're both multiplication, — uh hmm — —	comprehends + identifies mul here
So, what do you think you would do now; what does the flow chart say?	well, multiply means this example.	
Do you like the exampl better than the flow chart?	Yeah, so I'm going to use that. so here 3 over two times one over 5. and it says multiply across so 3 times 1 and 2 times 5. [follows w/ finger]	able follow algorithm w/ prompting

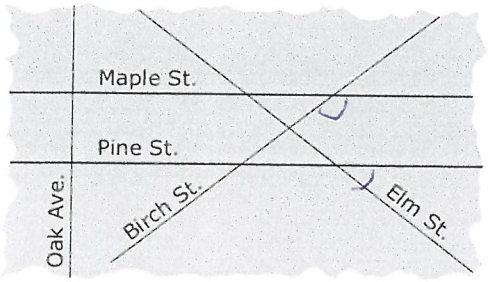
MT went on to solve the assigned example. Feedback was then provided through discussion focused on tools (notes) and similarities and differences of example problem and given problem. MT then solved next multiplication of proper fractions problem more quickly. Process was reviewed the next day as well. Third column (on right) used at MT's subsequent IEP meeting to discuss needs and strengths.

REMEMBER: it's not only about need!

#2

Student(s): Block 1 Fall 2015 Geo Date: 10/20/15

Learning Progression for PARCC PBA Practice 1. The diagram represents a portion of a small city. Maple Street and Pine Street run exactly east to west. Oak Avenue runs exactly north to south. All of the streets remain straight.



Which statements must be true, based only on the given information? Select all that apply.

A. Birch Street and Elm Street intersect at right angles.
B. Maple Street and Pine Street are parallel.
C. If more of the map is shown, Elm Street and Oak Avenue will not intersect.
D. Pine Street intersects both Birch Street and Elm Street.
E. Oak Avenue and Maple Street are perpendicular.

If a truck can't make the turn from Maple St to Elm St when traveling toward Oak Ave because of the angle of intersection, what other turns will that truck be unable to complete?

Grain	Notes
1. Vocabulary:	
a. Intersect	✓✓
b. Straight	✓✓
c. Right Angle	✓✓ -
d. Parallel	✓✓
e. Perpendicular	✓✓
2. Outside math: Compass directions	None referred to ~~directly~~ indirectly, ~~but~~ - Idid in the review
3. Corresponding Angles (P. 15 & 16)	
4. Alternate Interior Angles (Thm. 3.4 and 3.8)	
5. *Visually break down transversals (Provided direct instruction b/f give out prob)	They were mixed up by most
6. *Eyeballing it versus deductive reasoning*	Most did thru - HT did not,

* brg up ⊥ → 90° Thm

Referred to i u prompti

	JS	SM	DP	KB	ST		
SMP 1 Sense/ Prsvre	✓ but - missed the word exactly + M+P then ✗	✓~/ help from partner	eyeballed it	Crrspnd &'s on B + E			
SMP 3 ViabArg/ Critiq	~~NOR~~ Did C w/ partner over M // P	partner via transversals		No comm well	strong va for can't Pine		

1

(had incorrect argument but critique + conversation was very good)

OUTCOME: (Instructional)
a) Whole Class Direct Instruction: "exactly
b) Rotated groups for statements A - E
c) Reviewed ~~Need~~ Deductiv vs Inductive
d) Need Deductive on Bulletin Board
NEXT: ↑complexity

#3

Group: Block 2 Fall 2015 Fund- Alg. Date: 10/5/15

Learning Progression/Task Analysis for SBAC 43052: Problem Solving, Targets 2A, 2C, A.CED.1, A-REI.3

Problem

- BT ptd out can't multiply #mi by $\frac{mi}{gal}$ b/c doesn't work

[I had reviewed this w/ that

- MR spoke for the group.

Tony is buying a used car. He will choose between two cars. The table below shows information about each car.

Car	Cost	Miles per gallon (MPG)	Estimated Immediate Repairs
Car A	$3200	18	$700
Car B	$4700	24	$300

Tony wants to compare the total costs of buying and using these cars.
Tony estimates he will drive at least 200 miles per month.
The average cost of gasoline per gallon in his area is $3.70.
Tony plans on owning the car for 4 years.
Calculate and explain which car will cost Tony the least to buy and use.

Grain	Notes
5. Vocabulary:	
a. Total	✓
b. Miles **per** month / gallon /	Per was inferred by MR
Need cover c. Average	Not discussed
Need cover 6. Unit analysis	
7. Create linear equation	MR + BT prsntd on board + created expression BT tried for gal/tank +
a. Inferring Sum and Product, quotient	∀ did well- verbal expressions good!
b.	
8. Other methods	

- ∀ got stu on size of gas tank

- They got 7.14 $\frac{mi}{day}$

others went with it

Prompted table: "so, where are you guys at?"

when on task, very good w/ the math

GROUP Presen fix

	MR	GS	MW	WM	AS
P	IIII	III w/prompt			II
NP		III			
N		I			
SMP 1 – Snse Prob & Persvr	II		I	I	
SMP 2 –Abs & Quant					
SMP 3 – Vib arg & crtq oth					

#4

Student: Study Skills Date: 10/2/12

Learning Progression for October 2, 2012 Problem 3

DS read as martians +sc

The Martins keep goats and chickens on their farm. If there are 23 animals with a total of 74 legs, how many of each type of animal are there?

Progression Piece	Notes
1. Vocabulary:	AL drew pix + deduced word meaning-
a. Total	✓
b. How many	✓ Eventually: b/c NS had it + went to board + taught others
c. Type	✓
2. Outside math: how many legs on each animal	✓
3. Divide whole numbers	✓ DS - to board: wrote out the problem ∀ to see
4. Multiply whole numbers	✓
5. Could set up equation with unknowns or do it in steps	VP: "23 = goats + chickens" ⇒ VP Δ goats, g and chickens to c "But the 73" AL deferred to pic and: "4 goats plus 2 chickens" NS wrote: 4g + 2c, VP wrote = *

Distribution solid

she gave warning

	DS	AL	MJ (tough day)	VP	NS (GREAT day!)
P	𝍸	𝍸 𝍸 |||		𝍸 |||	𝍸 𝍸
NP	𝍸 ||||	||||	𝍸 𝍸 (oaks)	𝍸 |||	||||
N	|||	||	|||	||	𝍸 ||

* DS came up w/ substitution: 23 - c = g ∴ 74 = 4(23-c) + 2g, solved for c and ~~did~~ ? MJ if want solve for g - MJ to board: "Uhh" NS: "use top equation" MJ wrote: $\begin{array}{r} 23 = 6+g \\ -6 \quad -6 \\ \hline 17 = g \end{array}$ + sat down