


Mathematics Instruction and Assessment: “Seeing” the Connection


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Goals for this session

- Explore five essential connections for linking instruction and assessment.
- Use classroom video to create a shared image of classroom norms supportive of forging the five connections.


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Five Connections:

1. Provide opportunities to explain and justify early and often.
2. Set the stage to confront misconceptions.
3. Focus on the question.
4. Be cautious with assumptions.
5. Teach what you mean.


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Supporting Norms

Notice how student sense making is supported in this classroom.


$$2 \frac{1}{2} \div \frac{1}{4}$$

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How else might you support productive discourse during mathematics instruction to support assessment?


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Norms for supporting productive discourse for assessment:

- Provide explanations and justifications with all answers.
- Make sense of each other's solutions.
- Say when you don't understand or don't agree.


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We know common misconceptions exist – that is why they are called “common.”


Let's address them during instruction rather than waiting for the test...

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Consider how the stage is set to address a common misconception in this second grade class.


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In what ways do students make sense of word problems?

By writing them...

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You try.

Write a word problem for:


$$3(-7) - 10 + 25 = -6$$

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How do we get there?

Where do we start?




Reason abstractly and quantitatively

Consider the following problems:

*Jessica has 8 key chains. Calvin has 9 key chains.
How many key chains do they have all together?*

*Jessica has 8 key chains. Alex has 15 key chains.
How many more key chains does Alex have than
Jessica?*

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Reason abstractly and quantitatively

Now consider this problem:

Jessica has 8 key chains. How many more key chains does she need to have 13 key chains all together?


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Don't take what you know for granted.


What seems obvious to you might not be obvious to your students.

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Consider this seventh grade class as they explore unit rates.


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Sometimes we actually *teach* misconceptions by what we *don't teach*. This becomes the unintended curriculum.

Consider this eighth grade class as they make sense of graphs.


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Revisiting the Goals

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