Assessing the Validity of Peer Feedback in a Sixth Grade Mathematics Class

Melissa M. Patchan, Karen E. Rambo-Hernandez, Brianna N. Dietz, & Kennedy A. Hathaway

How does the quantity and quality of feedback provided by middle school students compare to teacher feedback?

89% of high school math teachers DO NOT include writing tasks

Students provided more praise and general solutions.

Teachers provided described more problems and specific solutions.

Teacher feedback was more accurate than peer feedback.

Amount of peer feedback was more consistent across all work.

Earlier Comments

"Formula includes the top of the hot tub. Use: SA= 2\pi rh + \pi r^2."

"Try this problem. Given the length, width, and height, find the amount of liner needed to cover the inside of the baby pool."

"Your question is not about surface area. Rewrite to ask about the amount of pool liner needed for the baby pool."

Later Comments

"incorrect formula for surface area."

"Ask a question."

"Question is about area."

"Your question was good, good job. ☺ "

"The explanation given were excellent and understandable."

"I like how you put tips on the side of your paper."

"Add the height so you can get the sides. Correct formula SA = lw + 2lh + 2wh."

"You got the formula incorrect, what you need to do is lw + 2lh + 2wh for the first step and work after that."

"You could have put a question like: How much liner is needed to put in the baby pool."

"I didn’t see any question, just a picture. I don’t know what you were doing."

Half of the students received feedback from their teacher

Half of the students received feedback from four peers

31 students from two sections created study guides

A total of 1,660 comments were coded.

Teachers provided more feedback and longer comments for earlier graded study guides.

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Issues Identified

General

4% Difficult to read or follow 8%

3% Praise 16%

0% Low-level 3%

Problem

3% Did not use scenario 0%

8% Missing measurements 1%

4% Mathematical language 1%

4% Not realistic 1%

6% Not about surface area 6%

8% Missing question 10%

0% Differentiate easy/difficult 2%

Solution

1% Computational errors 0%

2% Number steps 0%

4% Does not answer question 1%

15% Incorrect formula 7%

7% Missing conclusion 6%

4% Missing explanations 5%

4% Missing/Incomplete steps 6%

0% Missing/Incorrect units 1%

METHOD

RESULTS

15% Too much class time

16% Too long to grade

Replace ‘content’

No training

Computational Fluency

Mathematical Communication

100%

89%

89% of high school math teachers DO NOT include writing tasks

Why???