
Multiplying Mistakes

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Abstract: *In this creative non-fiction essay, the author highlights the importance of acknowledging process as part of the assessment of student work. Too often, teachers focus on student answers without a clear understanding of logic and mathematical thought underlying this work. The author encourages us to re-evaluate our practices and our feedback to students with respect to their mathematical understanding.*

Keywords: *Discourse, assessment, procedural understanding*

1 Fourth Grade, Late 1950s

“Maybe you’d do better with less talking, Thomas.”

Mrs. Teller hovered over me, holding my paper with her thumb and forefinger, as though it were something repugnant. She dropped it on my desk. Every problem was slashed through with red ink. By my name was a big bold F. I felt a sudden giving way in my bowels.

I looked up. What was next? Jail? Mrs. Teller’s lipstick was a deeper red than the marks on my paper. Her forehead was caked with orange make-up.

“Or were these just careless errors?” She paused, pinning me with an unblinking gaze. Shock rendered me speechless. “And that might be worse,” she added, and moved on to the next student, leaving me with my ruined quiz. I looked at the F and swallowed. This was not like me.

I leaned across the aisle. Kathy had received an A+, Glenny a B+, Earl an F, but then Earl always got Fs.

I checked my work, remultiplying each problem. As I did, righteousness rose in me. I knew this wasn’t like me! I was the boy who had memorized the multiplication tables through the elevens and could rattle them off at light speed.

I asked Kathy for her quiz, which she passed across the aisle. I immediately saw a mistake. Her answer to the problem of six times 35 was 210. I remultiplied just to make sure she was wrong: Six times 5 equals 30. Put down 0 and carry 3. Three plus 3 equals 6. Six times 6 equals 36. Just as I thought. The correct answer was 360.

$$\begin{array}{r} 35 \\ \times 6 \\ \hline 360 \end{array}$$

I’d multiplied each problem with the same steps and precision. I looked at Kathy’s paper again, tried to follow her erroneous thinking on that first problem. A light flashed! She had multiplied 6 times 3, not 6 times 6. There was her error! An instant later another light flashed, and for the second time that morning I felt a sudden sinking in the bowels. Heat prickled my neck. I felt my ears glowing red. I leapt from my desk and ran up the aisle to Mrs. Teller, where she sat reading a thick book with one of those attached ribbon bookmarks. I stood panting beside her.

“Mrs. W—”

She raised an index finger, read a bit more, then pulled her gaze from the page. “Yes?”

“I see what happened.”

“What happened?”

“My quiz. I see why you marked so many wrong.”

“I marked them wrong, Thomas, because they were incorrect.”

“But I know why,” I said. “You know I know how to multiply: 6 times 7 is 42, 7 times 8 is 56—that’s a hard one to remember, 9 times 8 is—”

Mrs. Teller raised that index finger again. She pulled the ribbon down the page, closed the book, and moved it aside. She lay the quiz on her desk, took up her red pen, and pressed its point by the first problem. She examined each one that way, then set down her pen. “They’re all wrong, Thomas.”

“No, they aren’t.”

Mrs. Teller sat back in her chair with a frown.

“Look,” I said and explained how I’d figured the problems.

“You did every problem like this?”

I vigorously nodded my head. I could see she understood. “You’re going to change my grade, right?”

“No.” She slid the book back in front of her and opened it to the ribbon. “Next quiz, no doubt, you’ll use the correct multiplication procedure.”

“But—” My lip trembled. The inside of my nose stung. More than ever, I hated that red lipstick and orange make-up. I was about to cry. A fourth grade boy about to cry! Quick, I turned my back to Mrs. Teller. Before I took a step to my desk, she said, “Take your paper, Thomas. It will remind you of your mistake.”

“No,” I said. “I don’t want it. You keep it.”

She picked up the paper and held it out to me.

“You keep it,” I said. “Let it remind you of your mistake.”

2 Reflection some sixty years later

Teaching others to write better has been the focus of my teaching 43 years now, 17 as a high school English teacher, 26 as a university professor. When I help students discover rich topics to write about, I sometimes ask them to identify indelible moments in their educational experience. I model how to do this with a brainstorming activity, dredging up indelible educational moments from my own life. Invariably, one of them is Mrs. Teller and multiplication quiz. It’s indelible and it still stings.

Not for the same reason it did in 1958 when in a matter of minutes I experienced shock, humiliation, righteousness, hope, anger, and disillusionment. The indelible moment stings now because I am a teacher educator. I see how Mrs. Teller missed an opportunity to learn from a student, albeit a student who had given her plenty of minor disciplinary trouble and was self-confident to the point of arrogance. Her perception of me, I think, and her correct-answer driven understanding of teaching mathematics led her to pedagogical blindness.

3 Lessons from Literacy

One of the seminal books in my profession of literacy education is Louise Rosenblatt's *Literature as Exploration* (1938), which she built upon forty years later with *The Reader, the Text, the Poem: The Transactional Theory of Reader Response* (1978). Rosenblatt argues that only with the interaction of a flesh and blood reader does a text become literature, does it take on meaning. Every "reading" of a text is determined by what the reader brings to it: intellect, prior knowledge, level of attention, experience with previous reading. The act of reading is a transaction between a reader and inert words on the page.

What I took away from Rosenblatt's transactional theory of reader response was a new respect for my students' thinking. Their interpretation of a novel or poem was not as important as why they thought what they thought. It became more interesting and intellectually honest for students and me to trace how they arrived at interpretations, even those that appeared outlandish. There were always reasons, logical processes of thought, just as there was for my certainty that six times 35 equaled 360.

For all my rambunctious nine-year-old boy behavior, for all our cultural differences (Mrs. Teller was a religious Anglo-Saxon Protestant; I was the son of a tavern owner who was an Italian immigrant), Mrs. Teller still could have taught me well.

Our pedagogical encounter might have gone this way:

"Thomas, you missed all 20 problems on the multiplication quiz. I'm puzzled. This isn't like you."

Mrs. Teller placed the quiz on my desk with the problems facing down. "Here's a new problem," she said. In the abundant white space in her meticulous printing, she wrote seven times 62. "Do the multiplication and describe your thinking as you do it."

Mrs. Teller would have immediately divined the logic of my method. As she watched me work and listened, a light would have flashed. And then, while she taught me the correct multiplication process of a two-digit number, she may also have used the opportunity to buoy my flagging self-image by pointing out how well I'd learned my times tables. Such an interaction might also have been a salve to heal our adversarial relationship. It could have been an indelible moment of learning, a pedagogically intimate one. Mrs. Teller would have learned something about me; I would have learned something about math. And years later, I would have realized that Mrs. Teller was a perceptive teacher, alert to her students' performances, curious to learn why they thought and behaved as they did, and eager to teach from that understanding.

References

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