

Mathematical Microaggressions

By Francis Edward Su



I enjoyed many things about growing up in Texas. People there are friendly, hospitable, and love to make small talk with strangers. Nevertheless, as an Asian American in a predominately white and Latino part of the state, I frequently had encounters like this:

Friendly Person: “Wow, your English is so good. Where are you from?”

Me: “From here.”

Friendly Person: “No, where are you *really* from?”

Though it wasn't an intentional slight, each time I heard this, the message conveyed was: You don't belong here.

In today's parlance, this is an example of a *microaggression*: a small but commonplace verbal or behavioral slight that can be

insulting in light of one's identity in a stereotyped group. For example, what Friendly Person said to me would have sounded ridiculous if it were said to a white Texan, but Asian Americans are often viewed as foreign.

Microaggressions may not seem like a big deal (they're *micro*, so we can just shrug them off, right?), but if you get them repeatedly, their cumulative effect reinforces the message that you don't belong. They have the strongest effect on those who already doubt themselves.

What I would like to discuss are *mathematical microaggressions*: in what ways do we communicate to students “you don't belong in mathematics”? This can happen because of our language, behavior, and assumptions.

In this column, I'd like to focus on language. Often, microaggressive

language is unintentional and the offender is unaware. For such cases, I prefer to use the term *microslight*.

What are some examples of microslighting language in mathematics? Consider this joke:

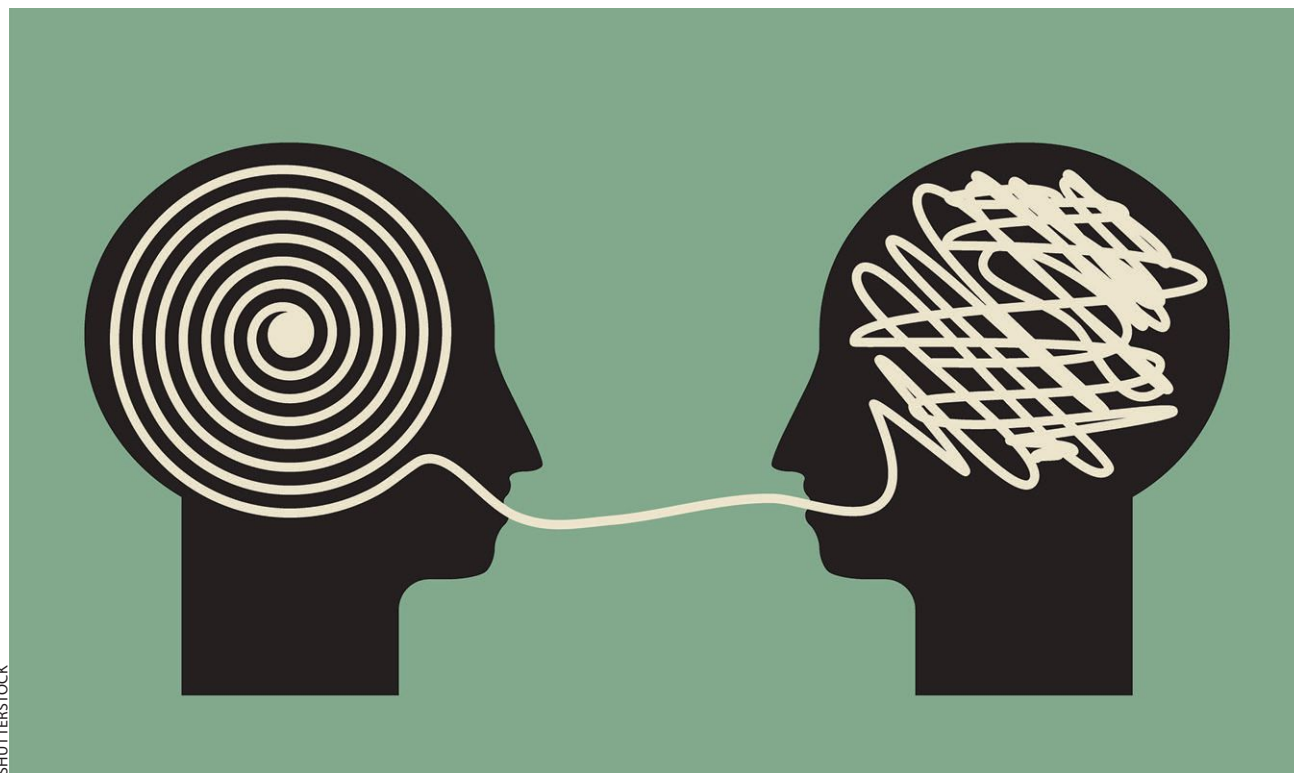
Professor: “We'll skip the proof of the lemma, because it's obvious. We'll now use the lemma to prove the theorem . . .”

Student: “I'm sorry, I don't think the proof of the lemma is obvious.”

Professor: (stops to think about it and, after a long pause, collects herself) “I was right! The proof of the lemma is obvious. We'll now use the lemma to prove the theorem . . .”

What Are We Saying?

Mathematicians are fond of using terms such as “trivial” and “obvious” and “clear” to mean “straightforward



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for someone who has already mastered the material.” But some students may think: “I must not be good at math if I can’t see that it’s obvious.” Those who doubt themselves are most prone to feeling this way.

Should we really worry so much about hurt feelings? After all, we do the best we can as teachers. Bending over backwards to avoid offense may seem to be going too far in a hypersensitive direction. And no one wants to be judged by politically correct zealots for word choices.

So I want to be very clear that my purpose in raising these issues is to encourage thoughtful self-reflection, not self-righteousness. As teachers, we should be cognizant of how our actions may affect our most-vulnerable students.

By their unintentional nature, microslights are hard to self-diagnose. So I’m grateful for friends, including the Project NExT community, who helped me compile this list of common mathematical microslights and suggested alternatives less likely to offend.

“It is obvious/clear/trivial that . . .”

Unintended message: You’re stupid if you can’t see it right away.

Better: Explain the meaning of these phrases in mathematical culture. Or say instead: “It is straightforward, with some work, to show that . . .”

Using the word “just,” as in “The rest is just algebra.”

Unintended message: You’re not cut out for math if you can’t do algebra. (Beware especially how this message gets conveyed in Lagrange multiplier problems, where the nastiest part of the solution is the algebra!)

Better: Remove the word “just” and explain the difference between calculation and insight.

Avoid unintentionally discouraging students whom we wish to inspire!

Asking in class “Are there any questions?” and then quickly moving on.

Unintended message: Questions are not normal or expected.

Better: Show that questions are welcomed. “It’s normal to have questions, and I’d love to hear yours. And others in our class will thank you for asking a question they’re also thinking.” Pause to give students time to think of a question.

Saying in office hours “See me again if you have questions.”

Unintended message (that could be reinforced by tone of voice and body language): IF you have some silly questions, you’ll be a nuisance; I’d rather not be bothered.

Better: “I hope you’ll visit again! Questions are part of the normal process of learning this stuff.”

“Give the idea of the proof in plain English.”

Unintended message (to international students): You can’t succeed in math if your English skills aren’t good enough.

Better: “Give the idea of the proof in your own words.”

Discussing a proof based on a simple insight: “You either get it, or you don’t.”

Unintended message: You either understand math or you don’t, and if you don’t, you’ll never get it.

Better: “Once you see the main insight, the rest of the proof will make sense and fall into place.”

“There’s a trick for doing this.”

Unintended message: There’s a secret list of things that only insiders know.

Better: “There’s a technique for doing this.”

Using sarcastic language to be funny.

For example, I once joked, “Hello! Is anyone out there?” when no one answered a question I posed to a sleepy 8 a.m. class. Only later did I realize some students felt belittled.

Unintended message: You’re an idiot.

Better: Avoid sarcasm, or repeatedly remind students that your humor has a sarcastic edge.

Using only male pronouns/European names in examples.

Unintended message: Only European men can be mathematicians.

Better: Vary your use of pronouns, names, and cultural examples to reflect the diversity we hope to see in mathematics. These can provide positive associations that break stereotypes.

Let Me Hear from You

Those are a few mathematical microslights. I’m sure you can think of more, and I would be interested in hearing them. In my next column, I will focus on mathematical micro-aggressions related to behaviors and assumptions.

My hope is to spur thoughtful discussion about better ways to avoid unintentionally discouraging students whom we wish to inspire! 🍷



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