

We've all had experiences making mistakes. You probably made some this week like going to the wrong room for a session, grabbing the wrong bag at the airport, or (point) ordering a cab when you meant a chardonnay.

And although we all make mistakes, our bodies react as if it's rare. Our heart beat increases, our palms sweat, we make a high pitch giggle, and then we begin to hide.

So it's no wonder that when we ask our students to share a mistake, they hunch down in their seats, avoid eye contact, or ask to go to the bathroom. Yet we are tasked with not only teaching math content but also growing confident mathematicians.

Young mathematicians who know that every time they try something new, those mistakes are used to help them understand the situation and choose a new path. But how do we create communities where this is valued?

We can begin by looking at where kids LOVE to make mistakes. Every kid I know owns one of these mistake machines and they play games requiring 10 mistakes before finally advancing to the next level. So what does it got that math class doesn't have?

App developers know the importance of making mistakes in order to make the game enjoyable. The worst thing that can happen to an app is for it to get home screened because it was too easy or too hard. So I stole their idea and made mistakes a requirement in my math class.

Every day I invite my students to pledge this oath. Notice how mistakes are a requirement. When a student thinks they are "done" with the problem, I ask them, "did you find a way to use manipulatives? A drawing? Did you make a mistake?"

Then, when it is time to share, I select a student to showcase their mistake. I'll say, "After Sami found the answer, they dug further to consider other possible mistakes and they found a really great one, Sami, can you share it with us?"

By acknowledging how Sami not only found a solution, but also a mistake, it creates a safe community FOR mistakes to be showcased. It's not long before everyone wants to share theirs.

And then your math discussions are filled with mistake confetti as students share when strategies worked and when they didn't and how that helped them to choose a creative path to better understand the formula.

Let's consider how our bodies react when making mistakes in a community that values them. We now feel carefree, we laugh, we learn, we connect ideas and we consider different perspectives.

By creating communities FOR mistakes, we are redefining the word smart. A smart student is one who knows mistakes are a part of the problem solving process.

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| <p>Want to encourage practice with mistakes? Start out with some independent exploration and give students apps that require a bajillion trials in order to find the solution. Discuss how the mistakes actually helped them to get the answer.</p> | <p>This Mathigon app allows students to play with numbers and visualize factors. They will explore number after number to determine which numbers have the most factors? Would you be interested in making a bunch of mistakes to find out?</p> |
| <p>This Geogebra app BEGINS with 5 mistakes and students determine which is the one true square. As they explore, they make hypotheses, prove them right or wrong, and consider more precise definitions.</p> | <p>These tech tools have two important characteristics in common. Students explore through mistakes, and they need to make a lot of them before the solution is revealed.</p> |

By creating communities that value mistakes, we are growing students for jobs in their future. We live in a world where trial and CTRL Z are the lay of the land and persistence through mistakes is the most valuable quality of a professional.

As you go to more sessions and return to your classroom, ask yourself how you will nurture communities where mistakes are ok, they are celebrated and they are valued.

When you see your students on Monday, instead of saying, “how did you solve this”, ask, “How did you use mistakes to understand the problem and explore new paths?”

Because, in the end, We’ve all had experiences making mistakes. So why not create a classroom community that celebrates mistakes.