CHAPTER 8: Mathematicians Connect Ideas

Our students generally think of math as a series of discrete, disconnected topics, rather than as a landscape of interconnected ideas. In this chapter, I shared several teaching strategies to shift our focus to how ideas relate to one another.

Discussion Questions

Pages 177–184 Discuss the Jake's House problem vignette. How did Jen's use of students' representations help students learn mathematics and gain new perspectives?

Pages 194–200 How does Emily's story make you think about the role of connections in students' proficiency, or lack thereof?

Pages 201–203 Reflect on Jen's decision to give herself time to plan. Would you feel comfortable telling your students you needed this kind of think time? Can you give yourself permission to do so in the future? Discuss or write.

Page 207 Discuss the questions on page 207. Are you comfortable asking them? Practice discussing them with your colleagues until the language feels comfortable enough to use in class.

Pages 207–208 Discuss the end of the chapter with a trusted colleague, your notebook, or with fellow readers and me at tjzager.com.

Activities

Pages 203–204 **Staffing Your Faculty Lounge**

Do you have a community where you could talk about a student's work like I did? If not yet, please find me on Twitter at @tracyzager and check out https://exploremtbos.wordpress.com/ to learn how to join a thriving community. Christopher Danielson calls it the "faculty lounge of my dreams," and I agree. You get to staff it with exactly the people you want.

Calls to Action

Pages 174–176 **Families and Communities**

Try involving families and community members in math class, as suggested. How did you recognize their expertise and honor it with your students? Report back at tjzager.com (Chapter 8).

Page 176 **Social Justice Math**

Surf around rethinkingschools.org, radicalmath.org, and mathalicious.com. Find a lesson to try, or write your own. Teach it. How did your students react to engaging with social justice issues in math class? Reflect with one another, and talk about what you learned at tjzager.com (Chapter 8).

CHAPTER 8: Mathematicians Connect Ideas (continued)

Page 184 **Multiple Representations**

Choose a problem or set of problems and devote class time to analyzing, connecting, and comparing students' representations. If you can, please take pictures and post them to a blog or a Google Doc and share the link at tjzager.com (Chapter 8) so other teachers can see your student work. What did you learn? What did your students learn?

Pages 184–191 **"What does _____ have to do with _____?"**

Take some time to think about Deb's sentence frame, "What does _____ have to do with _____?" Choose two concepts from your grade band—concepts that are related in some way but students tend to think of as unrelated. What opportunities could you give students to connect these ideas? Write about what you decide and how it goes at tjzager.com (Chapter 8).

Pages 191–193 **Multiple Models**

Think about models you teach. Do your students currently see connections among them? What might you take from Becky's example? Try it, and share what you learned at tjzager.com (Chapter 8).

Page 207 **Appeals to Rules Versus Appeals to Mathematics**

Reflect on a time when you appealed to rules instead of the mathematics. What had a student tried? How would you handle the same situation now? Write about it at tjzager.com (Chapter 8) or blog about it and post the link.

Additional Resources

At stenhouse.com/becomingmathteacher and at tjzager.com, you'll find a collection of supplemental resources that may come in handy for further thinking and discussion. I keep the links fresh, so the contents will change, but you will certainly find:

- All the web resources from this chapter
- Skemp's paper and Wertheim's talk
- A recording of a webinar I gave about some of these ideas