

Complex Instruction: Do I Have The Time, Energy, And Resources To Improve My Practice?



News alert: teachers are overwhelmed. As a math teacher, I have been overwhelmed as a general state of being since I first stepped into a classroom over 25 years ago. There are lots of reasons for this. We as teachers are generally juggling student needs, parent needs, district expectations, professional growth, evolving state standards and best practices, and more. We are simultaneously trying to balance all of this with family life, personal interests, and self care. Professional growth alone is daunting. Should I focus on professional learning communities? Extremely timely and necessary social emotional learning skills? Rigor? Standards-based grading? Restorative practices? This list is endless and includes far too many acronyms and too much jargon as well. There is so much noise in education about what we as teachers should be and how we fall short of that in so many ways. Being a teacher, there is no such thing as “enough.”

So when my friend ([Josh Thurbee](#), Knowles mathematics rock star!) kindly introduced me to the idea of complex instruction, one might forgive me for not exactly being immediately thrilled. Complex? Seriously? Like teaching math isn't complex enough? My instruction now needs to be *more* complex? I strongly value my own professional growth. I actually couldn't survive as a teacher without it. But every time there is a shiny new practice (and there is *always* a new practice) introduced to me in the field, my first response is a bit of side-eye, and my second is to wonder if it is worth it (i.e., actually beneficial for all students) and if it is

sustainable. Teaching has to be sustainable. I repeat: TEACHING HAS TO BE SUSTAINABLE.

Josh shared the book *Strength in Numbers* (Horne, 2012) with me and assured me that it was a short read. So I sat down and skimmed through, and I found myself nodding my head.

“Oh! I already take steps to ensure that all students feel safe and comfortable learning mathematics in my classroom. And I already design lessons around collaboration! And I definitely have students work on rich tasks, but I’d never thought about what makes a task accessible enough to ensure that all students can engage with it fully. And I definitely want to take more specific steps to create positive interdependence. I’ve never considered that before.”

It turns out that for me, embracing complex instruction is much more of a series of tweaks instead of a global change in my instruction. Complex instruction affirms so much of what I already value about teaching mathematics. This reaction was bolstered by joining the Knowles community as a teacher leader mentor for the first time this past summer (2023) and seeing complex instruction in action. I truly enjoyed engaging with Knowles Fellows and hearing their own thoughts on complex instruction and their experiences with it. I came back from the Knowles Summer Conference ready to try some new ideas out in my own classroom.

This year started with the same high levels of chaos that I’ve come to expect, but I was especially excited because I was selected to be part of a new furniture pilot in my district this year. I now have furniture that easily moves and transforms and encourages collaboration, and I love it! On the second day of class, I tried out the **hexagon task** (Low floor/high ceiling! Groupworthy!) that I got to experience during orientation for the new cohort of Knowles Fellows. I was nervous and excited, but jumping in was the thing to do. I invited my assistant superintendent to come observe, as he has spearheaded many efforts to transform instruction in new and innovative ways in our district.

I prepared my students by defining roles with a one-to-one correspondence and setting expectations for approaching an open task. I was pleasantly surprised that my students engaged immediately. It was early morning and they were smiling, laughing, and even arguing with furrowed brows. EVERYONE was engaged.

Students approached the task from several directions, and they shared their myriad solutions with each other.

I was genuinely surprised by what happened next. For context, this was an Algebra II class, and one question/worry that I have in general about some aspects of complex instruction is how to fit it in when I have to teach a state curriculum already bursting with standards. Feel free to ask any math teacher—we never have enough time! The fun and engaging hexagon task was followed by a compulsory (and admittedly perhaps a bit dry) review lesson on factoring. The students were still in groups poised for collaboration, but the material was nowhere as rich. But something interesting happened. They *continued* communicating and collaborating with each other surprisingly well for the first few days of a new school year. They were still smiling, still talking, making mistakes, and working through them. Struggling through a groupworthy task together seemed to bolster their ability to persevere through other challenging concepts. I've never seen students collaborate so easily so early. My aha moment came in realizing that inserting intentional complex instruction into my pedagogical repertoire occasionally may have an effect on *all* of the learning that happens in my classroom. I don't need to change every lesson. I don't need to rewrite a whole year. I won't claim that I'm an expert on complex instruction (spoiler: I'm not even close) or that I know exactly where it will lead me, but I'm excited at the prospect that just dipping my toe in the water led to such an immediate improvement in my classroom. I don't have to change everything. This kind of growth *is* sustainable.

Look [here](#) for more on the hexagon task.