

Student-centered instruction creates life-long learners

Editor's note: *The following guest piece was written by Judson Wagner, a physics and engineering teacher at Brandywine High School and Brandywine School District's 2021 Teacher of the Year.*

When I was in high school, I found physics to be fascinating, but learning it was never easy for me. Physical concepts tend to be abstract, elusive, and frustrating to comprehend. But I found that I could persevere when the learning conditions provided the time and space for me to sort through my messy thoughts and to share my ideas with others.

If your memories of learning experiences, like many of mine, are dominated by a teacher at the front of the room, try to imagine a space where speaking with peers in small groups is encouraged, using whiteboards to display your thinking process is natural, and raising your hand results in your teacher making every effort to rush to your side. Such a space, that is purposefully designed to allow students to stay with problems longer and continually improve their ability to think through challenging material, has become my mission. Today, creating student-centered environments has driven my pedagogical practice and has become the mode through which I approach teaching and learning.

Throughout my career, I have found that prioritizing a student-centered learning space has better positioned me to tackle questions posed by educational researchers such as: What does a whole-class discussion look like where every single student is participating in a conversation? How can I manage misbehavior so that my responses are sensitive to individual student needs? How can I consider a formative strategy where I activate learners as instructional resources for one another? How can I reduce stress, anxiety, and other obstructions to creativity associated with students getting called on in front of their peers? How can I plan for differentiated instruction and also be responsive in real-time to individual requirements? And how can I facilitate an equal playing field for my introverts and extroverts alike where all students are drawing energy from the learning environment?

More recently, establishing a student-centered culture in an engineering lab has allowed me to do more in terms of career and technical education. For example, in a student-centered space it becomes easier to include student voices in continuous program improvement similar to how lean manufacturing incorporates the free flow of ideas and recommendations of every worker on an assembly line to improve the entire system. It's also more natural in a student-centered lab to engage student engineers in collaborative teams that design solutions for real-world clients through a human-centered design process rooted in empathetic conversations with the end user. In a student-centered learning space, it becomes evident that in the presence of gender, racial, and class equity, the most innovative solutions are born from diverse perspectives.

There is a lot going on simultaneously in a student-centered classroom. Don't get me wrong. I'm not advocating for classroom free-for-alls. I actually tried that once, and it didn't go well. Students will always need a teacher-leader in the room. Nor am I suggesting that the spaces that work for my students can be carbon copied

elsewhere. But I do believe that in those places where learning is most enduring, where students genuinely own their learning, and where motivation to learn is intrinsic and natural, teachers have masterfully created spaces that are student-centered. With a short stint as a district administrator overseeing K-12 programming, I know this to be true in a wide range of ages and subjects. I've had the chance to observe classrooms where students are engaged in a multitude of tasks with the teacher orchestrating the ebb and flow of frustration and enthusiasm. The environments these teachers created and utilized are still an inspiration to me today in my classroom as I continually work on optimizing the learning space for my students.

It is a great privilege for educators to see their students grow and persevere through adversity. I believe that this is magnified when the culture of learning, and the learning space, are student-centered because in those types of classrooms that educator gets to be not only the teacher, but also the coach, the thought partner, the guide, the cheerleader, and the motivator each and every day for each and every student. More importantly, students that experience these spaces are more at ease with their own learning process, are more engaged in meaningful group tasks, and are more capable of passing on their knowledge to others.

When student-centered instruction is working for students-when they feel safe, courageous, and optimistic today, they are more likely to be free thinking lifelong learners tomorrow.