

Author conversations

On active learning

Niva Tro

I think technology has sort of catalyzed a change from passive learning to active learning in many ways. I think when I first started teaching, I was of the mindset where I would just go up there, and students would absorb what I said, and then, you know, I would assign a problem set, and then they would on their own, they'd passively read the book, and then do the problem set.

But now, even in large classes, I can have accountability. And I can have interactivity. And I can have a conversation with my whole class through things like Learning Catalytics, for example.

Or I can talk about a topic for a while, and then ask a question, and I can get feedback, and I can see what students are understanding. And I can have peer-to-peer instruction as well. And so it's sort of democratized education in many ways, and allowed it to be more active — not just in the classroom but even out of the classroom as well.

We learn better when we're involved. We don't learn very well when we sit back and passively just take in information. And so, a real focus of my revision process in the last few years has been not just to make better content, but to make active content. And this has made a huge difference.

Let me just tell you a story about one of my students this semester. At the beginning of the semester, he came up to me the first week of class and he was mad at me. He was mad because I was making him process the information so quickly, and try to respond both in class and out of class to ideas. And he said, 'Look, I'm just slow at this stuff, and you're making me do it so quickly. You want an immediate — you want me to immediately be involved and immediately be active.'

And I said, 'Look, I understand. This is just a very small part of your grade. But give it a try, and let me know what you think later.' Well, last week, this very same student came up to me and he said — and he thanked me, and he said, 'Professor Tro, when I was in high school, I hated chemistry. I almost failed.' And he said, 'Now I love it, and it's because of this active process where you are making me learn continuously and holding me accountable for that learning. And that has worked for me.'

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