

MITOCW | 7. Why do you like teaching Combinatorics for MIT's High School Studies program?

PROFESSOR: For me, growing up, one of my frustrations was that I felt like I was really interested in this stuff, and I sort of had the sense that nobody else was. And, you know, I felt often very isolated growing up, and one of the things that I think is great about the program that MIT has here is that it gives a chance for kids from lots of different areas to come together, and be with each other, and be in a very stimulating environment. For me, personally, I find it-- you know, I mentioned before, the light bulb moment, the aha moment, there's nothing more exciting to me than seeing that happen, and it's you know-- I learned a lot in the process of working with kids. I learn a lot, myself.

It's very easy to think you understand something, and it's not uncommon for me to get halfway through explaining something on the chalkboard and realize that there's actually something non-trivial that I hadn't really explored fully before. And, in fact, my thesis topic, which I just finished up last week, was actually triggered by a very simple question that one of the students asked me in a related class, a number theory class. Last summer, there was a particular algorithm that I was presenting in a particular problem, and he asked, well, what about this case?

And I said, well, that case is a lot harder. And his simple question was why is it any harder? It doesn't seem like it should be. And it turns out he was right. It's not any harder, and proving that was actually the basis of my research results.