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OPINION

How Arizona can keep new STEM teachers like me in the classroom

Nik Martin , opinion contributor Published 6:00 a.m. MT Aug. 6, 2019

Opinion: Arizona has a teacher shortage, particularly among math and science teachers. Here's how we can begin to reverse it.



Math teacher Kori Hayles helps Angelina Parr, 12, and Raul Samano, 12, in the seventh grade math class at the NFL YET College Prep Academy, a seventh-12th grade charter school in south Phoenix, on Nov. 5, 2018. (Photo: David Wallace/The Republic)

Too many first-year teachers are struggling to navigate barriers that range from low pay and a lack of materials to limited professional development – all with little to no support.

The result? One in four first-year educators has already decided to leave the profession.

Nearly one in four Arizona classrooms will not have a permanent teacher ([/story/opinion/op-ed/joannaallhands/2019/03/17/arizona-schools-need-effective-teachers-more-than-anything-else/3021156002/](https://www.azcentral.com/story/opinion/op-ed/joannaallhands/2019/03/17/arizona-schools-need-effective-teachers-more-than-anything-else/3021156002/)) this year. And approximately 1,700 teacher vacancies remain, especially in core STEM subjects like math, biology and chemistry.

Luckily, I had help in my first year

Thankfully, this was not my experience. As a first-year science teacher in Arizona, I had access to the materials I needed to successfully implement my lessons – down to the chart paper and multi-colored markers.

I tapped into a network of peers and experienced coaches to find solutions to challenges in the classroom.

I also had the dedicated space and time through Arizona Science Center's [Science Teacher Residency program](https://www.azscience.org/educators/science-teacher-residency-star-program/) (<https://www.azscience.org/educators/science-teacher-residency-star-program/>) (STaR) to learn, practice and reflect on ways to offer powerful, project-based lessons for my students.

But many other first-year teachers are in a far different position.

To position all STEM educators for success, we must first ensure they have access to hands-on, real-world aligned curricula.

But too many teachers lack this support

Arizona has already made progress here, recently approving comprehensive, inquiry-based standards that encourage students to ask questions, investigate and then share their thinking on key scientific concepts.

Yet many teachers do not have the funding to obtain materials aligned to those standards, often resorting to outdated resources, grants or even their own bank accounts.

Given that Arizona's educators already struggle to make ends meet with historically low pay, why should they part with scarce resources for the curricula that they need to do their job well?

We must also account for the professional development that all teachers need to confidently implement these new standards.

Currently, many educators cannot access invaluable training opportunities because of a [statewide substitute teacher shortage](https://www.azcentral.com/story/opinion/op-ed/2019/05/20/substitute-teacher-shortage-hurts-arizona-schools/3633439002/) ([/story/opinion/op-ed/2019/05/20/substitute-teacher-shortage-hurts-arizona-schools/3633439002/](https://www.azcentral.com/story/opinion/op-ed/2019/05/20/substitute-teacher-shortage-hurts-arizona-schools/3633439002/)). And even if they do, the increasing burdens associated with the job leave little time to plan and prepare lessons.

How policymakers can help us out

Policymakers can bridge these gaps by:

- increasing our pay to a level that reinforces the importance of our work,
- providing additional funds for districts to hire support staff, and
- scaling powerful residency and mentoring programs like STaR, Arizona Education Foundation's [teachSTEM program](https://www.azedfoundation.org/teachstem) (<https://www.azedfoundation.org/teachstem>), and the [Tucson Values Teachers](https://www.tucsonvaluesteachers.org/) (<https://www.tucsonvaluesteachers.org/>) model.

With the support of experienced mentors as well as access to materials and full financial support, teachers across our communities can adopt proven instructional approaches [like the 5E model](https://lesley.edu/article/empowering-students-the-5e-model-explained) (<https://lesley.edu/article/empowering-students-the-5e-model-explained>), learn how to address misconceptions with their students, and use dedicated time and space to hone their practice.

By tapping into a network of community-based resources, schools and districts can expand their capacity to provide powerful professional development and ensure all educators have the resources they need to succeed.

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At the moment, teachers are abandoning the workforce, particularly in STEM subjects that are commonly misperceived as hard to teach. And, as a relatively new educator, I can understand their reasoning.

Teachers have a fundamental opportunity to advocate for our students and to shape the next generation. Growing up in a family of teachers, I saw this firsthand.

With the appropriate tools and support, we can realize this opportunity – but there is no time to waste. The first days of school are already here.

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