

Florida's teacher shortage is state's most urgent education issue

The most important element in any elementary, middle or high school classroom is the teacher.

A teacher who is an expert in the subject she or he is teaching, understands the research on how students learn that subject, and is comfortable engaging with students is the most valuable asset our education system has.

That is why Florida's intensifying teacher shortage is the most urgent issue facing the state's K-12 system —and perhaps the most urgent issue facing the state altogether.

During the 2017-18 school year, one out of every 15 biology classes taught in Florida's public schools was taught by a teacher without the state's biology certification, according to the Florida Department of Education's most recent Critical Teacher Shortage Area report. One out of every 14 math classes was taught by an uncertified teacher.

In Earth/space science it was one out of 10. And in chemistry and physics, one out of every nine classes was taught by an uncertified teacher.

Perhaps even more astonishing than these statistics about math and science is that one out of every eight English classes had an uncertified teacher.

But these numbers, as disturbing as they are, only begin to tell the story. High school students are losing the opportunity to take chemistry and physics classes because schools cannot find certified teachers to teach those subjects.

In the 2018-19 school year (the one just completed), there were 36 high schools of 1,000 or more students in Florida that did not offer physics at all. Students who graduate from those schools are at a tremendous disadvantage in college if they choose majors in engineering, the physical sciences and computer sciences.

In fact, students who want to become architects or physicians also must take physics in college, and those who did not take physics in high school are at a competitive disadvantage compared to other students who did take physics in high school.

The number of students in Florida's public high schools taking physics and chemistry are declining rapidly. The number of students taking physics has declined 12 percent during the last four years. In chemistry, the number of students has declined by 14 percent in only three years. The growing shortages of teachers in those subjects are likely contributing to that loss of opportunity.

In some subjects, these shortages are intensifying as declining numbers of individuals decide to pursue teaching certifications. The number of teaching candidates taking Florida's high school math certification exam for the first time declined by 42 percent from 2013 to 2018. In chemistry and physics, the numbers of candidates taking the certification exams for the first time dropped by 39 percent and 35 percent, respectively, during the same five-year period.

The Florida Legislature passed — and Gov. Ron DeSantis signed into law — an overhaul of the state's program of bonuses for teachers. In doing so, lawmakers may have made the situation worse. Most new graduates of the university where I teach physics who entered the teaching profession during the last several years received "signing bonuses" of about \$7,000, regardless of the subject they taught. Under the new law, new teachers of math, science, computing, reading and civics will receive signing bonuses of only \$4,000.

Teachers in other subjects, such as English, will not receive any signing bonus at all.

For now, the task of solving Florida's teacher shortage has been left to the state's school districts and schools. But when the state Legislature begins preparing for the 2020 session — and that preparation begins with committee meetings in September, only three months from now — legislators should reassess both the urgency of the teacher shortage and their responsibility for contributing to a solution.

Paul D. Cottle is the Steve Edwards Professor of Physics at Florida State University. Email: pcottle@fsu.edu

<https://www.tcpalm.com/story/opinion/contributors/2019/05/29/floridas-teacher-shortage-states-most-urgent-education-issue/1256278001/>