

GRADUATE STUDENTS

Training Graduate Students to Be Effective Teachers

More colleges are making it a priority to teach future faculty members how to teach

By Vimal Patel | JULY 30, 2017 ✓ PREMIUM



John Berry for The Chronicle

Graduate students at Clarkson U. practice their classroom skills on one another during a mandatory summer teaching program.

Eric Takyi had taught undergraduates in his native Ghana, but teaching in America was a different story. In Ghana, he didn't think much about pedagogy or make an effort to spruce up dry lectures, rearrange the classroom, or personally connect with students. His Calculus 1 class back home had about 80 undergraduates, not the 15 or 20 he'd be teaching as a graduate assistant at Clarkson University.

While Mr. Takyi's plight as a graduate teacher may be complicated by cultural factors, the

contours are familiar to many Ph.D. students. Brand-new doctoral students are often thrust into the classroom with little or no pedagogical training, expected to teach undergraduates in exchange for stipends that cover their living expenses.

This system has its critics. It's "a long-running and disturbing national practice," says Leonard Cassuto, a *Chronicle* columnist who has written extensively about doctoral education. "Usually, there's a day or two of perfunctory orientation, and then into the machine march the new graduate-student teachers," Mr. Cassuto wrote in a recent essay. "It's a sloppy approach that leads to some understandably poor teaching, and for the students affected (on both sides of the lectern), there's little recourse."

Unbeknownst to Mr. Takyi when he applied to Clarkson, a small, private university in Potsdam, N.Y., he would be part of a pilot program offering him a rare training opportunity: an intensive, five-week teaching "boot camp" that would take place the summer before his doctoral program began. Since the pilot began last year, administrators have made the program mandatory for all teaching assistants in the School of Arts and Sciences, and about 20 students have completed the training or are going through it right now.

The landscape for teaching-assistant preparation isn't entirely bleak. Doctoral programs are paying more attention to teaching than they did a generation ago. More resources, such as teaching and learning centers, now exist on campuses, as do workshops and seminars on how to become a better teacher. But often the use of resources is not mandatory, and a program offering the amount of training that Clarkson provides new doctoral students is rare, if not unheard of. Clarkson officials say the boot camp was created partly in response to mounting public complaints about higher education.

"I think a big part of it, honestly, is that higher education is being held accountable for the education we're delivering," says Peter Turner, dean of the arts-and-sciences college. "At many schools, especially larger schools, a lot of math and science classes especially are being taught primarily by teaching assistants. And so people are saying, Wait a minute. We're paying all this money for faculty members to teach our kids, and they're not the people who are teaching our kids?"

Clarkson has about 200 Ph.D. students, all in science and engineering disciplines. The university also offers a master's degree in teaching, to prepare future teachers in many disciplines. It was that program that inspired the boot camp for doctoral students.

For Michael Regan, the offer letter he received last year to attend Clarkson's doctoral program in chemistry should have been cause for joy. He felt the university would help him with his goal of working outside academe, perhaps as an industrial chemist for NASA. But about halfway through the letter, he read something that upset him: He would have to spend five weeks of his summer learning how to teach. Mr. Regan had his summer all mapped out, his last carefree one before immersing himself in a doctoral program, and now Clarkson would take a large bite out of it.

"I tried to get out of it," he says of the boot camp. "They basically forced me to go."



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But what was an annoyance to Mr. Regan was a central feature for administrators. While voluntary seminars and workshops can be great resources, they may draw only those graduate students who care about teaching to begin with.

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Training future faculty members, however, isn't Clarkson's only goal. Equally important is improving the quality of undergraduate education and retention. Since doctoral students serve as TAs and may even lead some classes, the more teaching assistants who receive such training, the better, officials say.

The idea for the Clarkson program was planted at a meeting where the head of the college's education department was explaining how students in the master's-degree program were being prepared to become more effective teachers. They had just completed their bachelor's degrees and would be expected to teach in school classrooms come fall.

"I interrupted her and said, 'Well, wait a minute, that's the same scenario most of our new graduate teaching assistants are in,' " Mr. Turner says. "Could we use that same program to prepare our Ph.D. students to become more effective teaching assistants? Everyone was able to convince me that something similar could work."

So administrators began sketching out a program. They used the department's expertise to design courses focusing on pedagogy in general, with an emphasis on STEM fields. The boot camp includes classroom visits by experienced professors who discuss their teaching. Students also have plenty of time to practice teaching themselves, by explaining concepts to their fellow future TAs. The students spend mornings in class and afternoons practicing their teaching.



John Berry for The Chronicle

Graduate students at Clarkson U. attend a session on teaching. The new training program was informed by the university's existing master's-degree program in teaching, and includes visits from experienced professors who discuss their teaching tactics.

While Mr. Turner, the arts-and-sciences dean, has high hopes that other colleges will give his model a closer look, Clarkson was able to logistically pull off such a program more easily than other colleges might.

For one thing, Clarkson had recently merged with Union Graduate College, a transition that opened the door to conversations about mission that did not take as a given entrenched attitudes about doctoral education. Traditionally, many faculty members at Clarkson and elsewhere have

assumed that the goal is to replicate new scholars in their own image, making research and not teaching their primary mission. Changing a culture can be messier than creating one.

Clarkson's small size also made it possible for administrators to more easily exercise control over a teacher-training program than they could at a larger institution with thousands of doctoral students.

Regardless of institutional type, tacking on an extra five weeks to a student's program can be a tough sell, as it was for Mr. Regan. But it was important to have the training at the start of the program, Mr. Turner says, so graduate students could acquire skills before teaching undergraduates and wouldn't get bogged down with yet another responsibility once their programs start.

As Clarkson officials learned, it was also crucial that administrators move up the application timetable to allow international students to arrive five weeks earlier. Some students in the pilot program were unable to attend because of visa problems.

It's far too soon to tell whether the program is having an effect on undergraduate learning and retention at Clarkson. But the boot camp was expanded based partly on the experiences of the budding teaching assistants during the pilot program. Mr. Takyi, the student from Ghana, says the boot camp gave him an overview of American undergraduate education. He says he had never put any thought into how to connect with students until he took part in the program. He learned, for example, how to arrange the layout of the classroom depending on what he planned that day — desks clustered for group work or placed in a circle for classroom presentations — and how to use technology in the classroom.

"In my country, everything depended on the lecture," he says. "Just pouring information to students does no one any good."

Mr. Regan, the student who was initially skeptical about the time commitment, quickly became a believer. He arrived thinking he had the basics of teaching down — it was just a matter of being charismatic in the classroom. After all, he had been sitting in the student's seat for the better part of two decades, and he knew teachers who were effective and others who weren't.

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"I didn't even know this area of education — pedagogy, the science of teaching — existed," Mr. Regan says. "I didn't realize the amount of planning that went into every minute of a lecture."

He uses many tips he learned during the training to run his classroom, like waiting several seconds before calling on a student after asking a question, and waiting a few more seconds after the answer to make sure the student is finished with the thought. "I had to practice

keeping that in the back of my head," he says. "But we were in front of the class so much over those five weeks that I just naturally got used to it."

Mr. Regan is no longer certain he wants to work outside academe. He found his first year as a teaching assistant unusually fulfilling. He's now leaning toward a teaching career.

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This article is part of:
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A version of this article appeared in the August 4, 2017 issue.

1255 Twenty-Third St., N.W.
Washington, D.C. 20037

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