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The future of STEM education: Preparing the next generation of faculty

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More than 80% of future STEM faculty that will teach the next generation in the 4,500+ institutions of higher education in the US receive their PhDs at fewer than 100 institutions. Preparing graduate students and postdocs now to use evidence-based instruction, active-learning, and effective teaching practices can change the future of higher education. We discuss the model of the Center for the Integration of Research Teaching and Learning (CIRTL) Network, a coalition of 22 universities preparing future faculty. To scale and reach the more than 43,000 STEM PhDs that graduate each year and 20,000 that take postdoctoral positions, we created a massive open online course, “An Introduction to Evidence-based Undergraduate STEM Teaching.” Remarkably, 50% of postdocs and nearly 40% of graduate students who signed up completed the course, demonstrating a significant need and success at serving our target audience.