

Teaching at Scale: Improving Access, Outcomes, and Impact Through Digital Instruction,
by David A. Joyner

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Joyner, D. (2023), *Teaching at Scale: Improving Access, Outcomes, and Impact Through Digital Instruction*, 278 pp., Routledge.

David Joyner, Executive Director of Online Education and the Online Master of Science in Computer Science at Georgia Tech College of Computing, may have taught more for-credit college students than anyone else since 2018. In *Teaching at Scale: Improving Access, Outcomes, and Impact Through Digital Instruction*, Joyner applies his extensive experience and research in cognitive and learning sciences to guide educators in providing high-quality, broad-access instruction for all learners.

In his preface, Joyner first established a premise that the pace of technological innovation has resulted in greater access and demand for education and greater capacity for every university to grow to meet that demand. The stated goal of this book was “to give educators the tools necessary to meet this demand

on our way to creating lifelong learning for all.” Educators in this context include teachers, instructional designers, technologists, faculty developers, education administrators, and chief information officers (CIOs). The author set out to convince us that teaching at scale cannot only be achieved but can also, through its scale, allow us to improve the student experience.

Teaching at Scale is in three parts:

In Part 1, Joyner first explores the overall landscape of learning at scale that includes mega-universities, large-scale degree programs, MOOCs, boot camp programs, open educational resources, and learning communities, and then focuses attention for the rest of the book on educational contexts in which some number of individuals play a role of teacher. Chapter 2 defines scale in this context and discusses factors that determine scalability of a teaching-at scale initiative, such as *the avail-*

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ability of resources to accommodate additional students and *sustainability*, measured in the cost to enroll additional students compared to the revenue generated with their enrollment. Chapter 3 provides an analysis of essential considerations of a teaching-at-scale initiative, including the synchronous to asynchronous spectrum, self-paced vs. cohort paced, co-locatedness (e.g., close enough to meet-up in person or dispersed across time zones), type of credentials, vertical scale (scale within a single course), and horizontal scale (scale of a program comprising at-scale courses). Part 1 concludes with recommendations of current seminal books about how to teach online in general and his brief review of each book. I have read and used most of the books Joyner recommended, and I added a couple of books I still need to read to my wish list.

Part 2 is the heart and soul of the book. In it, Joyner addresses 11 perceived challenges of teaching at scale, such as ensuring academic integrity, handling large numbers of questions, and accommodating varied audiences in at-scale environments. Chapter by chapter, Joyner describes each perceived challenge, presents it instead as an opportunity to broaden access, improve outcomes, or enhance the student experience, and then offers strategies grounded in research and personal experience to meet the opportunities.

In Part 3, Joyner extrapolates from the challenges, opportunities, and strategies of Part 2 six general principles for systematically addressing future challenges and new contexts:

- Frontload and invest in asynchronous instruction and other considerations, such as accessibility,
- Reuse to reinvest for substantive feedback to students and other considerations, such as academic integrity,
- Centralize and specialize for edge cases and other considerations, such as producing content.

- Leverage scale to address scale for question volume and other considerations, such as scale for the future,
- Leverage the diversity of scale for varied audiences and other considerations, such as student motivation, and
- Emphasize lifelong learning for all for student motivation and other considerations, such as the future of society.

Wisely, Joyner focused *Teaching at Scale* on durable strategies independent of specific tools that may become obsolete. For example, *Teaching at Scale* was first released in October 2022, one month before OpenAI released ChatGPT. Joyner has a background in artificial intelligence (AI), and the book addressed AI features that were available at the time of his writing, such as AI teaching assistants (TA) for supporting student and TA interactions in course discussion forums and AI grading tools to support efficient grading and providing substantive feedback at scale. He was already looking ahead to the evolution of AI, allowing teachers and TAs to offload more routine work to AI so that they can devote their time to creative, more fulfilling efforts in the teaching process, especially interactions with individual students. So, *Teaching at Scale* does not fully address issues posed by the most recent versions of generative AI. Still, Joyner will likely address these new challenges in *A Teacher's Guide to Conversational AI*, which is scheduled for release in 2024.

A strength of this book is that it bridges the gap between research and practice. It is practical, grounded in research with more than 300 works cited, and includes engaging examples from the author's teaching, administrative, and leadership experience. The book's structure is logical and consistent, facilitating ease of reading. Ultimately, Joyner encourages us to learn how to teach at scale today—to teach everyone, everywhere, at all times, to create an educated society prepared to address the challenges of tomorrow.