

**Rage Against the Teaching Machine: A Review of Audrey Watters' *Teaching Machines:
The History of Personalized Learning***

Ben Whitmore

Community Colleges of Spokane

Author Notes

Ben is the District Director of eLearning for the Community Colleges of Spokane. He's worked in education since 2009, starting as an ESL instructor. His passion for digital learning began in those classrooms as he strived to provide his ESL students with 21st century skills along with English acquisition. Ben completed his Master of Educational Technology at Boise State University and currently resides in Spokane, Washington with his family.

Abstract

In *Teaching Machines: The History of Personalized Learning* by Audrey Watters, the author offers a comprehensive examination of the historical context and implications of educational technology in American classrooms. Ben Whitmore's review delves into Watters' central thesis, emphasizing her cautionary message about the enduring influence of behaviorist ideas on modern education. The review highlights the persistent parallels between B.F. Skinner's teaching machines and today's learning management systems, emphasizing the need for a critical, human-centered approach to educational technology. It encapsulates Watters' call for educators, politicians, and tech leaders to resist the allure of automation and prioritize the agency of teachers and students in shaping the future of education.

Education has always been influenced by various factors such as business, politics, psychology, and world events. In her book *Teaching Machines: The History of Personalized Learning*, Audrey Watters delves into the fascinating history of educational technology and how it has shaped American classrooms over the years. Watters is a prominent writer and educational technology critic known for her insightful and critical analysis of the intersection between technology and education. Her writing has significantly influenced discussions about the impact of technology on learning and has earned her a reputation as a key voice in the field of edtech criticism. She provides a comprehensive and detailed account of the evolution of personalized learning from the early 1920s, when educational psychologists became obsessed with quantifying and measuring learning, to the advent of computer technology in the 1980s. Through her meticulous research and use of primary sources, Watters paints a vivid picture of a country that seemed to prioritize everyone else's opinions over those of educators when it came to the future of education in America. *Teaching Machines* stands as a compelling cautionary tale for educators and policymakers who perceive educational technology as an emerging field. Watters illustrates that the quest for personalized and automated education is far from new, spanning over a century, and urges us to critically reflect on its historical context and implications.

One of the prominent figures in Watters's book is the behaviorist psychologist B.F. Skinner, who played a pivotal role in developing prototypes for teaching machines, mechanical devices that prompted students with a series of questions that provided immediate feedback after their responses. Skinner's relentless pursuit of getting teaching machines, and his own name, in every classroom in America is portrayed by Watters as emblematic of his unwavering

determination. While Skinner's machines never made their way into all American classrooms due to a series of events, lack of industry support, and changing societal dynamics, Watters argues that many of his behaviorist ideas and philosophies still linger in American education, particularly in the widespread use of educational technology today. This is evident in the prevalent use of learning management systems (LMS), which incorporate various gadgetry influenced by behaviorism, such as nudges, automated grading and feedback, alerts, and analytics. Watters explains how Skinner sought to engineer the learning environment to exert control over students' learning progress by using mechanized teaching machines that would adjust responses based on individual student selections. A quick look around today's classrooms reveals similar technologies that are based on the same principles.

In addition to providing a historical account of the rise of teaching machines, Watters also sheds light on the often-overlooked issue of hastily designed research projects that lack processes to ensure fidelity. She highlights how research conducted to "prove" the effectiveness of teaching machines in improving student success and motivation was often carried out by researchers who were consulting for the manufacturers of these machines. This observation reveals a significant connection between early teaching machine inventors and modern-day Silicon Valley investors, who perceive their tools as solutions to educational challenges. These non-educators often lack an understanding of the history of education and fail to conduct thorough research in their product testing. They then espouse the belief that individualization and personalization through automation are crucial for transforming education. Watters's book serves as a stark reminder that educators should not view the

novelty of technology as a panacea for all educational ills and must employ a critical eye when introducing technology in the classroom.

Watters tells the story of how teaching machines and behavioral control came to be in education, which directly connects to the world we face today in educational technology. She leaves us with hope in her conclusion by arguing that we must use a critical eye in determining the technology we introduce in the classroom and that through resistance, we may be able to avoid repeating history. Watters states, "If we reject teaching machines and technologies of behavioral control in education, we certainly won't be the first to do so. From the history of refusal, we can see when students and teachers and communities protested attempts to engineer them, into either enlightenment or submission" (p. 262). Caution, skepticism, and resistance go hand in hand in Audrey Watters's vision of a future for education: one that isn't shaped by automated feedback and nudges, but rather shaped by educators and students.

Reference

Watters, A. (2021). *Teaching machines: The history of personalized learning*. MIT Press. DOI:

<https://doi.org/10.7551/mitpress/12262.001.0001>