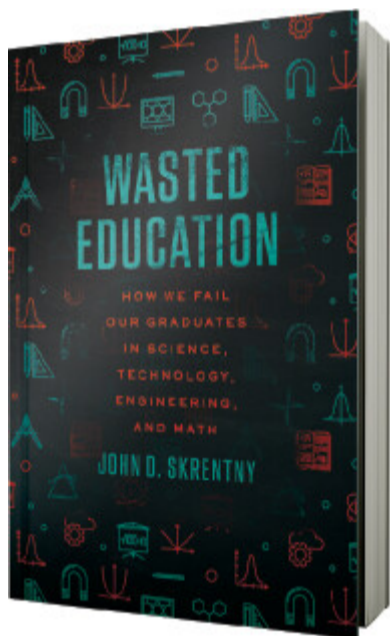**BOOKS ET AL.**   WORKFORCE

A new philosophy of STEM work

More can be done to recruit, train, and retain scientific professionals, argues a sociologist

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In *Wasted Education*, sociologist John Skrentny maintains that a large portion of US science, technology, engineering, and math (STEM) education is currently "wasted," with few students who learn specialized skills in these fields using them after graduation and high turnover in sectors where such skills are used. Although we invest heavily in training future workers in these fields, we do little to ensure that graduates remain in the STEM workforce and productively and meaningfully use the skills they have learned, he argues.

In the book's introduction, Skrentny summarizes the core arguments that are most often made for producing more STEM workers—that there is a shortage of such citizens, that it will help to ensure the country's competitiveness, and that it will allow the US to respond more adeptly to various global crises. Yet more than half of STEM graduates do not work in STEM occupations, a trend that has been "consistent since early in the first decade of the twenty-first century." So where do they go? Some leave for occupations with better pay, reveals Skrentny, but many employers also drive away STEM graduates through a "burn and churn" approach to the workforce. "It is a paradox that employers in the same sectors where complaints of worker shortages are the loudest are so willing to push them so hard that they leave in tears—if they are not fired first," he observes.

Keeping up to date with the skills that are required to succeed in STEM jobs can be extremely challenging and likely contributes to some workers' decisions to pivot to other fields. Skrentny claims that many employers do not

do enough to address the training needs of their workers, instead opting to treat them like interchangeable widgets that are discarded when they become obsolete.

Many top tech companies and STEM employers are also to blame for their own lack of workforce diversity, argues Skrentny. He devotes chapter 6 to accounts of underrepresented and minoritized STEM workers, describing the challenges they have faced in their careers. Many STEM employers, he notes, "engage in or tolerate practices that are driving women, underrepresented minorities, and older workers away while at the same time complaining that schools are failing to give them enough STEM grads."

In the book's final section, Skrentny contends that having the opportunity to contribute to morally meaningful work— for example, working on solving climate change—would go a long way to improving conditions for STEM workers and may even convince some to stay in the fields in which they trained. He concludes by arguing that government investment in such work could make a difference: "[M]ore government funding for research and development in areas that can solve our manifold global crises could help not only solve the problems that desperately need solving but also provide a lot of rewarding and meaningful employment opportunities for STEM grads."

A major take-home from this book is that the K–12 education sector often fails to provide students with skills that employers want and need. Skrentny insists that employers should do more to remedy such gaps, but it could be argued that schools should also work harder to ensure that STEM curriculum aligns with the needs of future employers.

One might also take issue with Skrentny's definition of "wasting" education. For example, mathematically precocious students may end up in STEM disciplines, but many also go on to innovate in a wide array of other domains (*1*). Additionally, some scholars have reasoned that higher education is valuable in its own right, regardless of one's specific training (*2*), and postsecondary training of any kind can signal to employers that a person is worth hiring (*3*).

With the rise of artificial intelligence and other technologies, keeping one's skills up to date is more difficult now than ever before. As Skrentny suggests, part of the solution to this problem likely lies with employers, who can do more to recruit, train, and retain a diverse array of individuals and to promote more-inclusive work cultures. At the same time, talented workers will always be in demand, and "burn and churn" will always be a part of employment when competition and a company's bottom line determine its chance of survival. Although Skrentny does not have all the answers, he asks important questions that encourage readers to think more deeply about what a meaningful education is (and is for) and the nature of meaningful work.

References and Notes

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Books

1. **Wasted Education: How We Fail Our Graduates in Science, Technology, Engineering, and Math** *John D. Skrentny* University of Chicago Press, 2023. 256 pp.

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