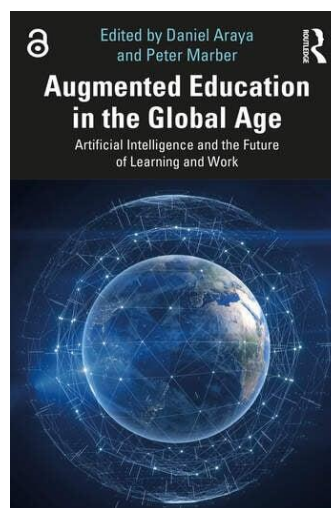**Araya, D., & Marber, P. (Eds.). (2023).** *Augmented education in the global age: Artificial intelligence and the future of learning and work.* **Routledge. https://doi.org/10.4324/9781003230762**

Reviewed by Anthony C. Clemons
Northern Illinois University
United States

In an era defined by the COVID-19 pandemic, climate change, and economic inequality, generative artificial intelligence (AI) has taken the world by storm and is rapidly emerging as a transformative innovation in both education and industry (Weng Marc Lim et al., 2023). The Biden Administration has even recognized generative AI to be a significant tool in combatting challenges like disease and climate change and as a potentially existential threat to national security and society absent certain regulatory measures.

Given the totality of possibilities that may be realized via generative AI, new tools and platforms emerge daily, proliferating endless capabilities into our everyday lives while serving as a seemingly unstoppable force as they continue to improve at a Kurzweil level of exponentiality. With this backdrop, *Augmented Education in the Global Age: Artificial Intelligence and the Future of Learning and Work* emerges as a highly relevant and timely exploration of AI's role in shaping the future of work and education.

Edited by Daniel Araya and Peter Marber, this volume assembles an impressive array of experts from various fields to offer diverse perspectives and insights into the impact AI may have on labor markets, learning processes, and policymaking. Araya and Marber provide a space to discuss how technology is emerging as a phenomenon integrated into our daily lives. However, this is not their first foray exploring scaled societal dilemmas or navigating the labyrinth of emerging technologies. Previously, the editors wrote extensively on topics centered on understanding the intricacies of liberal arts, smart cities, and higher education policy. But with this book, they have turned their attention to crafting a dialogue between experts and society about how AI tools and systems are changing the global order.

Arya and Marber have organized this edited volume into a tightly set 326 pages, comprising 17 chapters spread across three sections. The text interweaves thematic narratives that explore the potential impacts of using generative AI in both industry and education and then concludes with a section on the policy, economic, and security considerations that need to be taken into account.

Part I: Augmented Work in the Global Age sets the stage by examining the ongoing technological revolution and its potential consequences for labor markets. The authors probe the idea of augmenting human civilization and discuss the novelty of AI implementation across industries such as energy, agriculture, space, medicine, and education.

One thought-provoking chapter by Jin Michael Fung and Samira Hosseini highlights the importance of lifelong learning in the face of AI and automation-induced job displacement. The authors maintain that individuals must adapt to a rapidly changing labor market by continually acquiring new skills throughout their careers. Citing reports from the World Economic Forum and Gratton and Scott (2016), the authors acknowledge that establishing regulations and policies that allow people to choose how they fashion their own lives across multiple stages will be an increasingly important priority for governments. Their point connects to an ongoing public discussion that imagines higher education as evolving into accessible centers of lifelong learning, not just spaces for educating emerging adults.

Another particularly notable contribution to this section is Erik Brynjolfsson's chapter on the "Turing Trap." The Turing Trap refers to the tendency to overestimate the capabilities and potential of AI, often leading to unrealistic expectations and misplaced fears about the future of work and education. Brynjolfsson challenges the hyperbolic assumption that AI will inevitably lead to widespread job displacement and the demise of traditional educational institutions. Instead, he argues that AI can be harnessed to augment human skills and abilities, enhancing our capacity to learn, innovate, and adapt to the ever-changing demands of the global economy. This chapter effectively deflates many of the imagined pitfalls of generative AI by unveiling them as misconceptions. In challenging these false assumptions, Brynjolfsson urges readers to adopt a more thoughtful and measured approach to AI integration—a valuable perspective for educators, policymakers, and researchers navigating the complexities of the AI revolution.

The chapters in Part II: Augmented Learning in the Global Age address the transformative impact of AI on education and learning. The authors in this section delve into AI's potential applications and challenges in education, from curriculum design and personalized tutoring to ethical considerations in AI development. Of particular note is Jon K. Burmeister's chapter, "Education for a Post-Work Society." Burmeister's chapter stands out because of his willingness to wade into the marsh of the philosophical and practical implications of a time when society will no longer appreciate traditional work as a dominant force in people's lives. Instead, Burmeister grapples with the question of how education should be reimagined to cater to a society with more leisure time, where personal fulfillment and life-enhancing (*a-telic*) pursuits take precedence over conventional work. Drawing on historical and philosophical perspectives, Burmeister builds a compelling argument for reevaluating education's purpose in a post-work society. Referencing the ancient

Greeks' liberal arts concept, he suggests that education should focus on nurturing human creativity, critical thinking, and cooperative problem-solving. By fostering these skills, individuals will be prepared for the evolving demands of the labor market and gain the ability to pursue meaningful and fulfilling activities in their newfound leisure time. Burmeister's chapter also highlights the importance of cultivating an education system that encourages lifelong learning and fosters a society that values personal growth and development outside the confines of traditional work. This approach, Burmeister argues, can facilitate a more equitable and fulfilling future for all members of society and push educators, policymakers, and researchers to consider the broader implications of an AI-driven future where the very nature of work and education will evolve.

Another important contribution to this section is Annie Murphy Paul's chapter "Extending Biological Intelligence." The author explores the intersection of AI and the natural sciences, offering an optimistic outlook at the potential of AI in transforming various industries and addressing some of humanity's most pressing challenges. Throughout the chapter, Paul demonstrates how generative AI can augment human capabilities in healthcare, food production, and climate change, leading to potential breakthroughs and innovative solutions. The chapter is noteworthy because it juxtaposes how AI can benefit industries while improving human well-being and the environment. Paul argues that a "Bio Revolution," powered by AI, has the potential to create new industries, occupations, and research areas, ultimately driving significant advances in addressing global challenges. However, the more profound yet subtle point that Paul elegantly conveys is that a biorevolution that leverages AI effectively can improve and extend the quality of human life, thus increasing human longevity for living the type of life which Burmeister envisions. Paul also offers a compelling argument that instead of solely focusing on the threats posed by AI and automation, it is crucial to consider the immense opportunities presented by AI in enhancing human capabilities and solving complex problems. This perspective is particularly valuable in the context of the volume and other chapters like Brynjolfsson's, as it provides a balanced view of the impact of AI and encourages readers to embrace the potential benefits of AI in augmenting human intelligence and fostering a better future versus falling into an attention-grabbing doomsday narrative.

Part III: Policy and Planning for an Augmented Future delves into the need for governments to adapt education systems to the digital economy and the role of AI in shaping national competitiveness and innovation strategies. The authors examine policy responses to AI from countries such as China, the United States (US), and India, highlighting the importance of preparing the workforce for an AI-driven future. Of the many excellent chapters in this volume, Chapter 14, "US National Security Commission on Artificial Intelligence," is particularly notable given that its author, Eric Schmidt, was the Chairman of the tech behemoth Google. Schmidt's distinguished background in tech and having led one of the world's most influential tech companies provide him a deep understanding of AI's potential impact on society, the economy, and global politics. In this chapter, Schmidt examines the strategic implications of AI for U.S. national security, emphasizing the urgent need for the government, private sector, and academic institutions to collaborate in promoting AI research and development. He argues that the US must invest in AI

to maintain its technological leadership and military superiority in the face of growing competition from countries like China. Schmidt highlights the importance of cultivating domestic AI talent and attracting international expertise to ensure that the nation remains at the forefront of AI innovation. He calls for a comprehensive strategy that includes investments in STEM education, immigration reform to attract and retain global talent, and public-private partnerships to foster AI research and development, particularly in national security. He also advocates the development of AI applications aligned with democratic values and adherence to the highest ethical standards. This chapter is a valuable contribution to the volume, as it combines Schmidt's expertise in the tech industry with a strategic vision for the future of AI in national security. By offering a pragmatic and forward-looking analysis, Schmidt's chapter is a call to action for policymakers, educators, and industry leaders to work together to ensure that the US remains a leading force in AI innovation while upholding its core values and ethical principles.

A few chapters later, Aleksandra K. Przegalinska and Robert E. Wright offer a formidable follow-up with their chapter "AI ≠ UBI." They offer a uniquely divergent perspective to the assumption that Universal Basic Income (UBI) policies will be realized as generative AI's effects proliferate and displace workers. Although it may be one of the more technical chapters, Przegalinska & Wright offer evidence for opposing the view that the evolution of AI will naturally lead to widespread job loss and require a UBI policy implementation. Instead, they show that a complex relationship underlies AI, work, and income in the modern world by comprehensively analyzing the current state of AI, long-term employment trends, and various income sources individuals and families rely on to achieve their life goals.

From the outset, Przegalinska & Wright describe AI as a general-purpose technology, emphasizing its potential for creating new jobs and reskilling existing ones versus causing mass unemployment. By analyzing long-term employment trends, they also demonstrate job growth has been consistent over time despite technological advancements and argue that individuals may adapt to changes in employment by adjusting their income portfolio, which includes subsistence, proprietorship, investment, employment, and the receipt of unilateral transfers. Largely, Przegalinska & Wright's chapter is a nuanced perspective on how people adapt to technological change and a refreshing departure from the simplistic AI = UBI narrative.

Overall, Araya & Marber's volume is notable for its comprehensive examination of the effects of AI on work, learning, and policy from various viewpoints. By merging the voices of scholars and practitioners from various fields, Araya and Marber effectively create a richly multidimensional dialogue on the role of AI in shaping the future of education and labor markets. The breadth of topics covered in the book, ranging from ethics in AI and policy implications to the transformative potential of AI in various industries, offers readers a comprehensive understanding of the challenges and opportunities this rapidly evolving technology presents.

Moreover, the book's ability to position itself as a dialogic resource within the ongoing debates surrounding the future of work and education is commendable. It not only addresses the fears and anxieties associated with job displacement due to

AI-driven automation, it also highlights the potential benefits of AI in augmenting human skills and fostering innovation. By providing a balanced view on the impact of AI, this volume encourages readers to approach the AI revolution thoughtfully and to consider the potential benefits and drawbacks of AI integration in both work and education.

However, the volume's focus on generative AI might leave some readers wanting a more in-depth examination of other AI technologies and their implications for education and work. Although the volume covers generative AI extensively, including even brief mentions of other AI subfields like robotics, natural language processing, or computer vision would have enabled a more inclusive examination of AI's impacts on work and education.

The book is also centered in a predominantly Western-centric perspective, with a particular focus on the competing interests of the US and China. This tendency could limit its applicability to other regions as they continue to emerge in their own generative AI capabilities. Although the book acknowledges global developments such as China's Belt and Road Initiative and India's growing influence in AI, it would have been valuable to see more case studies from other regions, such as Latin America, Africa, or Southeast Asia, which could offer unique insights and challenges in adapting to the AI-driven future.

Nonetheless, *Augmented Education in the Global Age* is a timely and insightful exploration of the role of AI in shaping the future of work, learning, and policymaking. The book's multidisciplinary approach and inclusion of diverse perspectives make it an invaluable resource for educators, policymakers, and researchers seeking to navigate the complexities of the AI revolution. While some aspects could have been added to permit a more extensive discussion on AI's potentialities, this edited volume's overall contribution to the field is undeniable.

Araya and Marber's text offers a comprehensive understanding of the challenges and prospects AI poses for education and work and evidences the need for adaptive and forward-thinking policy responses. By highlighting both the potential benefits and drawbacks of AI integration, the book encourages readers to approach the AI revolution thoughtfully and consider the myriad ways AI can augment human skills and foster innovation. As the world continues to grapple with the implications of AI for work and education, *Augmented Education in the Global Age* serves as an essential guide for those seeking to understand how to prepare for the rapidly approaching AI-driven future.

References

Lim, W. M., Gunasekara, A., Pallant, J. L., Pallant, J. I., & Pechenkina, E. (2023). Generative AI and the future of education: Ragnarök or reformation? A paradoxical perspective from management educators. *The International Journal of Management Education, 21*(2), 100790. https://doi.org/10.1016/j.ijme.2023.100790

About the Reviewer

Anthony Clemons is a graduate teaching assistant and dual Ph.D./M.S. student in the Evaluation, Measurement Research & Assessment department at Northern Illinois University. He also serves as a senior training manager for a Fortune 500 company and has directly supported major corporate and government clients, including General Dynamics, FDA, USAID, FEMA, HHS, U.S. Army, and many others. His doctoral research centers on intersecting, instructional technology, critical theories of technology, and generative AI. He holds an Ed.M. and M.A. from Teachers College, Columbia University, and an M.F.A. in Nonfiction Writing from Goucher College. Clemons is the co-editor of *Multicultural Andragogy for Transformative Learning* (IGI Global 2019).

Disclaimer: The views or opinions presented in book reviews are solely those of the author(s) and do not necessarily represent those of *Education Review*.