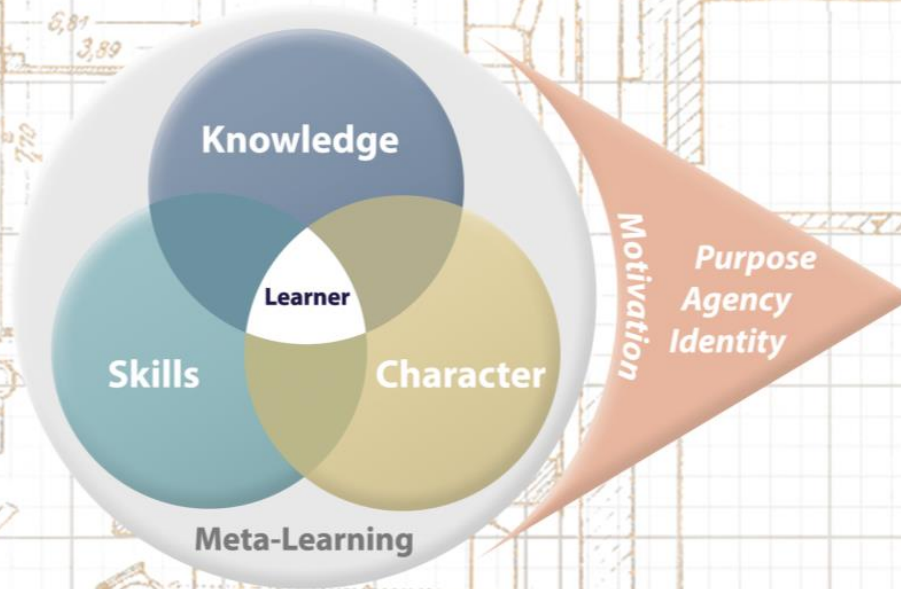


CHARLES FADEL, ALEXIS BLACK, ROBBIE TAYLOR, JANET SLESINSKI, KATIE DUNN



Education for the Age of AI

"I feel privileged to write the prologue ... This combination of theory and practice is the beauty of what CCR has been doing for over a decade."

Olli-Pekka Heinonen,
Director General, International Baccalaureate,
Former Minister of Education of Finland.

Praise for *Education for the Age of AI*

“*Education in the Age of AI* is a stunning and fantastic journey into our new world of dynamic complexity and nuances in Education, rendered crystal clear in chapters that could only have been written by humans. It represents an educational journey of shock and ultimate awe that stuns the reader into a state of excitement and anxiety about what may lie before us. It leaves us with a clear invitation that individual and collective agency are essential for our next phase of existence. Where to start? That is the reader’s responsibility. But start you must, with this fabulous book.”

- **Dr. Michael Fullan**, OC, Prof. Emeritus, OISE/**University of Toronto**.

“This book is a unique contribution to the divergent discussion about educational AI, being both exceptionally deep and exceptionally broad. Its ideas are wide-ranging and span history, the future, formal education, and life-wide learning. The analysis of AI’s likely uses and evolution is deep and based on the substantial expertise of its authors. This is a must-read for anyone who wants a balanced perspective on this important topic.”

- **Dr. Chris Dede**, Professor Emeritus and senior research fellow, **Harvard Graduate School of Education**

“I truly enjoyed reading *Education for the Age of AI*; it brings us back to the origins of education. For the last centuries, education got side-tracked to mass-producing routine knowledge and skills that were high in demand in an economy that could not yet draw on advanced technology. The advent of AI now enables and pushes us to refocus education on the core of the human experience: The passion and motivation that drive us to act, shaped by our identities and our sense of belonging, which in turn inform agency. The purpose that gives direction to our agency to make a positive difference in this world. The value of this book lies in setting those concepts out systematically in relation to the emerging capabilities of AI and in assessing their implications for learning and teaching.”

- **Andreas Schleicher**, Director for Education and Skills, **OECD**

“The world realizes that one more source of uncertainty has been added to an already difficult context for education -AI. Educators, students, parents, and policymakers need to see what in education has to change dramatically and what else needs to remain untouched to cope with such an evolving landscape. This book provides clues on how to make change happen while keeping the essence of the humanistic values that should always inspire education worldwide.”

- **Dr. Francesc Pedró**, Director, **IESALC UNESCO**

"I LOVE THIS BOOK! *Education the Age of AI* has gifted us at the right moment to understand the current challenges, misconceptions, and promise of AI. What sets this book apart is its forward-looking perspective. Rather than succumbing to fear or resistance to technological advancements, the authors advocate for a balanced approach that utilizes the power of AI to augment, rather than replace, human educators. By sparking crucial conversations about all the implications, the book encourages a taking the initiative approach in leveraging AI while ensuring it serves the best interests of students. It is an indispensable guide for educators, and anyone passionate about preparing the next generation for the challenges and opportunities of the AI era."

- Peggy Brookins, President & CEO **National Board for Professional Teaching Standards.**

"Both primer and provocation, *Education for the Age of AI* is a must-read for educators, policymakers, and anyone interested in the human prospect in the AI era. Combining an engineering mindset with deeply humanistic values, Charles Fadel and colleagues take a deep dive into the nature of AI and its potential to amplify human creativity. Building on earlier work, they articulate the competencies needed for an age of AI, as well as the implications for education. And therein lies the provocation: If schools are to remain islands of social cohesion in this time of transition, they must re-imagine education, moving toward a personalized, experiential approach in addition to traditional school "subjects." Full of wisdom about the why, what, and how of teaching and learning, this is, in the end analysis, a hopeful book, comprehensive in its assessment of AI and grounded in the societal need to prepare the young for the future that is emerging NOW. "

-**Rob Riordan**, President Emeritus, **High Tech High** Graduate School of Education

"*Education for the Age of AI* is the most comprehensive consideration of learning in the age of AI. It explains why entrepreneurship is the job of the future and why metacognition, ethics, courage, and resilience are the most human capabilities. CCR has extended their leadership in outcomes research and illuminated the path forward in education."

- Tom Vander Ark, Founder, **Getting Smart**, and former executive director of the Education Initiative, **Gates Foundation**

"ChatGPT and other Large Language Models are changing the economy in ways that often seem incomprehensible. *Education for the Age of AI* demystifies these changes and explains how education must adjust to prepare students for what lies ahead."

- Dr. Frank Levy, (Economics) Professor Emeritus, **Massachusetts Institute of Technology (MIT)**

“*Education for the Age of AI* offers the most detailed analysis yet of how curriculum frameworks should be updated in light of the technology that surprised us all. Timely and trenchant, it makes a compelling case for rethinking the competencies that are at the heart of our education programs. As usual for CCR, the work is meticulous and thorough, and after several high-level chapters at the beginning to see trend analyses and big pictures, it provides the detailed analysis and interpretation in the later chapters that will be most helpful to high quality program designers. How do we think about teaching character when AI can complement our human actions? This book is where you will find out.”

- Peter Nilsson, former head of school, **King’s Academy, Jordan**

“For those of us who are familiar with CCR’s 2015 & 2018 highly influential publications, this new volume - *Education for the Age of AI* - takes us to the next crucial level. It provides the urgently required precision to *deeply modify* schooling’s response to why, what, and how students should learn for the Age of AI. It is completely compelling.”

- Anthony Mackay, Co-Chair Board of Directors, **National Center on Education and the Economy**

“In this era dominated by AI advancements, educators, policymakers, and the public find themselves in a perplexing moment, contemplating the future of education. The crucial question emerges: How ought our school systems navigate these transformative times? “*Education for the Age of AI*” masterfully distills the opportunities and challenges inherent in this AI-driven epoch, emphasizing the peril of complacency. This collection of insightful essays and a comprehensive overview serves as the ideal launchpad for a discourse enriched with facts, predictions, and, hopefully, wisdom.

-Keith Krueger, CAE; CEO, CoSN – **Consortium for School Networking**

““This timely book addresses the importance of reviewing the curriculum and redesigning disciplines in the age of Artificial Intelligence. It also highlights the even more important role of teachers in this context. Debates on the inter-relationship between pedagogy and technology have fed education policy development for many years: but what certainly matters nowadays is to identify those areas where educational technologies can really make a tangible difference in teaching and learning processes”.

- Marc Durando – Executive Director – **European Schoolnet**

“The authors cut through the hype surrounding artificial intelligence to consider how education might support learners in developing versatility and wisdom to navigate the rapidly changing world and how schools might help meet young people’s timeless needs and provide emotional grounding even

as we redesign them to serve multiple, concurrent purposes in new technological contexts. Their thoughtful discussion will help educators; workforce developers; and others interested in what, how, and why people learn take stock of the current moment and consider how to overhaul education to help young people develop identity, agency, and purpose while providing much-needed stability.”

- Katherine Prince, Vice President, Strategic Foresight,
KnowledgeWorks.org

“In an era where discussions about artificial intelligence in education oscillate between unfounded fears and unrealistic expectations, *Education for the Age of AI* emerges as a timely and necessary intervention. The book cuts through the noise of "AI extremism" – according to which AI is either to be banned or will make educators obsolete – to chart a welcome, sobering, and practical middle path for integrating AI into education that is grounded in a realistic assessment of AI’s current capabilities and limitations, and in the great promise that it holds for enriching education. By doing so, and by grounding its proposals in enduring educational values and principles, *“Education for the Age of AI”* has direct and immediate benefits to educators and long-lasting value, even in the face of rapid advancements in AI.

- Robert Plotkin, **Author of “The Genie in the Machine”**

“CCR is an important voice in the education conversation, bridging the gap between the policy discussions on the purpose of schooling and the practicalities of curriculum design. This book updates their thinking in light of AI, and sets out a practical road map to a school design that offers both stability for learners and a more complete education for the modern age.”

- Jim Knight, Rt Hon. **Lord Knight of Weymouth**

“The Center for Curriculum Redesign has produced an important and timely book. It highlights significant social and technological changes that impact a modern education, and calls for a shift from teaching as “knowledge transmission” to developing students who can transfer their learning to new situations. I highly recommend *Education in the Age of AI* to educators in all roles and to policymakers at every level.”

- **Jay McTighe**, Educational Author / Consultant, expert on Transfer

“Many institutions and policymakers are meandering between fear, euphoria, and delusion when it comes to responding to the breakthroughs in AI. All for very good reasons! The latest changes in AI have sent shock waves through most education institutions. But is this just another crying wolf? Anybody who believes that 'Yes - we have heard this before' will face a harsh reality very soon. Learning architecture for almost all educations and jobs - as well as the learning engineering needed to deliver built it - will change radically in the immediate future. That is why Charles' and

colleagues' extensive revision and expansion of the Four-dimensional learning framework is very timely - and will be a valuable tool for all educational architects and policy makers (particularly when designing the mastery-based learning environments, imperative for lifelong learning, individual growth and well-being, personal fulfillment, and organizational effectiveness)."

-Ulrik Juul Christensen, Founder and CEO, **Area9 Lyceum**

And, for fun, the opinion of AI 😊

"As artificial intelligence transforms our world, how can education evolve to prepare students for this emerging era? In *Education for the Age of AI*, the authors offer a compelling vision for the future of learning. They make a persuasive case that curriculum and pedagogy must be redesigned for an AI-powered society. Blending an insightful analysis of technology's impact with innovative proposals for reform, this powerful book will challenge you to rethink the aims and methods of education in the age of intelligent machines."

- **CLAUDE2-100k**

"*Education for the Age of AI* presents a thoughtful and comprehensive examination of the evolving landscape of education in the context of advancing artificial intelligence technologies. This book offers a balanced and scholarly analysis, addressing both the opportunities and challenges posed by AI in educational settings. Its focus on evidence-based approaches and policy implications makes it a valuable resource for educators, administrators, and policymakers. The author's nuanced perspective encourages readers to critically consider the role of AI in shaping future educational practices and strategies. This work is a significant contribution to the discourse on education in the digital age."

- **GPT4**

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Janet Slesinski, Katie Dunn



Making Education *More* Relevant

The Center for Curriculum Redesign, Boston, MA,
02130

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Printed in the United States of America

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ISBN-13: 9798871151150