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**Testimony for the Committee on Education and Workforce
United States House of Representatives
Sid Dobrin, PhD
Professor and Chair**

Chairman Walberg, Ranking Member Scott, distinguished members of the Committee, and other attendees, thank you for the opportunity to provide testimony about Artificial Intelligence (AI) and Generative Artificial Intelligence (GenAI) within the context of K-12 education.

My name is Sid Dobrin, and for the last 28 years, I have been a professor in the Department of English at the University of Florida. For the last ten years, I have served as Chair of the Department. For ten years prior, I served as Director of Graduate Student Teaching, overseeing the Department's teacher development program and working with hundreds of new teachers. Broadly speaking, one of my primary research areas focuses on writing studies and, more specifically, on the role of emerging technologies in how we communicate through writing (Augmented Reality, Virtual Reality, and Artificial Intelligence, for example). Over the past two years (or thereabout), I have become one of the world's most sought-after academic experts on AI and GenAI, having delivered approximately 70 talks worldwide to academic administrators and educators, helping to demystify AI technologies for educators and assisting in developing strategies to integrate AI into their curricula. I work closely with the University of Florida's AI Initiative, serving on UF's AI Blue Sky Task Force. I am the Founding Director of the Trace Innovation Initiative at UF and was named a Digital Thought Leader by Adobe. I serve as a member of the Florida Institute for National Security, and I serve as a member of the Florida AI Learning Consortium (FALCON) Steering Committee. I have been invited to and have attended meetings about AI organized by the DoD (Project Lima) and the DoE. I am the author and editor of numerous books and articles, including *Talking about Generative AI: A Guide for Educators* (the second edition of which is scheduled to be published next month) and *AI and Writing*. My current research examines enduring questions about AI and the role of AI in education. I am a MIT-certified AI Strategist and am the owner of Flying-Fish AI, LLC, an AI strategy service that serves the outdoor recreational fishing industry, an industry that contributes over \$148 billion in economic output in the US.

In my testimony today, I will provide information about the importance of AI integration in K-12 education within the context of AI literacy, workplace readiness, and American innovation in the global economy. Since the subject of and research about AI/GenAI in education and workforce are extensive and complex, this testimony can only serve as a rudimentary overview of this important topic.

A Brief Contextualization

While much of the country (or more accurately, the world) became alert to AI and GenAI in education in November 2022 when Open AI released ChatGPT, many educators and industry leaders have been considering AI and GenAI for much longer. For example, five years before the drop of ChatGPT, The Association for the Advancement of Artificial Intelligence (AAAI) and The Computer Science Teachers Association (CSTA) co-sponsored the development of The Artificial Intelligence for K-12 initiative (AI4K12) in order to assist in "developing (1) national guidelines for AI education for K-12, (2) an online, curated resource directory to facilitate AI instruction, and (3) a community of practitioners, researchers, resource and tool developers focused on the AI for K-12 audience." At that time, these efforts focused almost exclusively on computer science; however, the velocity at which GenAI technologies have expanded across nearly all disciplines and industries now requires more encompassing approaches to K-12 education than just computer science approaches. While organizations such as AI4K12, CSTA, and AAAI are phenomenal resources that deserve our support, we need to be more comprehensive in our thinking and development regarding K-12 AI education.

To oversimplify, we can point to four key developments that have led to the surge in attention to AI in K-12 education: a

combination of technological advancements, societal concerns, economic demands, and proactive initiatives. First, we must acknowledge that the release of ChatGPT (and the subsequent releases of other platforms like Gemini and Co-Pilot) provided widespread, affordable access to powerful generative AI models that power large language models (LLMs) like ChatGPT and Stable Diffusion image generation. Because early releases of ChatGPT were free, the rapid adoption of the platform (ChatGPT logged 100 million monthly users within two months of its release, faster than any digital application had ever achieved) also dramatically shifted public perception by making these tools accessible and visible rather than the province of computer science and technology specialists. I should note, as well, that the rise in the availability of *Generative* AI platforms also shifted attention from AI as analytical technologies to GenAI as productive technologies, thereby making writing (and art, to an extent) the proving ground for AI in education. Technological advances continue this trend. Second, public conversations and (often knee-jerk) reactions regarding the perceived potential risks of AI use in industry and education exacerbated the rush in attention to AI. Rightly, public perception has intensified the need for conversations about misinformation, job displacement, security, responsible use, and the potential for misuse, further provoking the need for serious attention not just to the role of AI in education but specifically to new kinds of AI literacies and awareness. Third, as AI and GenAI become more ubiquitous across nearly every industry, US educational institutions have had to rapidly attend to making accountable connections between education and workplace readiness (more about this in a moment). Fourth, government agencies, educational organizations, and private sector companies have begun developing and providing resources and initiatives to promote AI literacy, contributing to an overall sense of necessity and support for AI in K-12 education, lending, perhaps, too, to a sense of urgency. Some states have begun to provide guidance through their boards of education for AI curriculum development (notably, Alabama, Arizona, North Carolina, West Virginia, Virginia, Oregon, and Washington), and California has made moves to mandate AI and media literacy as part of K-12 curricula. I will address state and federal legislation in further detail later in this testimony.

The Focus of AI/GenAI in K-12 Education

Given the limits of this testimony, it is impossible to address everything that must be considered in developing conceptual and pragmatic strategies for AI education. These are, as I have said, extensive and complex matters with far-reaching implications. Nonetheless, it is critical to understand the core issues as they have been introduced thus far and, given the context of this testimony, to take the opportunity to push the conversation forward to provide students in the US with the best possible educational and workforce opportunities.

The uptick since late 2022 in attention to AI in education was clearly triggered by the availability of GenAI models like ChatGPT, which rapidly captured the attention of educators, administrators, and policymakers. Most of these conversations maintain focus on subjects that have been discussed in education since the mid-20th century about AI which have focused on (1) how we might teach students *about* AI—what might be identified as basic AI literacy; (2) how we might teach *with* AI—which requires significant consideration of what AI tools are viable and how we prepare teachers to work with these tools; (3) how students might use AI to enhance learning, research, and thinking skills; (4) how to teach responsible AI use—including how to address matters of data privacy, academic and professional integrity, bias, and the potential impact on human interaction in the classroom and workplace; and (5) how to implement professional development for teachers effectively. Each of these is critical to the success of integrating AI into K-12 education; however, in the current context, there are many other aspects of AI integration that must be addressed, such as: (1) access: including but not limited to student and teacher access to broadband (I note the March 26, 2025 Supreme Court implication that the federal E-rate program is likely to remain as a critical part of this discussion), the development and cost of platform access, and the cost of servers and computer equipment (note that laptops, the device most used by students for educational work, are expected to increase in price by no less than 10% in the coming months, not to mention the cost of other supporting technologies); (2) cognitive impact: specifically further research and understanding regarding how long-term interaction with AI-generated content and automated problem-solving might affect students ability to think critically, analyze information, and develop original ideas; this is a tricky subject because these “soft skills” are difficult to quantify and evaluate, primarily because their definitions are always contextual; (3) agility: tied to matters of cognition and soft skills, curriculum will need to account for the rapidly evolving AI landscape to recognize that the capabilities of these technologies will continue to progress throughout a student’s academic experiences and so students will need to learn strategies for adapting their skillsets to what comes next rather than relying on stagnant competencies. This includes teaching students how to recognize AI’s limitations and when to rely on their own cognitive abilities; this will include developing curricula that promote deep thinking over complete reliance on AI outputs. (4) Augmentation over

automation: curricula will need to focus on helping students understand that AI technologies augment their own abilities and do not replace them by automating them; (5) human-machine collaboration: by all indications, we can anticipate that the evolving workforce will require workers in nearly every field be able to work with AI technologies in one capacity or another (a survey of 400 Fortune 1000 executives show that 82% of those surveyed identify human-AI collaboration as an employee talent imperative); therefore, educators need to develop methods for teaching students how to collaborate effectively and responsibly with AI tools, understand their capabilities and limitations, and communicate effectively in AI-mediated environments, including teaching students how to provide clear and precise prompts and how to evaluate the outputs of AI tools. This extends beyond basic AI literacy and delves into the complexities of human-AI interaction. (6) Personalization: one of the most potentially valuable aspects of AI-integrated education is the possibility of developing customized learning pathways to enhance learning success; however, educators must also account for the ways in which AI personalization can shape student identity and self-perception, potentially creating echo chambers; therefore, educators must understand how AI influences student worldviews and belonging and develop curricula that will ensure that AI-driven learning promotes exploration and growth.

Workplace Readiness/Industry to Curriculum

In my professional opinion, education's sole (or even primary) purpose is not career preparation; education is citizen preparation. (I also acknowledge that my professional opinion does not necessarily align with my home state's position on such matters.) However, I recognize the inextricable connections between education and workplace readiness and see significant value in those connections, as workplace readiness is certainly a vital aspect of citizen preparation.

Historically, much of our curricula has emerged in support of career preparation, what we might identify as an "industry to curriculum" relationship. Many of our disciplines are designed specifically to provide students with credentials and skill sets to enter particular industries or career paths (i.e., pharmacy, nursing, engineering, HVAC, aviation, law, criminal justice, computer science, culinary arts, agriculture, and so on), and much of our K-12 curricula is designed to provide students with the transferable skills needed to succeed in those learning paths. In this way, industry has a significant influence on education.

Anyone who has been attentive to the connection between education and the workplace knows that for many years employers have consistently identified communication and writing skills as the number one skill they look for in new employees. While the tools and methods of communication have evolved, the underlying need for effective communication skills has remained constant in the eyes of employers. However, recent survey data shows that while the second most sought-after skill has traditionally been identified as critical thinking, problem-solving, and/or teamwork, many employers now identify AI literacy as the second most important skill set they look for. Specifically, employers tend to identify these skills as important under the heading of "AI Literacy": (1) understanding of core AI concepts; (2) data-security awareness; (3) data literacy; (4) ethics and responsible use; (5) critical thinking and problem-solving; (6) programming fundamentals; (7) platforms; (8) collaboration; (9) domain-specific AI knowledge; (10) continuous learning and agility; and (11) critical evaluation. While many of these skills may exceed the purview of K-12 education, the foundations for students developing an interest in, learning the logics and skillsets of, and acclimating to AI environments are established in K-12 education.

We might think of this moment in AI-based education reform in relation to workplace readiness as being akin to the restructuring of the US education system following the 1957 Sputnik launch and the subsequent 1958 National Defense Education Act (NDEA) which provided substantial federal funding to improve science, mathematics, and foreign language education in schools at all levels, as well as providing student loans and graduate fellowships to increase the number of highly trained scientists and engineers. This is our Sputnik moment.

Legislation and Government

The role of federal and state government in AI education is currently in flux. Executive Order 14179, "Removing Barriers to American Leadership in Artificial Intelligence," charges a host of government officials (see the EO for the full list) to develop an AI action plan by July 22, 2025, 180 days after the EO was signed (about 112 days from this testimony). Likewise, the EO charges officials, in coordination with the heads of all agencies as they deem relevant, to review "all policies, directives, regulations, orders, and other actions taken pursuant to the revoked Executive Order 14110 of October

30, 2023.” While EO 14179 does not mention education specifically, we can assume that the EO will inevitably affect AI development and deployment across all industries and, in turn, necessitate that educators begin to anticipate how such actions will likely impact education, specifically regarding workforce readiness.

EO 14179 implies a degree of deregulation of federal oversight of AI development, likely pushing AI guardianship to state administration or, more radically, eliminating oversight altogether. In the 2024 legislative session, at least 45 states introduced AI bills; none are directed toward education, instead focusing on matters of consumer protection, deepfakes, government use of AI, automated decision-making, and some sector-specific use of AI (such as finance and healthcare). The new EO suggests that the logic behind deregulation is to inspire innovation by removing regulatory roadblocks. Of course, the motivation here is more directed at developing competitive advantages in industry, particularly when competing with other nations such as China (see the next section). However, such deregulation is also going to affect how education might rethink approaches to the development and deployment of AI technologies in terms of educational institution-wide integration, curricular development for student workplace readiness, and educational innovation.

While there is no concrete data about how many new AI and GenAI platforms are released each week, estimates show that anywhere from a few dozen new platforms to several hundred per week are entering the market. Many of these are designed to answer industry-specific needs, including the needs of educators. Federal deregulation will likely increase the development and availability of discipline- or curriculum-specific platforms. While deregulation might benefit education by increasing the availability of education-facing platforms, it will also exacerbate already challenging compliance concerns. Consequently, educators and policymakers—particularly at the state level—should begin to develop adoption and compliance policies in anticipation of the increased availability of platforms and the likelihood that teachers will want to onboard a wider range of platforms specific to their classroom and curricular objectives. Educators need to be actively involved in conversations about such policies. I point to the Florida Artificial Intelligence Learning Consortium (FALCON) as an example of educators actively working together across a state to address these matters to potentially collaborate with state officials to help develop informed policies about AI and education.

As the effects of deregulation become ingrained in the practices of every industry, educators will also need to rethink their approaches to supporting workplace readiness. This will likely include finding ways to streamline the approval of curricular changes calibrated to rapidly changing industry use cases and AI platform adoption. Educators and policymakers need to be aware that the fast-paced evolution of AI and industries’ uses of these technologies will likely run headlong into the notoriously slow process of curriculum development and approval. All levels of education need to reevaluate their systems for developing and altering curricula and programs to account for the new high velocity at which these technologies unfold. Approaches to efficient, continuous curriculum revision in conjunction with industry trends and emerging best practices should be integrated into all curriculum development and approval processes. Such systemic upgrades should unfold hand in hand with creating an educational culture of continuous faculty development.

AI Education and China

Clearly, EO 14179 is designed to encourage competitive advantages in industry, particularly internationally, and it is also clear that in the AI landscape, China is the US’s primary competitor. Informed AI K-12 education will be critical to continued success in this arena.

In 2017, China introduced the “Next Generation Artificial Intelligence Development Plan,” which emphasizes the importance of promoting AI education to promote the next generation AI talent pool. The plan makes evident that AI is now a central pillar to China’s national strategy. China’s Ministry of Education (MOE) developed the “Education Informatization 2.0 Action Plan,” incorporating AI education in K-12 curricula. In February 2024, the MOE selected 184 schools as pilot bases to explore philosophies, models, and programs in AI education, with the goal of scaling successful approaches nationwide. Likewise, the Beijing Municipal Education Commission has mandated AI education for all primary and secondary students starting in the fall of 2025. Beijing is one of three municipalities in China with the largest student populations. As part of China’s effort to improve its AI-ready workforce, there is a nationwide effort toward increased teacher development in AI that combines recruiting university and technology company professionals to serve

as part-time teachers with preparing new teachers for working in AI-rich curricula. China's efforts in AI education, particularly in teacher preparedness, are more rigorous and unified than our approaches.

The US has no federal mandate (there is value and risk in this). Currently, about 25 states have or are developing official guidelines and/or policies for K-12 AI education, exemplified by Florida's K-12 Artificial Intelligence Education Program. However, there is varied implementation from state to state, contributing to a fragmented landscape, which further complicates policy and resource development and allocation.

AI @ UF

As noted above, Florida is among the first states to adopt a K-12 artificial intelligence education program to prepare students for the growing global demand for an AI-enabled workforce. The University of Florida is a global leader in AI education, research, and industry. UF has pioneered the effort to integrate AI education across the curriculum and serves as an example for developing AI educational initiatives at all levels. UF's robust AI Initiative leverages its partnership with NVIDIA to integrate artificial intelligence across all disciplines, empowering students and researchers to lead in the AI-driven future. Faculty from UF's Herbert Wertheim College of Engineering and College of Education have provided remarkable leadership in designing the framework for the Florida public schools' AI coursework. Based on guidelines established by the National Science Foundation (NSF) and the aforementioned AAAI and CSTA, UF faculty have been at the vanguard of the nascent conversation about AI and K-12 Education and Workforce.

Concluding Statement

Again, I am grateful for the opportunity to provide this testimony. As I identified at the outset, these complex issues deserve rigorous professional attention facilitated by educators, policymakers, and industry stakeholders. This testimony barely scratches the surface of a few of the pertinent issues.

I am available for further consultation.

Sincerely,



Sidney I. Dobrin
Professor and Chair
Adobe Digital Thought Leader
Faculty, Florida Institute for National Security (FINS)
Steering Committee, Florida Artificial Intelligence Learning Community (FALCON)