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The Education Doctorate in the Context of Generative Artificial Intelligence:

Epistemic Shifts and Challenges to Practical Wisdom

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ABSTRACT

The emergence of generative artificial intelligence (GenAI) fundamentally shifts how educational knowledge is created, shared, and validated. Through the lens of epistemic technologies—tools that transform knowledge creation and dissemination—we analyze how GenAI challenges traditional notions of practical wisdom in education doctorate (EdD) programs. Drawing on parallels with previous epistemic shifts like written language, print, and digital media, we explore how GenAI, as a generative, dialogic, multimodal, and sometimes unpredictable technology, transforms practitioner knowledge and decision-making. We discuss implications for EdD programs, emphasizing the need to balance AI integration with the preservation of human judgment and ethical decision-making to maintain practical wisdom for scholarly practice.

KEYWORDS

AI Integration, AI, generative AI, genAI, education doctorate, EdD, curricula, learning, teaching, knowledge epistemologies, technology, practical wisdom

The emergence of generative artificial intelligence (GenAI) technologies may mark a pivotal shift in educational paradigms and practices, impacting education doctorate (EdD) students and programs. This essay explores the role of practitioner knowledge via the concept of *practical wisdom* (Shulman & Wilson, 2004) in the age of GenAI. Amid rapid educational changes, the ancient concept of *phronesis*, or practical wisdom, remains central to effective teaching and educational leadership. It involves using knowledge to make contextually informed decisions and navigate complex educational realities (Stenberg & Maaranen, 2022). This foundational knowledge is vital in EdD programs, where the goal is to prepare leaders to transform environments through deep understanding, contextual knowledge, and ethical judgment (Shulman, 2007).

Practical wisdom—as practitioner-focused, applied knowledge—is essential to educational practices and EdD programs (Wergin, 2011). Within this context, it is important to consider the deep connections between technologies and the ways we acquire, organize, and share knowledge. Technologies influence educational practices as well as the broader understanding of what it means to know (Kaplan, 2017), and technology's ability to affect cognition and knowledge did not originate with computers or digital media. As Roy Pea (1987) defined *cognitive technologies*, they include "any medium that helps transcend the limitations of the mind…in thinking, learning, and problem-solving" (p. 91), including written language and mathematical notation. Thus, every new technology, whether oral, written, or digital, has transformed thinking and education.

GenAI is one of many technologies throughout history that have disrupted practitioner knowledge and how it is studied. For instance, the printing press revolutionized the dissemination of knowledge, while the internet democratized access to information and transformed research methodologies. More recently, social media has altered the landscape of knowledge sharing and educational collaboration [for more elaborated examples of technology and education shifts, see Kaplan's (2017) anthology]. GenAI's ability to process vast data and generate content on an unprecedented scale introduces new dimensions to human thinking, especially in

education (Wang et al., 2024). This could significantly impact EdD programs, offering new tools to transform or expand existing practices, from conducting literature surveys and developing research questions to designing instruments and analyzing data (Storey, 2023). However, technological innovation also brings tensions and concerns. While GenAI can enhance aspects of educational knowledge development and research, it also raises critical questions about its alignment with practical wisdom.

Educational technologies are often discussed in tool-centered ways as objects that support different purposes and tasks (Henriksen et al., 2022). For instance, dynamic software, mobile games, and simulations have been viewed as tools to improve learning outcomes in specific areas (Lai & Bower, 2019). This tool-centric tendency is understandable, as technology encompasses a broad array of tools, each enabling different tasks or thinking and learning modes. However, popular discourse in educational technology sometimes fails to consider how new technological paradigms (e.g., the internet, social media, or more recently, artificial intelligence (AI)) can shift the nature of knowledge itself. New technologies impact education not just through immediate, direct effects, but by transforming the world education exists within (Koschmann, 2012). EdD students and programs will develop new habits, practices, and expectations as AI expands, but its larger impact involves longer-term transformations of the world that students live in.

The rapid dissemination of GenAI may signal an epistemic shift (Dunnigan et al., 2023). To effectively prepare scholarly practitioners, it is critical to understand technology and how it may influence existing epistemologies. Our goal in this paper is to consider the effects of GenAI on the knowledge ecologies of EdD students and programs, and some possible implications. As EdD programs aim to keep pace with technological and societal changes, it is also vital to support the irreplaceable foundations of practical wisdom.

This essay explores practical wisdom as essential knowledge in EdD programs, examining how technological phenomena like AI can shift human values and beliefs about knowledge. By examining historical technological shifts, we consider GenAI's potential influence on education and the training of educators and leaders. Understanding how GenAI tools operate, interact, and differ from human cognition suggests they might reshape societal views of knowledge. Finally, we will explore the implications for EdD programs, the knowledge and skills to emphasize, and the challenges and cautions ahead.

PRACTICAL WISDOM IN EDUCATION

Practical wisdom, a concept rooted in the Aristotelian notion of phronesis (wisdom of action), involves the ability to navigate complex situations and make informed decisions that balance ethical considerations with practical knowledge (Goodfellow, 2003; Shulman, 2007). In professional practice, the concept involves a blend of theoretical knowledge with insights gained from direct experience (Shulman & Wilson, 2004). Nearly 20 years ago, Shulman and colleagues (2006) laid out a vision for a more robust EdD, rooted in scholarly principles from the Carnegie Project on the Education Doctorate. In a follow-up essay, Shulman (2007) emphasized practical wisdom as central to scholarly practitioners, focusing on judgment, intuition, and ethical reasoning in complex, real-world decision-making.

In EdD programs, practical wisdom enables educators to manage the challenges and tensions of educational settings with adaptable decision-making that fosters innovation and inquiry. Practical wisdom involves balancing pedagogical theories with the dynamic realities of real-life education contexts (Lunenberg & Korthagen, 2009). This wisdom extends to reflective practice, where practitioners continuously refine their approaches based on subtle cues and outcomes (Schon & DeSanctis, 1986). Ethical decision-making is also crucial as leaders navigate complex moral dilemmas, considering the best interests of those affected. EdD curricula aim to integrate theoretical knowledge with methodological learning, helping students develop context-sensitive innovations and research around practical problems.

In EdD contexts, practices may become embedded within technologies that reshape how we engage with information, inquiry, and each other, whether face-to-face or digitally (Chu et al., 2017). For example, learning management systems (LMS) like Canvas have redefined faculty and student interactions with course materials and feedback. Additionally, tools like Zoom have transformed traditional face-to-face interactions by enabling virtual classes, collaborative research, dissertation defenses, advising meetings, and more, increasing program accessibility and diversity. These technologies have become integral to how knowledge is created, shared, and assessed in EdD programs. Certain technologies, termed *epistemic technologies*, are critical to how we build, represent, and share knowledge (Anthony, 2018). They can be distinguished from production technologies, which primarily focus on speed and efficiency because "the primary role of an epistemic technology is to enable the ongoing generation of knowledge" (Anthony, 2018, p. 663). In other words, such tools are used in epistemic contexts or for purposes of inquiry, i.e., used to ask questions, seek answers, and generate knowledge (Alvarado, 2023). According to Alvarado (2023), examples of epistemic technologies include books, microscopes, slide presentations, search engines, and telescopes.

As an epistemic technology, GenAI offers a lens to examine the transformative impact of GenAI on education practices and research. This technology poses critical questions about the future of knowledge generation and the role of scholarly practitioners in a world where AI becomes a central player in the intellectual space.

EPISTEMIC TECHNOLOGIES, EPISTEMIC SHIFTS, AND GENAI

Major leaps in epistemic technological capacity can set in motion profound changes in how societies think and learn, altering the fundamental nature of knowledge (Postman, 1998). Media theorists, like Ong (1982), Postman (1992), and McLuhan (1964), have argued that new media fundamentally change human knowledge and practices. Consider how the advent of an epistemic technology like the printing press, or even the written word (McNeil, 2002), marked a significant shift from oral cultures, where traditions relied on memory, improvisation, and rhetorical skill, fostering deep personal connections through face-to-face interactions. In such cultures, knowledge is transient and communal, conveyed through storytelling and anchored in shared experiences (Henriksen et al., 2021). These dynamics form the foundation of cultural identity and structure social hierarchies around skilled orators (Cohen, 1989). Oral traditions also play a crucial role in cultivating rich linguistic

expressions and preserving folklore that continues to influence future generations (Ong, 1982).

Written language, though fundamental today, was once a transformative technology in human history (McNeil, 2002). The word technology, derived from the Greek *techne*, meaning art or craft, emphasizes tools and creativity rather than just devices (Hunt & Melrose, 2005). This concept connects to the idea of technique, implying knowledge gained through making or doing. The notion of techne as art, skill, and expertise was central to Plato's dialogues. In the Phaedrus (circa 370 BCE), Plato recorded Socrates' discussion of the Egyptian myth of the creation of writing (Sawyer & Henriksen, 2024). For Socrates, writing was a revolutionary technology—an invention that extended the mind (as per Pea's 1987 definition of cognitive technologies). However, he believed writing would weaken memory, causing people to seem to understand rather than truly understand, as he explained:

> This invention will produce forgetfulness in the minds of those who learn to use it, because they will not practice their memory. Their trust in writing, produced by external characters which are no part of themselves, will discourage the use of their own memory within them. You have invented an elixir not of memory, but of reminding. (Plato, quoted from the Phaedrus, cited from the Perseus Catalogue, n.d.)

His concern was that teaching writing, rather than relying on oral traditions, would weaken memory by causing people to depend on external techne rather than their own cognitive abilities. While Socrates' concern may seem unfounded 2,000 years later, the decline of oral traditions and the rise of written culture have indeed transformed how knowledge is preserved and transmitted. However, adopting the techne of writing has also allowed ideas, knowledge, and creativity to spread and flourish in ways oral traditions could not.

The technology of print was another epistemic technology leap that enabled the inscription and dissemination of ideas in tangible form, catalyzing major cultural and intellectual movements like the Renaissance, the Reformation, and the Scientific Revolution. By democratizing access to information, print challenged established authorities, popularizing revolutionary ideas and fueling social changes, reshaping history and resonating in society today (Kaplan, 2017). A notable consequence was the solidification of idea ownership and establishment of textual authority to resolve disputes (Eisenstein, 1979). In print culture, ideas became commodities to be owned and cited definitively to settle arguments. This starkly contrasts with oral cultures, where meanings are closely linked to speech and shaped by communal interactions without fixed arbitrators (Sawyer & Henriksen, 2024). As the printing press reshaped knowledge discourses, it led to a new framework for organizing and exchanging ideas (Mishra et al., 1996).

Socrates' concerns about new technologies have persisted through history, and before discussions around GenAI, similar ones emerged around the internet and social media. For instance, Firth et al. (2019) highlighted how the internet has negatively impacted human cognition around issues of attention, memory, and social awareness. Yet, the internet also offers affordances for vast information resources and instant connections, driving rapid discoveries, collaborations, and advancements. The internet, as the most significant digital development of the late 20th century, has profoundly impacted social, political, economic, and cultural life. From its early days as a network of computers, it has grown to encompass nearly all aspects of human existence. This evolution paved the way for the rise of social media platforms like Facebook and Twitter (now X), which have further reshaped society and created new professions, such as social influencers and search engine optimizers (Hu, 2018).

As social media grew more dominant into the early 21st century, its influence extended, with many platforms boasting user bases larger than the world's biggest nations. For example, Facebook, WhatsApp, and YouTube each have more users than the populations of China or India (Hu, 2018). Peer-to-peer technologies have fostered a culture of content sharing—whether it is files, opinions, or knowledge—on platforms like Twitter (now X) and YouTube (Smith, 2020). An explosion of digital self-publishing, from YouTube videos to eBooks, marks a significant shift in the global creative landscape (Dredge, 2016)—all of which has influenced how knowledge is stored, accessed, gained, shared, lost, and accumulated. Thus, throughout human history, epistemic technologies and their shifts have dramatically affected human cognition and knowledge cultures—altering what it means to learn and know along the way.

Similar to language, the printing press, the internet, or social media, GenAI as a new epistemic technology can lead to seismic shifts in how we acquire, gather, and disseminate knowledge and what we consider to be knowledge in the first place. Thus, it is important to consider questions about GenAI as an epistemic technology, including the types of knowledge and modes of being it supports in educational practice and inquiry and where it may fall short. More specifically, we need to address the implications for how we engage in education, the types of research we conduct, and the role of EdD programs, which are closely tied to scholarly practice. These considerations also raise important questions about the role of human practical wisdom in education, the potential for AI overreliance, information quality and bias, misinformation, and the necessity of AI literacy. Understanding GenAI is crucial, as its impact could reshape how knowledge is created, shared, and valued, influencing the work of practitioner-scholars and underscoring the need for ethical considerations and human oversight.

UNDERSTANDING THE NATURE AND IMPACT OF GENAI

GenAI, and particularly large language models (LLMs) (e.g., ChatGPT, Claude AI, Bing), represent a significant leap in technological capabilities. Fundamentally, these systems are predictive, not conceptually aware. They operate by analyzing vast datasets—text, images, and more—to generate content that mimics human output (Kasneci et al., 2023). Unlike human cognition, which integrates conceptual understanding and real-world context, GenAI operates primarily through algorithms that predict the next data sequence (Zhao et al., 2023). Zhao et al. (2023) identified three characteristics unique to GenAI. First, it is generative, creating outputs from scratch rather than regurgitating existing responses, and these outputs, though confidently delivered, are not always truthful (Alkaissi & McFarlane, 2023). Second, GenAI is dialogic, simulating conversation-like interactions. Finally, it is increasingly multimodal, engaging across text, voice, image, and other data forms (Mishra et al., 2023). GenAI, with its multimodal, generative, and dialogic nature, is a quintessential example of an epistemic technology. It can potentially fulfill the criteria of supporting the acquisition, generation, and dissemination of knowledge. Thus, it continues the tradition of using innovative tools to expand human understanding and capabilities. Just as the printing press was a tool

of knowledge, GenAI represents the modern evolution of epistemic technologies.

Alvarado (2023) described AI as a distinctive, paradigmatic form of epistemic technology, not only because it acquires, generates, and disseminates knowledge but also due to its internal capabilities, writing:

> Other epistemic technologies are not epistemic to the extent that AI is. This is because while they may deal with epistemic content, they do not do so in an epistemic manner; while they may be deployed in epistemic settings, they may not perform epistemic operations. (p. 32)

AI is unique from other technologies because it deals with epistemic content like propositions and symbols. Tools like microscopes or telescopes can be used for inquiry, but they do not perform epistemic (i.e., knowledge-oriented) operations on content. AI, however, manipulates semantically laden information (data) through processes like inference, prediction, and decision-making, making its operations inherently epistemic (Alvarado, 2023). Yet, AI systems are disconnected from the real world and are conceptually unaware. Their knowledge capabilities are quite different from practical wisdom, which Stenberg and Maaranen (2022) describe as context-driven and reliant on nuanced judgment based on real-world experiences. The nature of GenAI cognition is such that it tends to *hallucinate* or sometimes produce fabricated information (e.g., nonexistent references) (Alkaissi & McFarlane, 2023).

Thus, GenAI is essentially a multimodal, generative, dialogic, and predictive algorithm that is not concerned with the truth (Ji et al., 2023; Zhao et al., 2023). LLMs, for instance, can generate instructional material, give feedback on literature reviews, or analyze educational data but lack the ability to understand these operations beyond a surface level. They are, in essence, hallucination machines that produce content without grasping underlying concepts (Ji et al., 2023), thus missing the nuanced, interconnected nature of practitioner knowledge, which is often non-digital and steeped in human experiences and ethical or social considerations. They can have an important place in EdD students' work, but we must recognize their nature and ensure that students are also aware in order to engage with them responsibly.

IMPLICATIONS FOR THE EDUCATION DOCTORATE: USING GENAI AS AN EPISTEMIC TECHNOLOGY

As an epistemic technology, GenAI presents opportunities, challenges, and specific implications for educator knowledge and the EdD (Mishra et al., 2024). Much like the introduction of the printing press, radio, and the internet (McNeil, 2002), GenAI is poised to significantly alter the landscape of education. These past technologies transformed academia by democratizing access to information, reshaping research methodologies, and challenging the role of educators, often leading to a reevaluation of what constitutes authoritative knowledge. While GenAI lacks the capacity to engage in the ethical, conceptual, and contextual reasoning that defines practical wisdom, it can confidently simulate this capacity to a degree (Alkaissi & McFarlane, 2023). However, the predictive nature of AI, based on patterns and probabilities, cannot fully account for unique individual and situational factors.

This means that practitioners must critically foreground their own knowledge and wisdom when using GenAI, engaging their instincts and making thoughtful judgments about AI outputs, like educators in prior eras had to adapt to new tools while maintaining their judgment. AI can support scholarly practitioners across many tasks, with affordances to strengthen and complement research and innovation work (e.g., automating routine tasks, providing data-driven insights, enhancing literature reviews, identifying educational trends, managing tasks, improving writing through revision suggestions, driving possibility thinking, and more) (Storey, 2023). However, just as the printing press and the internet required a reevaluation of how knowledge is generated and validated, the integration of AI into EdD programs requires students to develop awareness of their own practitioner wisdom, to avoid deferring to technologies. GenAI tools can appear entirely confident, even when providing incorrect or off-base information, which could lead students to assume its analyses or suggestions are accurate or ideal (Alkaissi & McFarlane, 2023). Thus, building curricula that explicitly focus on the humanistic side of practical wisdom is essential, alongside engaging digital criticality and contextualized awareness. Such curricula are needed to develop practitioners' trust in their own expertise, which cannot be replaced by AI.

As stewards of scholarly practitioners and to begin assessing our AI readiness, EdD curricula must actively engage with concepts like practical wisdom and ensure that students know how to integrate this knowledge sensitivity fluidly alongside concrete methods, skills, and academic theories. Core considerations involve whether EdD programs aim to develop not just research and scholarship skills in practice, but also a sense of social-emotional awareness about practical contexts and how to navigate ethical dilemmas within them. Engaging practical wisdom skills requires students to be critical and thoughtful about technology use, particularly AI. It is crucial that we educate students on the fundamental nature of AI tools to help them avoid ethical quagmires and ensure humanistic rigor. Additionally, our curricula and programs must engage metacognition about using these tools effectively without being deterred by fear and to transparently acknowledge their use. These considerations are essential for any EdD stakeholder to revisit and grapple with in the age of AI.

Many EdD programs are considering how to evolve to critically evaluate and ethically integrate AI tools into their practice. As we use these tools in EdD settings, another key point is to explicitly build students' awareness of the hallucinatory errors these technologies can make and the possible biases that can be hidden within their training data or algorithms. Just as prior epistemic technologies, like social media (Barberá, 2020), introduced biases and required new forms of digital literacy, GenAI models often show biases when used in educational contexts or research. For instance, Warr et al. (2023) described how GenAI's biases can be insidious, happening not through obvious statements but through subtle and non-obvious inferences and cues that it picks up from large sets of training data drawn from humans. Such biases are baked into AI models just as they are into human cognition. A human scorer or researcher might be just as likely to hold implicit biases. However, people may miss these flaws with computational technologies, assuming them to be neutral or infallible, partly due to the perceived objectivity of algorithms and the confidence with which AI systems present information (Eubanks, 2018). Thus, EdD programs also need to account for and address biases in AI models by integrating tools into the curriculum alongside ethical use skills and critical thinking. For instance, assignment structures can encourage students to use AI

while relying on their practical wisdom to critically assess and complement AI-generated outcomes (Michel-Villarreal et al., 2023).

Furthermore, AI tools are designed to be opaque to users, making it difficult for people to understand how they reach conclusions. Bearman and Ajjawi (2023) describe AI technologies as 'black boxes' due to their lack of transparency. Therefore, pedagogies for AI-mediated learning would need to teach users to navigate opaque, partial, and ambiguous situations that reflect the complex relationships between people and technology (Fawns, 2022). In EdD programs, curricula should ensure AI is used in socially-bounded ways, always contextualized within its use. While building curricula, programs need to engage with two key points: (a) orienting students to quality standards for AI use, i.e., the tacit and explicit rules of the game, and (b) giving them opportunities for meaningful but critically engaged interactions with AI systems (Bearman & Ajjawai, 2023).

AI's emphasis on data-driven knowledge can overshadow other forms of knowing that are essential in practitioner research. For instance, qualitative research methods are common in EdD programs, given their insights into the lived experiences, beliefs, and perspectives of learners and practitioners, particularly with small samples and context-centered studies (Hatch, 2023). These nuanced understandings cannot be fully captured by GenAI, although such tools could contribute insights that students might not otherwise see (e.g., noticing a subtle trend or spotting a powerful but non-obvious theme in the data). However, practitioner-researchers cannot expect to lean on technologies as primary analysts/sources, but must see themselves as the primary thinkers and innovators, with technologies serving as amplifiers. This also means understanding that anything offered by AI must be carefully checked, considered, and critically evaluated. Thus, teaching students how to use AI as a (potentially useful, but sometimes flawed or hallucinatory) supporting research partner can amplify their work without replacing their practical wisdom or leading to technological overreliance and deskilling (Rafner et al., 2022).

Cautions about the use of GenAI technologies do not negate their use in EdD contexts since these tools have the computational capabilities to offer new insights and improve research and practice. But, students cannot enter into the use of AI tools uncritically or unquestioningly without risking the quality and ethical foundations of their work. By developing scholarly practitioners who trust their own understanding about nuances in human learning, behavior, and development, EdD programs can help them resist the epistemic authority of algorithms. Without such criticality, we risk marginalizing practical wisdom or stripping the contextual sensitivity, practical awareness, and ethical social justice orientation that is central to EdD programs and students.

EdD programs might consider supplementing curricula with specific considerations for AI literacy in scholarly practice, highlighting the possibilities and limitations of AI technologies. This includes providing training in ethical considerations and AI biases, particularly centered on the social justice foundations in our work. Additionally, EdD programs should stress the importance of professional intuition and creativity just as strongly as rigor and data-driven approaches. While AI can support human creativity, it cannot replace it. Human creativity shines in addressing new and uncertain challenges in which people need to be flexible, try new ideas, or innovate—deviating from past experiences (Henriksen et al., 2021). Just as past technological shifts required educators to innovate and adapt, the current AI shift will require a similar commitment to creativity and adaptability. Certainly, data and existing information are important, and AI can offer benefits in its ability to handle lots of data. However, data are just one among many indicators that help us consider what to do in practice, or how to develop or design innovations, particularly for the future and unforeseen paths. As Clay Christensen (2012) (originator of the theory of disruptive innovation) noted:

> Data is only available about the past. And when we teach people that they should just be data-driven and fact-based and analytical as they look into the future, in many ways, we condemn them to take action when the game is over. (6:49-7:07 minutes)

Relying on data, structured information, or models—as AI does—can be helpful, but it is an incomplete approach for addressing the novel and unpredictable future. Positioning students to develop and explore their creativity and capacity to innovate is a critical aspect in the development of scholarly practitioners in an AI-driven world. So, EdD programs need to promote AI use that pushes human thinking creatively forward, not replacing but augmenting it. Along these lines, education researchers are exploring how AI can support possibility thinking by guiding ideation, asking critical questions, and encouraging the imagination of future scenarios. For example, Beghetto (2023) developed possibility thinking GPTs to assist with brainstorming and creative exploration. It can be challenging for faculty to push students toward more creativity, but AI might offer a valuable tool to support this work. Given that EdD programs often seek to propel students' innovation in practice, AI might be engaged thoughtfully to amplify human creativity.

CONCLUSION: THE BROADER CONSEQUENCES

The integration of GenAI in education raises concerns about its fit within the framework of practical wisdom. The challenge lies in leveraging GenAI's capabilities without undermining essential humanistic elements of educational innovation and inquiry, like empathy, ethical reasoning, and deep contextual understanding.

As with every new epistemic technology, the advent of GenAI raises more questions than answers, particularly for educational practitioners and researchers. Not only will GenAI play a role in educators' practice, challenging their knowledge and wisdom, but it will also influence the world outside of the classroom and inquiry practices. These changes should be factored into how practitioners and researchers view education, its goals, and the role of educational research. It is difficult, if not impossible, to predict the consequences of the widespread use of GenAI in the world of professional practice and society overall. However, experiences with previous epistemic technologies, from print to radio, from television to the internet, suggest that there will gradually be significant shifts (Kaplan, 2017). Currently, it is important to raise questions and build awareness as we continue to develop scholarly practitioners who aim to innovate and engage in a world with AI.

There are critical questions about teaching in an era where GenAI is part of daily life and how trust in information sources, institutions, and social beliefs will be affected, as boundaries between AI and human-generated content become blurry. Will GenAI technologies strengthen or erode beliefs, possibly exacerbating social and educational issues like other technologies widely used in education? Since trust goes beyond information erosion and our tendency to anthropomorphize complicates matters, it is important to

consider if GenAI's human-like dialogic traits will create deceptive illusions of real interactions, affecting the identity development of young learners. Further, how might these developments impact already burdened educational institutions, and what would happen if people lost trust in these institutions and viewed them as complicit in spreading misleading content? Then, how will the educational community handle the consequences and continue supporting students in a world where truth is elusive?

These are questions that should have received more widespread attention during the inception of prior technologies, like social media use, in education. While more technoskeptics have pointed to many concerns about technologies like social media in schools (Krutka et al., 2019), more widespread awareness or circumspection early on in their development might have better prepared us. Our educational programs must ask scholars and practitioners about GenAI today. Yet, these questions are shaped by past experiences with technologies, and GenAI's unique attributes may lead to unexpected consequences or futures, so EdD programs need to engage with creativity, imagination, and futures thinking as we look ahead.

We began with the idea of phronesis, as Aristotle defined it, as practical wisdom—the knowledge of what is good and bad for humans, applied through action. Predicting technology's broader impact along the spectrum of good, bad, or any other determination is challenging, but as educators of scholarly practitioners, we can learn from history to better prepare for GenAI's unique consequences. The integration of GenAI demands we renew our energy and vision, applying timeless, practical wisdom to navigate these fresh complexities.

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