Rebranding Originality for the Age of AI

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Abstract

"Originality" has been a longstanding focal point within the college classroom, with students being encouraged to embrace creativity and boldness. The traditional view of originality, relying solely on one's wit and imagination, has lost its effectiveness in the present era. The concept of learning has undergone a significant transformation, no longer resembling the isolated ivory tower of the past where individuals would immerse themselves in books, hoping to be inspired. Instead, modern learning has become more social and collaborative. Students compare and contrast class material with online resources, engaging in conversations, both in person and virtually, to solidify their understanding. The author of the presentation contends that the future of higher education lies in collaborative originality. Collaboration goes beyond the mere sharing of ideas; it serves as a means of generating innovative concepts, thriving in the dissolution of traditional boundaries. The delineation between humans and machines, disciplines, and formal and informal learning has become increasingly blurred. In this context, modern originality emerges as a collaborative and interdisciplinary process. The advent of AI, notably exemplified by technologies like ChatGPT and Hyperwrite, has further accelerated this trend. Utilizing prompt engineering, individuals can seamlessly collaborate with virtual assistants to foster new ideas, revolutionizing the conventional notion of "originality."
Keywords: *Originality, Collaboration, Human-AI Creativity, Higher Education, Artificial Intelligence (AI)*

1. Introduction

1.1 AI as a Tool: What That Really Means

In late 2022, the debut of ChatGPT marked an occasion of rapid adoption new generative artificial intelligence (AI), which quickly became the fastest adopted technology in history. As discussions proliferated across various platforms, a prevailing sentiment emerged: "AI is just a tool" (Burger et al., 2023; Qadir, 2023; Wardat et al., 2023). This interpretation sought to emphasize that the purpose of AI was to augment human capabilities rather than replace them entirely (Anantrasirichai & Bull, 2022). However, there is a deeper significance to this statement.

Throughout history, the advent of new tools has consistently brought about profound changes in human society (Bhat et al., 2023). From the epochal moment when our ancestors grasped sticks and stones as implements, tools have shaped how humans interact with their surroundings, behave, and even think. As we find ourselves on the threshold of the Fourth Industrial Revolution, often referred to as the Age of AI or by other appellations yet to emerge, we must recognize the inextricable links to our shared past (Anshari et al., 2022). AI represents the contemporary equivalent of the stone in our ancestral journey. It is more than just a means to enhance our capabilities; it has the power to fundamentally transform who we are and how we perceive the world.

This perspective challenges the traditional notion of originality as an inherently human trait confined within the individual (. With AI and humans increasingly collaborating, the very

concept of originality faces disruption. As we grapple with the implications of this evolving partnership, a crucial question arises: What model of originality can best suit the Age of AI?

Within the pages of this article, we shall endeavor to provide an answer to this pressing question. The future of originality lies in embracing human-machine collaboration that externalizes the thinking process. This paradigm shift carries significant ramifications for various aspects of society, including the realm of education. The classroom will witness transformative changes, and the role of higher education will be redefined in the context of the Age of AI. Academic research, too, will undergo a metamorphosis as AI increasingly becomes an indispensable partner in the pursuit of knowledge and innovation.

In the following sections, we will delve into the intricacies of collaborative originality, exploring the dynamic interplay between human creativity and AI's computational prowess. By embracing this harmonious synergy, we can unlock new dimensions of ingenuity and address the challenges and opportunities that the Age of AI presents. As we navigate this uncharted territory, it is essential to be mindful of our historical trajectory, recognizing that tools have always played a pivotal role in shaping human progress. By doing so, we can embark on a journey of discovery and progress, guided by the prospect of a future where human potential and AI capabilities converge for the betterment of our collective endeavors.

2. Literature Review

2.1 The Evolution of Originality

Ken Robinson's Ted Talk (2006), "Do Schools Kill Creativity?" defines creativity as "the process of having original ideas that have value." Reframing our understanding of originality reimagines creativity itself. The two are inseparable. Traditionally, originality was an individual pursuit. Thinking sat alone in ivory towers (often symbolic ones), waiting for the emergence of truly original ideas, seemingly out of thin air. That understanding of originality is now outdated, even if it were accurate at one time.

In The Age of AI, our conception of originality undergoes a profound transformation (Nakazawa et al., 2022). It demands a shift towards a collaborative approach, positioning originality at the intersection of human and machine. As humans engage with AI, ideas bounce off one another, blurring the boundaries between human and machine. Human-machine interaction propels us beyond the confines of individual ideation. In this new paradigm, originality transcends the limitations of individual minds and emerges from "generative thinking." Generative thinking refers to the cognitive process of producing new and original ideas, solutions, or concepts by synthesizing existing knowledge, experiences, and information. It involves the capacity to explore multiple perspectives, make connections between seemingly unrelated concepts, and envision novel possibilities. Generative thinking is characterized by creativity, innovation, and the ability to go beyond conventional or routine approaches to problem-solving. It is an essential aspect of human creativity and plays a crucial role in fields such as art, science, technology, and entrepreneurship (Chandrasegaran et al., 2023). In the discussion at hand, generative thinking, facilitated by conversations with AI, allows the generation of ideas that might have eluded individuals in isolation (Abed, 2023). Human-AI collaborations provide fertile ground for

innovative and novel ideas to flourish, as the combination of human cognition and machine intelligence creates a symbiotic relationship that expands the boundaries of creative potential.

The concept of generative thinking extends the idea that this article began with–that tools shape their users. Human-AI collaboration does not solely extend the human's intent; it offers an opportunity to transcend the human's thought patterns, confront their assumptions, and push the boundaries of their cognitive horizons. The interplay of human and machine becomes a catalyst for transformative growth, propelling both into unchartered territories of creativity (Rewana & Maher, 2022). As an example, consider OpenAI's ChatGPT. Like other Large Language Models (LLMs), ChatGPT generates content at the interstices of human and machine; it takes human input as data and uses its training data to generate a reasonable output. Subsequently, humans engage in a similar process, utilizing the AI's output as input and generating their own logical response (Floridi, 2023).

The author acknowledges that describing a human conversing with a machine in this manner might seem peculiar, yet the peculiarity serves a purpose. The interaction between humans and machines, despite their inherent disparities, reveals a shared pursuit. Both entities leverage each other's outputs and inputs as raw material to craft their individual responses. The author posits that this symbiotic process represents a potent and contemporary paradigm of originality. Both the human and the machine exhibit generative abilities, generating fresh and innovative ideas not in isolation but as a direct consequence of their intertwining collaboration.

Therefore, originality is evolving. Modern originality is a direct result of generative thinking (Arena, 2022). As our understanding of originality evolves in The Age of AI, we find ourselves on the brink of a new frontier—where AI co-pilots become indispensable partners in our creative journeys. Just as the role of co-pilots is crucial in aviation, assisting and enhancing human capabilities, AI co-pilots have the potential to revolutionize the creative process. The integration of AI as a collaborator, augmenting our generative thinking, opens doors to unexplored possibilities and elevates our creative endeavors to new heights. So, what does the emergence of AI co-pilots, which are now commercially available in a variety of contexts, mean for originality?

3. Discussion

3.1 What AI Co-Pilots Mean for Originality

The nature of idea generation is changing rapidly. Generally speaking, individuals are no longer operating in isolation, with the solitary mind as the sole birthplace of original ideas. We are moving into an era–if we are not there already–where the genesis of ideas is a joint venture between human and machine. AI Co-Pilots is a case in point, which Microsoft announced in March of 2023 with the generative capabilities of other models being integrated directly into the Windows system (Anders, 2023). Another example can be found in GitHub's co-pilot, which guides coders and programmers along, causing huge spikes in productivity (Dakhel et al., 2023). More are on the way. In many ways, co-pilots encapsulate the hopes for AI more broadly. Proponents of AI typically believe that AI–if harnessed in a socially conscious and ethical way–will enable a co-pilot relationship where human and machine can mutually support each other.

What transpires when AI assumes the role of human co-pilot? This intricate inquiry gains particular complexity due to the rapid evolution of technology, leading to uncertain outcomes. The potential scenarios encompass a potential golden era of creativity, wherein machines act as catalysts, compelling humans to break free from their creative stagnation. Conversely, there exists the risk of humans excessively relying on machines as co-pilots, thereby impeding their capacity to acquire foundational skills necessary to maintain oversight and control over the technology (Mikalef et al., 2022).

The future remains ambiguous, and the advent of AI co-pilots currently compels humans to elevate their generative thinking abilities. Creativity, and the essential originality it embodies, increasingly manifests at the confluence of human cognition and machine capabilities. As a result, we are experiencing a shift from an individualized model of creativity to a collaborative one. Consequently, the boundaries between human and machine contributions are becoming indistinct, making it progressively arduous, and perhaps less meaningful, to differentiate between human-conceived and AI-assisted ideas (De Cremer & Kasparaov, 2021).

In the context of this dynamic interplay, modern originality arises, heralding a fusion of human ingenuity and machine intelligence. This amalgamation could potentially be advantageous, especially considering the realization prompted by the internet and smart devices that little remains entirely novel and unprecedented. The ubiquitous phrase, "there's nothing new under the sun," gains validation as individuals discover that seemingly original ideas that occur to them are readily searchable online, revealing preexisting iterations or related concepts (Bhasin, 1998).

In fact, panegyrics to human originality oversell their point. Humans have had trouble displaying true originality for hundreds of years; or, at least, trouble displaying *transformative originality*, instances of originality that bring others along and change the face of creation (Metzidakis, 2012). The hope has been expressed that human-AI collaboration may open up new avenues for originality, precisely because it allows humans to interact with “minds” that behave so differently from our own (Hitsuwari et al., 2023). Collaborating with AI presents valuable opportunities to reevaluate the inherent assumptions ingrained within the human condition. For example, when engaging with AI systems such as ChatGPT, Claude, Bard, Pi, or any other, users confront the remarkable context-specific nature of human thinking. To a certain extent, humans are shaped by their unique contexts and environments. However, our AI collaborators lack this shared context. While they have been trained on human-generated data, they lack the context-rich framework that defines the human condition (Dwivedi et al., 2023).

Human-AI collaborations serve as a means to unravel the deeply ingrained assumptions inherent in our context-rich thought processes (Wang et al., 2020). As users engage with AI systems, the glaring disparity between human cognitive mechanisms and the nature of machine intelligence becomes strikingly evident. AI models, lacking personal context, rely solely on patterns in their training data to generate responses, leading to a stark contrast in the way information is processed (Kung et al., 2023). The divergence in operation prompts further scrutinizing of the limitations and biases entrenched in user perspectives. In these collaborative interactions, users confront the profound influence of individual experiences, cultural backgrounds, and social contexts on cognitive functioning. Such encounters compel the need to address potential blind

spots in human cognition and actively challenge deeply ingrained beliefs. The engagement with AI becomes a catalyst for questioning the very assumptions that underpin our thought processes, fostering an environment of critical inquiry (Bouschery et al., 2023).

One notable manifestation of this dynamic is evident in prompts-gone-wrong scenarios. Despite expert prompt engineering and persistent iterations, the outputs of AI systems may still surprise or disappoint. Such outcomes often arise due to the idiosyncratic human understanding of the world. While AI programs are trained on human-produced data, they do not share our inherent assumptions about how the world operates. This observation highlights the distinct ways in which human cognition and machine intelligence diverge and underscores the need for ongoing exploration and refinement in the realm of human-AI collaborations (Trautmann et al., 2022).

Engaging with AI continually confronts individuals with underlying assumptions, leading to a heightened awareness of the importance of clarity and directness in communication, as well as the idiosyncrasies of the human mind. Within this interaction, individuals may find themselves grappling with, and experiencing frustration over, the presence of distinct and inconsistent assumptions held by both humans and AI about the world. This observation suggests that human-machine collaboration encompasses a metacognitive aspect. As individuals engage with AI, they are exposed to the inherent strangeness and arbitrariness of the human mind. Metacognition assumes a central role in the domain of originality, as it not only fosters an understanding of one's epistemic patterns but also illuminates their potential for application and even manipulation. Such self-awareness becomes critical for adaptation and serves as a hallmark of creativity and originality (Mitchell, 2005).

The Age of AI, with the introduction of AI co-pilots, compels a redefinition of the understanding of originality. At the core of this transformative shift lies the rise of conversational AI. These sophisticated models, engineered to engage in human-like dialogue, provide a platform for humans and machines to collaboratively brainstorm, share, and amalgamate ideas in real-time. In this dynamic exchange, conversational AI creates an environment where originality transcends its traditional human-centric boundaries. Instead, it emerges from the dynamic interplay between human cognition and machine intelligence. This unfolding synergy holds promising prospects for the future of originality, propelling us further into uncharted territories of creative potential (Budhwar et al., 2023).

Ada Lovelace predicted something like this would happen hundreds of years ago, in Victorian England. Typically, when Lovelace is mentioned within conversations about AI, she’s approached as pointing out the problem with AI originality: scholars and scientists often point to her ideas as evidence that a machine cannot be original, because it creates outside of what it is fed by a human (Natale & Henrickson, 2022). Alan Turing, for example, cites Lovelace for the idea that machines can only generate revised versions of the data they are fed (Turing, 2009, pp.450-459). Machines cannot be original or creative because they cannot generate new ideas.

The misinterpretation of Lovelace by Turing becomes evident as demonstrated by Megan Ward in her chapter titled "Victorian Fictions of Computational Creativity." According to Ward, Lovelace held the belief that machines would eventually engender a novel model of creativity, wherein humans and machines would engage in conversations, yielding fresh ideas that neither

humans nor machines could have conceived independently (Cave et al., 2020, pp.144-164). This model is now manifesting as a viable alternative to conventional notions of originality, with humans increasingly collaborating with machines. OpenAI's ChatGPT, for instance, is being utilized to generate business ideas from scratch, while Midjourney assists in creating images that even the most imaginative designers may have struggled to envision. Additionally, programs like Runway enable the conversion of words into visuals, significantly reducing barriers to originality and creativity (Quaquebeke & Gerpott, 2023).

Discussions regarding AI and originality often revolve around a pivotal query: can machines exhibit originality? This inquiry served as an underlying theme in Marcus Du Sautoy's book, *The Creativity Code* (2019), which was authored before the widespread availability of ChatGPT and the ascendancy of AI co-pilots. In his work, Du Sautoy delves into three types of creativity: exploratory, combinatorial, and transformational. Exploratory creativity involves the identification and subsequent pushing of rules to their limits; combinatorial creativity encompasses the generation of unexpected combinations; and transformational creativity entails the seemingly spontaneous origination of ideas as if inspired by a divine source (pp.7-15).

Du Sautoy highlights the longstanding capability of machines in two forms of creativity: exploratory and combinatorial. Exploratory creativity aligns harmoniously with artificial intelligence's forte, wherein it analyzes vast amounts of data to discern patterns and subsequently explores ways to push those patterns further. Similarly, AI's aptitude for combinatorial creativity comes as no surprise. One can easily witness this ability by prompting ChatGPT to craft a story about a fish on a quest for its home, but in the style of a steampunk novel with an unexpected twist ending. The result would convincingly demonstrate AI's capacity to mix and match elements akin to some of the most skilled human creators.

The third category of creativity, transformative, presents the most significant challenge for Artificial Intelligence (AI) due to its association with originality. For AI to demonstrate this form of creativity, it must exhibit the ability to originate an idea seemingly from scratch, without any prior human influence. The pressing query arises: how can we determine if AI produces an original idea comparable to AlphaGo's Move 37, a move that defied conventional wisdom and contradicted centuries of human practice during a match against Lee Sedol, the World Champion at that time? The ability to identify such instances of originality in AI-generated content remains a critical concern (Binder, 2022).

These are the questions posed by Du Sautoy and other scholars in the field. The focus of this section, however, diverges slightly from Du Sautoy's inquiries. It centers on the exploration of how human-AI collaboration, which has recently become scalable, can present new avenues for originality that would have eluded both humans and machines in isolation. This brings to the forefront the central question of our current moment: how can collaborative efforts between humans and AI unlock fresh opportunities for originality, propelling us into uncharted territories of creative potential?

3.2 What This Means for College Education

The transformative impact of human-AI collaborations holds significant ramifications for higher education, particularly in the reconceptualization of originality. As the evolving landscape of collaboration between humans and AI shapes the educational paradigm, college professors must adapt their approaches to teaching and devise new assessment techniques to accommodate this shifting dynamic. Encouraging students to not only showcase the final outcomes but also the process behind their work and contributions becomes imperative. Traditional assessment methods often prioritize the end product, but within the context of human-AI collaborations, the journey taken assumes equal importance. By highlighting the process, educators enable students to reflect on their interactions with AI systems, the decisions they make, and the insights gained throughout the collaboration. This emphasis fosters a deeper comprehension of the collaborative essence of originality.

Moreover, students must recognize the role AI plays in their own contributions. In human-AI collaborations, originality emerges from the interplay between human creativity and machine intelligence. Professors should facilitate discussions and assignments that explicitly explore the influence of AI on students' creative processes. This can be achieved through assignments that require students to reflect on how AI has shaped their ideas, challenged assumptions, or inspired new perspectives. By incorporating AI as an active participant, students gain a nuanced understanding of their own contributions and the collaborative nature of their work.

To support this new understanding, professors must develop assessment frameworks that go beyond individual authorship. Assignments should provide opportunities for students to demonstrate their collaborative engagement with AI systems and articulate their unique contributions within that context. By shifting the focus to collaborative prowess, educators foster a culture of collective intelligence and recognize the significance of AI-human partnerships in driving originality.

Incorporating AI into college education requires a broader pedagogical shift. Professors should encourage open dialogue about AI's impact on various disciplines and explore how collaborations can reshape traditional knowledge domains. This proactive engagement allows students to critically examine the implications of AI, fostering a mindset that embraces innovation and adaptation.

The rise of human-AI collaborations demands a reevaluation of originality in college education. College professors play a vital role in facilitating this transformation by designing new assessment methods that encourage students to showcase their process and acknowledge the influence of AI. By redefining originality and fostering a collaborative mindset, educators equip students with the necessary tools to navigate the evolving landscape of human-AI partnerships and unleash their creative potential (Qadir, 2023).

3.3 New-Age Originality and the Outmoded Role of AI Detection Software

The rise of new-age originality presents a challenge for colleges to reconsider their approach to assessing student work. The paradigm shift in understanding originality, moving from an

individualistic perspective to one that embraces collaboration and the integration of human-AI interactions, renders traditional AI detection programs inadequate. Such programs, originally designed to identify instances of plagiarism or unauthorized content usage, fail to capture the complexities of the evolving creative landscape. As the world moves toward a future that prioritizes collaborative and hybrid sources of originality, a need arises for a new form of assessment—one that examines the interactions between humans and AI in the process of completing tasks, rather than solely focusing on venerating individual human originality (Santra & Majhi, 2023).

The fundamental flaw of AI detection programs lies in their limited scope, often fixated on detecting textual similarities or instances of content duplication. These programs rely on rigid algorithms that lack the nuanced understanding required to discern between true collaboration and instances where AI plays a complementary role in the creative process. Such programs are ill-equipped to recognize the transformative impact of human-AI collaborations, where originality emerges from the interplay of diverse perspectives and the unique contributions made by both humans and machines (Khalil & Er, 2023).

Since the general release of ChatGPT, there has been a notable surge in interest regarding novel approaches to assessing student work and detecting plagiarism (Cotton et al., 2023, pp. 1-12; Sweeney, 2023, pp. 1-7). To effectively capture the dynamic nature of collaborative originality, a forward-thinking assessment framework should prioritize the examination of human-AI interactions during the creative process. Rather than solely emphasizing individual human originality, this approach recognizes the significance of integrating AI into workflows and rewards the adept utilization of machine intelligence. By shifting the focus from the romanticized concept of human genius to a more comprehensive evaluation of collaborative creativity, educators can cultivate an environment that embraces the transformative potential of human-AI partnerships.

One way to revamp assessment for the Age of AI is to adopt the “show your work” paradigm, where students display how they integrate AI into their creative workflows. This shift recognizes the importance of documenting the iterative process, showcasing the distinct contributions made by both humans and AI. It goes beyond the mere product and delves into the intricacies of collaboration, unveiling the nuanced interactions between human creativity and machine intelligence. By highlighting the interplay between human agency and AI augmentation, this approach paves the way for a more comprehensive assessment of originality in the context of contemporary creative practices (Wellberg, 2022).

The evolution of originality necessitates transcending the constraints of conventional AI detection programs. As the collaborative and hybrid aspects of creativity gain prominence, the development of assessment methods becomes critical in capturing the transformative possibilities inherent in human-AI interactions. By recognizing the limitations of existing detection programs and transitioning towards a comprehensive evaluation of collaborative creativity, a learning environment is cultivated to prepare students for the evolving creative terrain. This forward-looking approach not only acknowledges the influence of AI in shaping originality but also equips students with the abilities to harness the full potential of human-AI partnerships in their quest for innovative and transformative ideas.

4. Conclusion

4.1 Rethinking the Role of Educators in the Age of AI

The rise of new-age originality means we need to reimagine the role of educators. Instead of fixating on the end products, educators must shift their focus to fostering dynamic and collaborative processes. They need to guide students in effectively harnessing the power of AI and strategically determining its optimal use. While educators have started experimenting with AI, it is crucial to move beyond mere experimentation and tackle pressing questions such as the educator's role and the place of higher education in the Age of AI. At some point in the near future, colleges needs to move beyond simply experimenting with AI tools to enhance productivity, to think about what kind of AI strategy best serves students, faculty, and institutions.

In this transformative era, educators should prioritize the dynamic creative journey rather than simply emphasizing the final outcomes. They need to encourage students to experiment, reflect, and embrace the iterative nature of the creative process. By empowering students to explore and refine their ideas continuously, educators cultivate a mindset that thrives on curiosity and collaboration—where human ingenuity seamlessly intertwines with the augmenting capabilities of AI.

To navigate the Age of AI effectively, educators must do more than just engage with AI technologies themselves. They must strategically equip students with the necessary skills to leverage AI as a transformative tool. This entails guiding students to discern the opportune moments for integrating AI into their creative processes and fostering a sense of agency in making informed decisions. Educators play a pivotal role as navigators, imparting critical thinking and ethical considerations to enable students to become discerning collaborators in the realm of human-AI partnerships.

The general release of ChatGPT to the public in November 2023 marked a turning point that sparked educators' exploration of AI's potential and implications in education. However, the future beckons us to move beyond mere experimentation and delve deeper into essential questions concerning the educator's role amidst AI-driven creativity. Such questions prompt us to reflect on the extent to which educators should guide, facilitate, or even co-create with AI. They also compel us to critically examine the broader purpose and relevance of higher education in an era where AI becomes an integral part of the creative process.

The emergence of New-Age originality makes it imperative for educators to lead as thought leaders and catalysts for change. They must navigate the ethical, societal, and pedagogical implications of AI integration, continuously reassessing their practices and adapting their teaching methodologies. By empowering students to critically inquire into the impact of AI on creativity, education, and society at large, educators foster a culture of curiosity and responsibility.

Both faculty and students must cultivate AI Literacy, a skill that has swiftly emerged as one of the most crucial competencies of the 21st century. This proficiency entails not only gaining

familiarity with AI tools but also developing a profound understanding of the social, historical, and ethical implications associated with their application. As educators navigate this landscape, they are confronted with fundamental inquiries concerning their role, the purpose of higher education, and the ethical dimensions of AI integration. By embracing the concept of New-Age originality, educators assume the mantle of thought leaders, imparting students with the knowledge, skills, and mindset necessary to flourish in a collaborative and AI-driven creative milieu. However, this endeavor transcends mere adaptation to the Age of AI; it represents an opportunity to reassess traditional notions of creativity and originality that have proven insufficient for many years, even decades. Embracing the sudden prominence of AI in the public imagination offers a chance to envision a future that aligns with our aspirations.

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