ARTIFICIAL INTELLIGENCE EDITION

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Editorial

As I sit down to write my final editorial for the Phoenix Scholar, focusing on the profound impact of artificial intelligence (AI) on our society, I am reminded of an editorial from nearly a century ago titled "Whither Radio?" by Hugo Gernsback, the editor and publisher of Radio News magazine in March 1929. Gernsback, a Luxembourgian-American inventor, was a pioneering figure in understanding and predicting the effects of modern technologies like radio.

In that edition, Gernsback speculated about the future of radio, envisioning what he termed "picturevision" or "radiovision," and even using the term "television" more than a decade before it became commercially available. He raised important questions about how television would impact local economies, the nature of broadcasts (one-way or interactive), taxation, and the role of corporations versus consumers. Classified ads in Radio News featured radio hobbyists selling early picture tubes, indicating the burgeoning interest in experimenting with modern technologies.

Now, almost a century later, we find ourselves in a similar position with AI, unable to fully predict its far-reaching impact. It is crucial to note that not all AI is created equal; biases and "hallucinations" can occur, leading to false narratives. While these instances are rare, they underscore the need for careful consideration of AI's capabilities and limitations.

AI is prevalent in various digital applications, from personal research tools to customer service bots. Having worked to help program AI myself, I have witnessed its potential and limitations firsthand. Some AI models can analyze real-time data (generative), while others are limited to predefined information sets.

This edition of the Phoenix Scholar delves into the ethical considerations surrounding AI's use in education, exploring its potential to enhance classroom experiences and foster critical thinking. As educators, students, and stakeholders navigate this integration, recent discussions among library associations hint at AI-approved versions for their collections, signaling a transformative shift in information access and management. The articles in this edition, such as Dr. LauraAnn Migliore's work on reimagining doctoral education and Tina Miller's vision for an AI-education collective, provide valuable insights into leveraging AI responsibly. David Duren, et al.'s research on equitable access to AI by online higher education students further underscores the need for ongoing dialogue and exploration in harnessing AI's benefits effectively.

As I bid farewell to the Center for Leadership Studies and Organizational Research after 10 years, I reflect on the collegiate friendships and support that have enriched my doctoral journey and the experiences of many others. The future indeed looks promising. In closing, echoing the spirit of Gernsback's forward-thinking vision nearly a century ago, I ponder: Whither AI?

Sincerely,

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Image created collaboratively between Stable Diffusion AI and Dr. Facemire

The Potentials of Artificial Intelligence and Psychotherapy: Are We There Yet?

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Introduction

Mental disorders rank among the most arduous and pervasive of health issues globally, typically impacting about one-quarter of the adult population. The statistics are alarming concerning mental health as follows from a recent study by Sidhu (2023) where 85% of individuals surveyed exhibit some requirement for mental health treatment but unfortunately will not recieve the essential care they need. Additionally, the burdens seem to have only increased over time. In a study conducted in 2018, it was estimated that around 5.8% of American adults reported an "unmet" need for mental health services. That statistic increased upwards from 4.7% from 2015, and is perhaps even more noteworthy these days based on the pandemic stressors that many were subjected to throughout the world at its onset. Within this, the most significant increases noted at the time were seen in young adults aged 18 to 25, where 12.7% reported unmet mental health needs from the results of the study (Conroy et al., 2021).

However, this "unmet needs" treatment gap proliferates even more these days. Psychotherapy is considered one of the broadest of medical specialties and thus, the disparity is even greater within this domain when it comes to treating those with mental health issues. Contributing factors regarding the reasons why so many in the United States are not getting treatment for mental health issues cover a spectrum of challenges such as: scalability within the industry, dissemination and reach of therapy, financial barriers, lack of time, stigmatization (Aktan et al., 2022), restrictions based on geographic location, insurance barriers, self-treatment in lieu of professional help, and more (Conroy et al., 2021).

The sizeable gaps in the mental healthcare system will likely continue to amplify in the coming years. The onset of the pandemic has been a large contributor to many things universally, with the need for addressing mental health as one of the cardinal artifacts we have been left with. In fact, the considerable number of people who carry emotional *sequelae* from the

pandemic due to existing exacerbated emotional effects (e.g. anxiety and trauma) and those as a result of involuntary isolation and hardships caused by it, have become monolithic in rates and are becoming major issues within society and the need for *enhanced* treatment options (Nietzel, n.d.).

In another study using data from the *National Comorbidity Survey-Replication*, respondents with mood, anxiety, substance, impulse control, and childhood disorders that are considered common within a 12-month period in the DSM-IV-TR were asked about their perceived need for treatment, as well as structural and attitudinal/evaluative barriers to starting and continuing some form of proposed treatment Mojtabai et al., 2010). The findings recognized that some 44.8% of respondents with a disorder as mentioned above, and who decided not to seek treatment, reported a *low perceived need* to pursue therapy. The most common reason cited from the study for not pursuing treatment was a desire to handle the problem themselves – self-solve – (72.6%), which was also the leading reason for discontinuing mental health treatment (Mojtabai et al., 2010). Thus, the demand for mental health services has been bombarded by functional barriers for therapists, as well as functional and psychological barriers for those needing treatment.

The Emergence of AI

Artificial intelligence (AI) is a tool we hear more about these days. The concept of artificial intelligence, first introduced in 1956, has gained substantial traction in recent years due to the hyperproliferation of data, the development of refined algorithms, and advancements in computing power, machine learning, and storage capabilities (SAS, 2023). Early artificial intelligence (AI) research conducted in the 1950s focused initially on *problem-solving* and *symbolic* methods of learning and functioning. By the 1960s, the U.S. Department of Defense recognized the untapped possibilities of this research and initiated efforts to train computers to emulate rudimentary aspects of *human reasoning* (SAS, 2023). Additionally, the Defense Advanced Research Projects Agency (DARPA) had achieved key milestones in their work, including the completion of *street mapping projects* in the 1970s. DARPA also progressed to developing "intelligent personal assistants" in 2003, predating the ubiquitous adoption of contemporary

virtual assistants we see these days such as Siri, Alexa, and Cortana (SAS, 2023).

This early research laid the foundation for the automation and formal reasoning capabilities that are evident in modern computing today. It has also led to development of *decision support systems* and *advanced search technologies* designed to complement and enhance human abilities. These are common aspects of systems we engage these days whether it is speaking to our local internet company or attempting to reach a specific department in an organization. These kinds of programmed decision trees are inherent in many systems today. And while movies and science fiction novels often show us AI as *human-like robots* that have feelings or malicious intents, the current and steady progression of AI technologies is far from this fictional portrayal. Instead, the reality is that AI has evolved to offer specific benefits across various industries, some we are still experimenting with and others in progress. Contemporary AI applications may range from chess-playing on computers to autonomous self-driving vehicles, while also used for deep learning and natural language processing. Machines learn from experience, adapt to new inputs by humans, and perform tasks traditionally associated with human cognition.

The advent of artificial intelligence has of course generated considerable excitement this year with the unveiling of things like ChatGPT, AI chatbots, AI-generated art, music, and more, and has also sparked extensive debate regarding its potential to transform entire industries. In the last year, the U.S. Government Accountability Office (2023) stated the following: "at its best, AI could improve medical diagnosis, identify potential national security threats more quickly, and perhaps even solve crimes." Since last year, emerging generative AI systems have garnered millions of users. Additionally, as reflected in numerous news headlines, AI technology continues to attract global attention for its widespread benefits. Some of this is evident with machine learning and healthcare.

Machine learning is a rapidly expanding arm of artificial intelligence and is increasingly being utilized in fields requiring *advanced imagery analysis*, such as with medical diagnostics. A report from the U.S. Government Accountability Office (2023) has examined the use of machine learning regarding its potential to help assist in the medical diagnostic process. This kind of AI technology can help identify hidden or even multiplex patterns in data, permitting

earlier disease detection and improving overall treatment outcomes and goals. The report also highlighted several benefits, including more uniform analysis of medical data and expanded access to care, remarkably for underserved populations. In this, the encroach of AI in medical care has been advancing. And with this advance, the prospects for AI and its ability to dialogue have also started to expand.

Along Came Siri

It wasn't that long ago that many people relied on voice answering machines or very elemental aspects of AI embedded within corporations answering services. But as more and more research and design forms began experimenting with opportunities for AI to talk back, its integration into the marketplace began to surface. Artificial intelligence incorporated into ways to enhance the functionality of existing products by integrating intelligent capabilities became front and center for many businesses. Many products have now seen improved aspects of their functionality as a result of AI, as was evidenced when Siri was first introduced as a feature in a new generation of Apple products. The term itself has become part of our language in everyday use.

Now, many companies are seeing the results of automation, conversational platforms, bots, and smart tools, when combined with large datasets, significantly enhanced by such technologies. These advancements touch both domestic and professional environments, including applications for use in security intelligence, smart cameras, and even investment analysis. The result has led to further inquiry, namely, the consideration of AI components as relevant to medical fields and mental health. Mental health is one of the more recent and primary inquiries floating about these days with apps that now attempt to provide general advice regarding mental health issues, but are we there yet?

AI and Mental Health

Psychotherapy, commonly referred to as the "talking cure," comprises a toolkit of complex approaches to mental health treatment that traditionally rely on the establishment of what is known as a "therapeutic relationship" between a trained professional (Therapist) and a patient/client to alleviate the psychological distress, address the issues, and foster personal growth for the person seeking help. Psychotherapeutic methods vary across dimensions such as individual, family, or group settings, where the intended goals of deeper introspection, personal insight, behavioral modification, relational dynamics, and treatment interventions are key. Therapists engage the relationship and explore the deeper and more comprehensive issues of patients and the interventions serve as a means for exploring and managing aspects of emotion regulation, thought brokering, and behavior habituation.

Historically, psychotherapy has predominantly occurred through *face-to-face* interactions between clients and mental health professionals. However, in response to workforce shortages and increased demand that was exacerbated by the destabilizing effects of the COVID-19 pandemic, the practice in the past few years most especially, has evolved significantly. This renaissance and evolution in delivering therapy has broadened the concept of therapeutic interaction, expanding from the traditional concept model of face-to-face settings to spanning various forms of communication, including *telehealth*, *text messaging*, and *live chat*.

The pandemic accelerated the adoption of telehealth platforms and other technological innovations in psychotherapy, facilitating increased accessibility and flexibility in service delivery when many needed the ability to access mental health services due to lockdown conditions. In particular, the integration of *telehealth* into psychotherapy services has encouraged *asynchronous* interactions, where clients can communicate with therapists via text, email, or video messaging at their own convenience, adding to greater flexibility and reach for therapists.

This approach has gained momentum, though to a lesser extent, than *synchronous* telehealth, due partly to its ability to address the shortage of qualified therapists in many regions. These developments, however, underscore a significant shift in psychotherapy's practice, from its historical roots as a primarily face-to-face modality to a more *flexible* and technology-driven interactive model. This shift has been driven by the dual imperatives of meeting increased demand for mental health services and adapting to new challenges posed by public health crises and societal shifts in workforce shortages.

As psychotherapeutic practice moves further from its

traditional face-to-face modality, the challenges of AI-integrated counseling rise as well. One such example is with MSE's or *Mental Status Exams* that rely on the important contextual nuances of what the therapist directly observes. The MSE involves a systematic evaluation by clinicians of a client's presentation, encompassing their observable behavior, therapeutic engagement, speech and language patterns, coherence, goal-directedness of thought processes, reported mood, visible affect, insight, and judgment.

Performing a reliable comprehensive MSE becomes increasingly challenging when it is not carried out in person. This challenge arises mostly because the MSE relies heavily on *nonverbal cues*, which may be diminished or lost during modalities like videoconferencing sessions. This limitation represents one of several areas where affective computing is demonstrating some barriers.

Affective Computing and Emotional Context

If you haven't heard the name Rosalind Picard before, it's an important name to take note of because she is widely credited with founding *affective computing*, or "computing that relates to, originates from, and measuredly influences emotion" (Lisetti, 1998). Today, it is a proportion of the discipline of computer science that is centered around *detecting*, *deciphering*, *computing*, and *replicating* human emotions (as depicted through things like emoticons and user input) (Fig. 1).

The field of affective computing is driven by a myriad of motivations, ranging from bolstering computer decision processing to heightening engagement between humans and computers. As scientist Rosalind Picard succinctly articulated, "emotion emerges as a crucial factor in perception, *biasing* what is seen and heard" (Picard, 2015). As well, emotion plays a considerable role not only in perception but also in various aspects of intellectuality that is commonly approached from a cortical-centric perspective by AI researchers. Emotion is also vital to memory structure, interoceptive processes, and reasoning. Moreover, this interplay in human physiology and modeling through AI is important to the integrity of human-machine interactions, influencing its actions, its language use, and its initiation of tasks such as authenticating mathematical etymologies, checking against computer code, or initiating conversations (Picard, 2015).
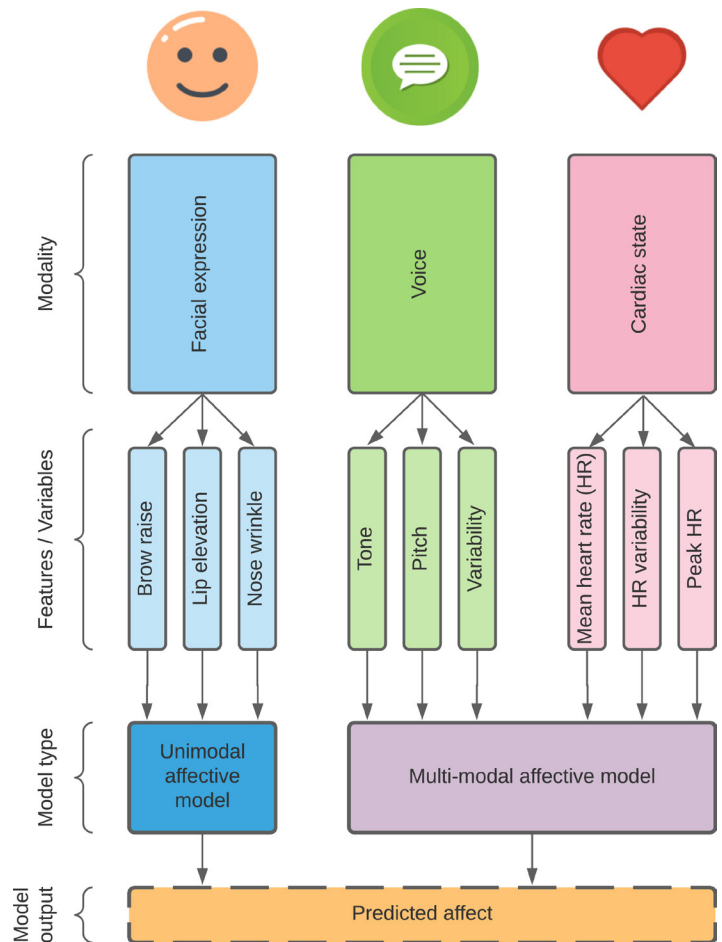
FIGURE 1 | Affective computing systems commonly consist of what is referred to *affective modalities*, derivative characteristics, and machine learning patterns that predict *affect* (emotionality) (Khanna et al., 2022).

Emotion is pertinent to the field of psychotherapy and AI research has only begun looking at the possibilities.

For example, the field of computers has been focused for some time on better interpreting visual and auditory data. To this end, *computer vision* is deployed to assess facial expressions and audio recordings incorporated to add context or otherwise infer "emotional states" predicated on vocal tone, speed, pitch, and prosody, among other things. Once these data points are captured, they are further utilized to teach machine learning algorithms, allowing software to better calculate the likelihood of other unique emotions using sets of human-labeled data (Khanna et al., 2022). Additionally, any computationally definable indicator of an emotional state can be engaged. SimSensei, for example, is what is known as a "clinical bot" that combines psychophysiological measures

such as heart rate and galvanic skin response alongside vocal and facial features, as well as speech content (Khanna et al., 2022).

Affective computing has also progressed from the added augmented capabilities of mobile devices these days, which are now utilized by millions of individuals throughout the world. Smartphones have become just about ubiquitous, allowing for the nonintrusive aggregation of sensor data across various modalities collecting things like geographic location, usage and communication patterns, and more. Apple has introduced Apple Monitor to assess stress level reading through its phones which helps monitor a person's biophysical and emotional levels. Furthermore, modern mobile devices are becoming increasingly equipped with sophisticated computing capabilities, enabling complex data processing locally and alleviating associated inconveniences and privacy concerns. And today, embedded in such devices, chatbots and other dialogic apps are now becoming featured capabilities.

Chatbots and Therapy

There are many reasons a person might defer to at least trying a chatbot that helps with "feeling states." AI-supported *virtually embodied psychotherapeutic devices* like this are advancing rapidly. Therapeutic applications like Tess, Sara, Woebot, and others are being investigated for their efficacy in how they might address people who are experiencing depression, anxiety, or any other issue. These applications include interactive screen identities like Woebot Health's digital companion or "relational agent" named "Woebot," a character that assists potential patients, programmed through written (scripted) conversations by "conversational writers." Woebot is considered a "rules-based" application, otherwise dependent on answers based on written rules.

Chatbots like Woebot may help patients recognize or identify emotions and thought patterns, and help resource by providing skills-based techniques that enhance resilience or reduce anxiety. Tess, for example, uses "natural language processing" to identify distressing expressions and can educate the person on clinical terms like cognitive distortions or provide advice for managing tough situations. In this way, such applications may help as a digital tool to reach a variety of populations lacking access to mental health services.

In this area of chatbots and virtual relational agents, some psychological counseling studies suggest that people may be hesitant to talk to a human counselor because they are afraid of some kind of perceived negative judgment. Whereas, individuals who engage a chatbot may be more willing to freely express their emotions. In this way, for those who hold such perceptions of therapy, chatbots may offer a more conducive environment for users to dialogue about their troubles. In therapy with a human counselor, clients may filter intimate material because of their fear of being judged (Hill et al., 1993).

Alternatively, research around clients' interactions with virtual relational agents (chatbots) that are more "humanized," reveals that there is more of a willingness to disclose personal and sensitive stories, believing that these agents will not evaluate them (Lucas et al., 2014). However, chatbots are limited because they cannot sustain serious conversations like those in human-to-human counseling. Drawing from a comparative study on communication between humans and chatbots lacking human characteristics, the research reveals that interactions with people also typically include emotional and meaningful discourse, whereas interactions with chatbots often devolve and may also include abusive or sexually inappropriate language (Hill, Ford, & Farreras, 2015).

Therapy is very complex with a multifaceted nature attached to it. In this, therapy at its onset often spans multiple sessions and requires ongoing interactions as part of a "psychological unfolding" process, working closely with the patient towards achieving a comprehensive resolution. For chatbots, single-session interactions may be "one-offs" for many whose results may be less than optimal when it comes to a chatbot finding resolution within a single session (Lavik et al., 2018). Herein, establishing a positive impression and creating a comfortable atmosphere during the first session are recognized as hallmarks of human interaction and are crucial in the real world of psychological counseling (Lavik et al., 2018).

Ethical Implications of Embodied AI in Mental Health Counseling

Ethical considerations in the context of AI and its use in therapy encompass several ethical imperatives, if not dilemmas at this juncture. Nonmaleficence becomes imperative to protecting users. For instance,

in scenarios where robots may malfunction or operate unpredictably. As example, Cresswell et al. report instances where a woman became trapped in an elevator with a robot, and another incident where a robot ran over an individual (Fiske et al., 2019). In the same way, chatbots and avatars can malfunction or cease to function entirely. Therefore, it is essential to discuss whether embodied AI devices will need to undergo the same stringent risk assessment and regulatory oversight as other medical devices before ever being approved for clinical use (Fiske et al., 2019). As well, obtaining *informed consent*, ensuring transparency in AI interactions, and implementing responsible data management practices are areas where AI will have problems with therapy. Additionally, regulatory frameworks, such as the General Data Protection Regulation (GDPR) and the Health Insurance Portability and Accountability Act (HIPAA), may face challenges adapting to the rapid advancements in AI technology (Sidhu, 2023).

Another issue remains; gaps between the current rapid expanse of advancements in AI mental health and the successful adoption of these tools in clinical settings by health professionals and patients. Furthermore, interventions are often developed without explicit ethical considerations (Fiske et al., 2019). AI as well will require constant evaluation against psychological empirical data, and in some cases, those who are classified as patients with issues like schizophrenia or other more impacting and complicated issues will require more than a chatbot for treatment. Considerations around *privacy* and the obligations of therapists relative to a patient's privacy will also be an issue for such virtual devices and the companies that utilize them. And as with anything, there will be lawsuits from people whose families may feel were not correctly or adequately assessed.

An ethically informed integration of AI will also need to address issues related to the *equitable provision* of mental health care since there may be issues around incorporating embodied AI into mental health services where AI could be used to justify the replacement of established services. Anthropomorphism or the human-like qualities assigned to AI may obscure the realities of needed real time healthcare with a Human therapist. This shift could potentially exacerbate existing health inequalities (Fiske et al., 2019).

Finally, mental health professionals have an ethical responsibility to inform other service providers,

third parties, or authorities if a patient poses a threat to themselves or others which is discussed in first sessions with clients. How this responsibility would be managed in the context of artificially intelligent interventions, especially when there is no supervision of the interaction between the AI agent and the patient by a qualified health professional, is precarious (Fiske et al., 2019). The depiction below represents some of the areas where challenges with AI may necessitate further considerations (Fig. 2).
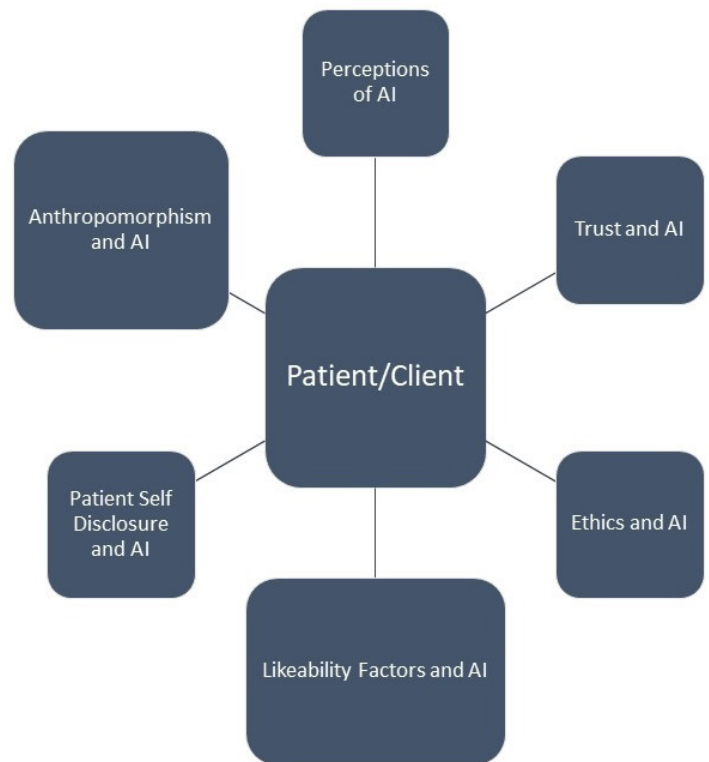
FIGURE 2 | AI Issues for Consideration (Rodney Luster 2024).

Conclusion

Arguably, the most significant advantage of AI applications in mental health care is the structural and functional reach for populations that are difficult to treat through traditional methods. The provisioning of mental health services through low-threshold, convenient interventions – such as chatbots or avatars – can be especially beneficial for populations in resource-poor settings and for those with minor psychological or mental health issues such as anxiety or low-level depression. For individuals living in remote or rural areas where on-site mental health services are scarce, these kinds of smart applications can enhance the potential to treat marginalized populations as well as those who are aversive to

in-person therapy or virtual counseling. Moreover, certain individuals may not respond adequately to traditional mental health services and might instead prefer low-threshold interventions with chatbots that can be conducted privately at home for added flexibility. For these patients, AI applications could complement existing services or serve as a gateway for more standard in-person mental health interventions in the future.

As regards the ethical aspects of using AI for therapy. Companies engaging AI in this way will need to adhere to the well-established ethical principle of nonmaleficence. This requires much more research on embodied AI applications used in mental health and mitigating processes that will prevent harm during therapeutic encounters.

In general, the question remains whether certain aspects of the therapeutic encounter can be achieved through AI. As noted, some therapeutic benefits may be difficult to anticipate or may be highly specific to an individual's relationship with their therapist. Moreover, as robots and artificially intelligent systems begin to blur the boundary line between reality and fiction, this could have impacting effects on patients. Similar to therapeutic relationships, there is a risk of transference of emotions, thoughts, and feelings to the robot. There may also be attachment issues. This is particularly concerning given that many target populations may be more expressly vulnerable than others. Patients may be especially susceptible to transference due to their desire for companionship or care, however, there is no person on the other side of this transference.

The potential for resourcing with AI can be beneficial. Will they replace a therapist made of flesh and blood? Not likely, given that the most meaningful interactions will always be those between humans.

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  highlight-its-possibilities-and-perils

Reimagining Doctoral Education in Social Sciences: Cultivating a New Archetype of Scholar-Practitioner in the Age of Artificial Intelligence

Image created collaboratively between Dr. Migliore and Dall-E.

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Abstract

The burgeoning relevance of artificial intelligence (AI) in various sectors underscores a transformative shift in doctoral education in the social sciences, necessitating a new cadre of competencies that blend disciplinary expertise with technological proficiency. Doctoral programs must therefore foster a unique amalgam of skills in decision-making, strategic planning, ethical considerations, and technological acumen. Employing bibliometric analysis and Bloom's taxonomy, the paper delineates how these competencies equip scholars to navigate and influence the evolving landscape, where the confluence of technology, ethics, and human-centric inquiry is paramount. This evolution heralds the rise of a new archetype of scholar-practitioners, poised to lead and shape future societal and organizational frameworks. By integrating advanced technological skills with deep ethical and strategic insights, these scholars are pivotal in crafting a future where educational innovation coexists with steadfast ethical principles, ensuring a society that champions both technological advancement and moral integrity. This redefined doctoral education not only advances individual careers but also plays a crucial role in sculpting a future where technology enhances, rather than undermines, humanistic values.

Introduction

In the dawn of an era increasingly sculpted by the rapid advancement of artificial intelligence (AI), every facet of human endeavor is witnessing a transformative shift (Abulibdeh, et al., 2024). The social sciences, a domain traditionally steeped in humanistic inquiry and qualitative analysis, are no exception to this sweeping change. As AI permeates various sectors, influencing decision-making processes, shaping strategic thinking, and presenting complex ethical dilemmas, the imperative for a deep, nuanced understanding of human behavior and societal dynamics has never been more pronounced (Wu, et al., 2023). This manuscript posits that amidst this technological upheaval, doctoral education in social sciences has never been more relevant, preparing leaders with advanced skills in decision-making, strategic thinking, and ethical considerations essential for navigating the AI-induced complexities.

Since the launch of advanced large language models like ChatGPT in November 2022 and their subsequent enhancements, artificial intelligence (AI), particularly through natural language processing, has been swiftly transforming our world (Zhang, et al., 2023). Every field of study, including the social

sciences, is experiencing a rapid evolution due to this technological advancement.

Traditionally, social sciences have delved into human behavior and societal trends using qualitative methods. Yet, with AI's growing influence on decision-making, strategic planning, and ethical considerations, there's a rising demand for scholar-practitioners skilled in AI (Abulibdeh, et al., 2024; Modoni & Sacco, 2023). These professionals need to decode and guide the implications of AI, such as when it affects company hiring processes or shapes public policy, ensuring decisions are made responsibly. Additionally, researchers are increasingly integrating computational methods with social science inquiries, creating multidisciplinary approaches where AI and Big Data extend beyond their usual realms (Bircan & Salah, 2022).

However, despite notable progress, there's a noticeable gap in the fusion of artificial intelligence (AI) with social sciences and Computational Social Sciences (CSS) (Bircan & Salah, 2022; Ligo, et al., 2021). This gap suggests that while computational methods are increasingly employed in social sciences, their integration has not yet transformed the field, particularly regarding its fundamental issues and concepts (Ghosal, 2019). For example, bibliometric analysis, which acts like a map highlighting key articles, popular works, and their interconnections in a specific field, indicates that computational methods have not significantly influenced the core aspects of social sciences yet (Zhang, et al., 2023). This analysis helps us understand the reach and impact of these methods within social science research networks. On a related note, innovative AI tools are beginning to reshape how literature reviews are conducted. For instance, platforms like Elicit.com, utilizing advanced large language models through Semantic Scholar—an open data platform for AI research—offer new avenues for optimizing and deepening literature reviews (Kinney, et al., 2023; Lo, et al., 2020). These advancements represent exciting steps forward, potentially bridging gaps identified by bibliometric studies.

The Evolving Role of Doctoral Education in Social Sciences

As we delve deeper into the evolving role of doctoral education in social sciences, it becomes evident that the emergence of AI necessitates a reevaluation and enhancement of traditional academic frameworks (Cowling, et al., 2023; Rigby & Jones, 2020; Storey, 2023). Historically, doctoral programs have been ramparts of critical thinking, theoretical innovation, and in-depth research, preparing scholars to contribute profound insights into human behavior, societal structures, and cultural dynamics (Chetcuti, et al., 2022). However, in the context of an AI-driven world, these programs are now at a crossroads, challenged to integrate new technological competencies while preserving the core values and analytical depth that define the social sciences (Storey, 2023). This evolution is not merely about incorporating AI tools into research methodologies or data analysis but about fostering a new breed of AI-empowered scholar-practitioners. These individuals must be adept at navigating the interdisciplinary nexus of technology, ethics, and human-centric inquiry, capable of deploying AI to enhance understanding and address societal and business issues, while also scrutinizing and shaping the ethical frameworks that guide AI development and application.

In the context of career relevance, consider the manufacturing environment, where a digital-twin-based platform serves as the linchpin for integrating human and machine interactions, the AI-empowered scholar emerges as a pivotal leader, guiding the seamless orchestration of these elements (Modoni & Sacco, 2023). For example, the well-versed scholar in both the technological and social sciences, enhances leadership by leveraging AI to not only optimize production processes but also to ensure that these technologies align with ethical standards and contribute positively to the workforce and society. In such an environment, the digital twin—a virtual replica of the physical manufacturing processes—serves as a dynamic tool for simulation, monitoring, and optimization, enabling a real-time dialogue between the physical and virtual realms. Here, the AI-empowered scholar's role is crucial in interpreting this dialogue, ensuring that the integration of AI enhances productivity while also fostering an inclusive and equitable workplace (Abulibdeh, et al., 2024). By doing so, they not only champion technological innovation but also uphold the company's social responsibility, demonstrating how advanced technologies can be harnessed to benefit both the organization and its broader community. As AI reshapes education, tools like ChatGPT offer innovative ways to enhance

learning but also present ethical challenges and a need for alignment with workforce development needs in leadership, technologies, and data analytics (Cowling, et al., 2023; Rosch, et al., 2022). Thus, doctoral education in social sciences is at an opportune time to broaden its scope, embracing a dual mandate to enhance traditional scholarly rigor while also equipping future leaders with the necessary skills to operate effectively and ethically in an increasingly AI-integrated landscape (Migliore, 2023).

Decision-Making and Strategic Thinking in an AI-Dominated Era

In an era where AI is reshaping decision-making and strategic planning, doctoral programs in social sciences are vital in equipping scholars with the skills to navigate this new landscape (Wu, et al., 2023). AI's ability to analyze extensive datasets and identify patterns that are not immediately apparent to humans is transforming how decisions are made. However, this advancement also introduces complex challenges, especially regarding the interpretation, consequences, and ethics of insights derived from AI.

Doctoral education in social sciences acts as an essential balance to AI's data-centric approach, preparing a group of thinkers who can harmonize AI's analytical strengths with a deep understanding of human behaviors and ethical issues via effective academic assessments (Nguyen Thanh, et al., 2023). This integration is critical to ensure that decisions are not just data-driven but also ethically sound and socially responsible.

Applying Bloom's Taxonomy in this context enhances doctoral training, ensuring students' progress from basic understanding to creating innovative solutions that integrate AI and Big Data within social science research (Anderson & Krathwohl, 2001; Bloom, 1956, Nguyen Thanh, et al., 2023). This educational framework ensures that graduates are not only proficient in utilizing AI for data analysis but also in critically evaluating and applying these insights in a way that aligns with societal values (Wu, et al., 2023; Zhou & Zhang, 2024). Such an approach to doctoral education fosters leaders adept at managing the intricacies of an AI-enhanced world, ensuring they make informed, ethical decisions in various professional settings. This blend of AI proficiency and ethical, strategic thinking is becoming increasingly

indispensable as AI's role expands across all societal sectors, underscoring the importance of well-rounded doctoral education in social sciences in preparing graduates for leadership in this new paradigm.

Bloom's Taxonomy offers a structured approach to integrating AI and Big Data in doctoral research, improving student-chair-committee relationships. For example, it can be applied at each action-oriented level of learning (Anderson & Krathwohl, 2001; Bloom, 1956; Nguyen Thanh, et al., 2023): (1) Remembering – learners should get acquainted with AI and Big Data basics, such as key concepts, terminology, and tools, which can be assessed via literature reviews or initial assignments, (2) Understanding – learners need to comprehend how AI and Big Data can be applied in social science research, exploring case studies or existing research for a practical grasp, (3) Applying – learners should start employing AI and Big Data methods in their research, using software to analyze data or algorithms to detect patterns, with guidance from their chair and committee members, (4) Analyzing – learners must critically evaluate their data analysis results, looking beyond the obvious to understand deeper implications, guided by their committees, (5) Evaluating – learners assess the reliability and validity of their findings, including ethical considerations, with chair and committee members aiding in this critical reflection, and (6) Creating – at this highest level, learners are encourage to develop new knowledge or theoretical frameworks, possibly integrating AI and Big Data into their research, supported by their committees. Regular, structured interactions between doctoral learners and their chair's supervision ensure progression through these stages, enhancing research quality and innovation in doctoral programs.

Ethical AI Integration in Social Sciences Doctoral Programs

Doctoral programs in the social sciences are instrumental in navigating the ethical landscape of AI in academic research. As AI becomes a staple in research methodologies, enhancing data analysis and insight generation, it introduces challenges such as data integrity and potential biases (Ghosal, 2019). These programs are pivotal in instilling a responsible use of AI, ensuring scholars grasp both the technical and ethical aspects of AI in their research endeavors.

Students are taught to critically examine their data sources, algorithms, and potential biases, all while considering the societal ramifications of their work.

Furthermore, AI's integration into doctoral education signifies a significant shift, enriching the learning experience and expanding the educational scope for students (Abulibdeh, et al., 2024). Through tools like intelligent tutoring systems and sophisticated data analysis technologies, AI offers personalized and adaptive learning paths, deepening students' engagement with complex topics. This immersive educational experience, supplemented by real-world simulations and automated feedback, not only enhances academic growth but also equips students with vital skills for a tech-centric future.

However, this transformative integration of AI also necessitates a deep dive into its ethical and practical implications in education, a challenge suitably met by social sciences doctoral programs (Farrelly & Baker, 2023). By incorporating AI into the curricula, doctoral programs do more than just enhance educational outcomes; they cultivate a deep understanding of how AI influences the field of social sciences. Take, for example, a doctoral program in organizational leadership. Here, the integration of AI tools can transform the way students examine corporate cultures or leadership dynamics by analyzing extensive datasets, like employee engagement surveys or communication patterns (Rosch, et al., 2022). This integration goes beyond merely enhancing students' analytical abilities; it develops a sophisticated grasp of AI's role in interpreting organizational behaviors. Students learn not only to use the technology but also to critically assess what the AI-driven analyses imply for leadership strategies and organizational transformation. They recognize AI's capabilities and its limitations, especially in understanding complex human interactions within the corporate environment (Abulibdeh, et al., 2024). This approach prepares students for a future where AI is an essential component of both academic and professional environments, ensuring they are well-equipped to lead ethically and innovatively in an AI-driven world.

Conclusion

In conclusion, the integration of AI is revolutionizing various fields, thereby elevating the importance of doctoral education in social sciences to unprecedented levels (Abulibdeh, et al., 2024). This paper has highlighted the critical role these programs play in nurturing a new generation of scholar-practitioners who excel in blending social science acumen with AI's cutting-edge capabilities. Such education is instrumental in honing advanced skills in decision-making and strategic planning, enriched with a deep ethical comprehension of AI's impact (Wu, et al., 2023). By incorporating AI into their curricula, these programs not only enrich the educational journey but also equip students for a future where AI permeates every aspect of professional life. The focus on ethical AI usage in research reflects social sciences' dedication to maintaining rigor and morality, ensuring AI's progression benefits society. Ultimately, social sciences doctoral programs are not merely adapting to the AI era—they are actively shaping a future where technological innovation and humanistic values coalesce, creating a society that cherishes innovation while upholding ethical standards.

Author Bio

With over 35 years of rich and varied experience spanning the automotive, non-profit, higher education, health care, and mobile technology sectors, Dr. LauraAnn Migliore currently serves as a Dissertation Chair and doctoral staff faculty in business administration and management programs at the University of Phoenix. Her role encompasses supervising research and mentoring doctoral students, guiding them through the complexities of higher education industry research. Her professional journey is marked by a deep specialization in the psychology of learning and development, where she designs engaging learning solutions to foster leadership excellence. In her practitioner work, she focused on HRM strategy, particularly in leadership development and instructional design, to enhance team performance and mobile workforce efficacy. Certified in Data Science, Business Analytics, and AI, Dr. Migliore's seasoned experience extends to building neural networks and applying Python for deep learning, enriching her contributions to AI-driven academic research. Her publications span personality and cross-cultural research, leadership, corporate governance, and mobile technology. Dr. Migliore is dedicated to fostering personal and professional excellence in individuals and driving performance and innovation in organizations.

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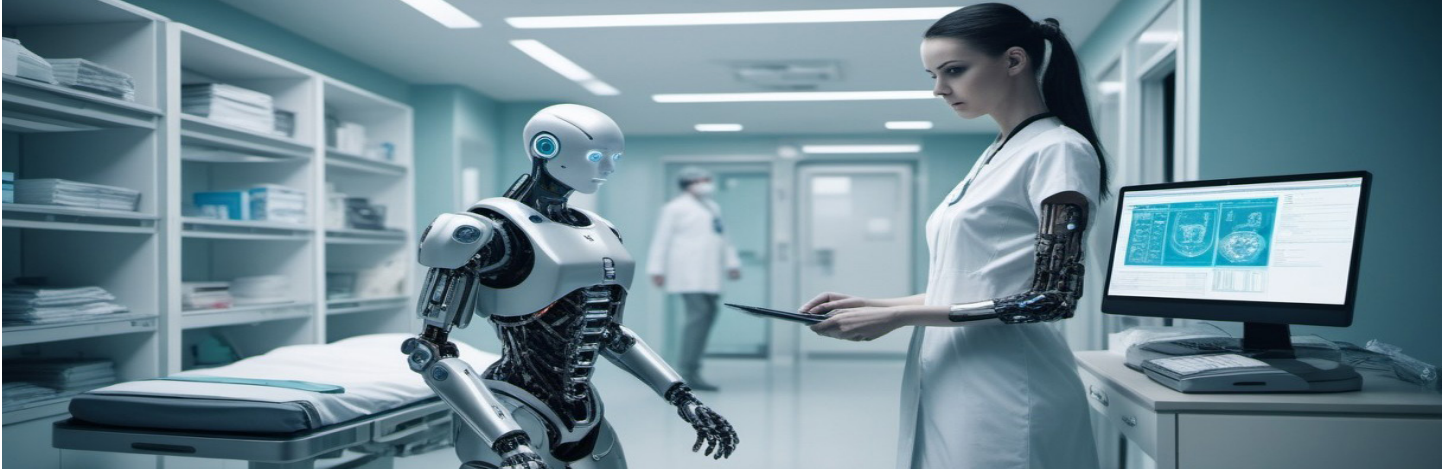
Image created collaboratively between Stable Diffusion AI and Dr. Facemire

AI and Healthcare Education

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Introduction

Artificial intelligence (AI) refers to the application of algorithms and computational models enabling machines to exhibit cognitive abilities, including learning, reasoning, pattern recognition, and language processing, like those of humans imitating human intelligence (Tan, 2021). From its inception, AI has permeated everyday life, business and in particular, AI is increasingly applied to healthcare. While analyzing vast amounts of data (text, images, audio, and video), sophisticated digital tools are used by students and educators in universities worldwide to support student learning, engagement, and assessment. However, there are some drawbacks of which educators and students should be aware, so they understand how to use AI tools appropriately in professional practice (O'Connor, 2023). AI systems are not sentient or conscious; they lack understanding or emotional response to the inputs they receive or the outputs they generate, as their primary function is to serve as sophisticated predictive instruments.

In the healthcare domain, AI-based applications

are used to gather information from the electronic health record to provide correlations from data not easily discoverable (Braun, et al, 2020). The rise of AI tools has implications for existing health professions training, including the need to acknowledge human fallibility in areas such as clinical reasoning and evidence-based health care (Koski & Murphy, 2021). While there is potential for educators to exploit powerful AI tools within the process of education itself (Gillani, et al, 2023), administrative burdens could be offset by AI, freeing educators to focus on creative aspects of their work.

Pros

The application of AI in clinical practice is more advanced than in healthcare education (Huang, et al, 2021). AI tools have the potential to improve decision making, facilitate learning, and enhance communication among practitioners (Russell & Norvig, 2021). Clinical decision support tools (including alerts in the electronic health record [EHR],

clinical practice guidelines, order sets, reports, and dashboards) enhance a provider's ability to make clinical decisions. When coupled with AI, clinical decision support offers predictions and suggestions with accuracy and specificity beyond human capacity, including automatically generated patient diagnoses and guided decision trees to prevent medical complications. Social media platforms provide a forum through which to share education, encouraging faculty to present content bite-sized chunks, which can be easier for students to comprehend (Yu & Guo, 2023). Social media platforms enable users to interact with the information and with peers, creating the opportunity for deeper dialogue. In addition, educators can use social media channels to provide students with easy-to-access links to reading lists, studies, and other helpful resources.

Machine Learning (ML), a subfield of AI, involves the development of algorithms and models that can learn from data, without being explicitly programmed (Dave & Patel, 2023). In healthcare, ML algorithms identify patterns, predict outcomes, and make diagnoses. This helps providers make informed decisions and improve the accuracy of their plan of care. Cloud Networks (CN) consist of remote servers hosted on the internet used to store, process, and manage data (Sultan, 2014). In healthcare, CN are used to store and access patient data, as well as to run AI and ML algorithms. This provides secure, remote access to patient information, enabling patients to receive enhanced care.

A significant development has been the integration of AI technology to transform education by providing personalized efficient learning experiences for students. AI can reduce the burden on students and faculty enabling effective learning experiences (Loeckx, 2016). AI can assist in creating individualized learning experiences and in the gamification of learning (Zhai, et al, 2021). Intelligent tutoring systems (ITSs) are an important application of AI in health professions education (Boulay, 2016). Learning to wield collective knowledge to augment their own personal abilities distinguishes the health provider of the future from the health provider of the past. AI enables this evolution by supplementing—not supplanting—the astute provider. All health professions have an opportunity to leverage AI tools to optimize the care of patients and populations (Lomis, et al, 2021).

A cutting-edge type of AI is generative AI, which uses algorithms and mathematical models to create text, images, video, or a mixture of media when prompted to do so by a human user. One application of generative AI is a Chatbot, or virtual conversational agent, powered by large language models (Clark & Archibald, 2023). Chatbots can generate a sequence of words a typical human interaction is likely to create using a large dataset of text. Chatbots have been tested in university education to: help answer student questions; provide personalized learning environments; improve student engagement and support; and assess learning (Okonkwo and Ade-Ibijola, 2021).

As generative AI tools process large amounts of data quickly, they are used to develop podcasts, videos, professional presentations, or any media requiring a voiceover quickly. Health professions educators can use AI-generated text, image, audio, or video material to help students explore health literacy and create diverse patient education materials. AI can help in the integration of the game and the knowledge elements, helping the game adapt to the learners' emotional responses and actions (Thomas, 2010). Educational games can take place in the setting of augmented, virtual, or extended reality and complex scenarios difficult to recreate in the real world. The concept of employing games, whose primary purpose is not fun or entertainment but a serious goal, to effectuate better results has become popular among healthcare professionals and research communities (Ahmad, 2022). For example, Internet of Things (IoT) enables digital transformation with smart cities, smart infrastructure, and the fourth industrial revolution (Robert, 2021).

AI is expected to augment healthcare workflow through automated triage, improve the productivity of providers, reduce human errors, discover better patterns of patient care, defray medical costs, perform minimally invasive surgery, and reduce mortality rates. When implemented according to proper guidelines and used ethically, AI can significantly improve learning experiences for students and better prepare them for the challenges of a rapidly changing health care landscape (Skiba, 2017). Mobile health technologies (smartphones, smartphone apps, and wearable technologies) help manage chronic illnesses by receiving and sending data directly between patients and providers, creating a comprehensive picture of a patient's health in their everyday environments.

Cons

Students may use AI to gain an unfair advantage over their peers, undermining the credibility of the education system (Krive, et al, 2023). Automated essay generators and online cheating tools enable students to submit work they have not completed, while gaming the grading system can allow students to artificially inflate their grades. It is crucial for educational institutions to implement measures to prevent such occurrences and maintain the integrity of the educational process. AI relies on the quality of data on which it has been trained and interaction with human users to generate an output. Although AI-based tools and techniques can offer significant benefits to health care education, it is crucial to ensure they supplement and enhance, rather than replace, human interaction, critical thinking, and creativity. If data are of poor quality, it could cause misleading or inaccurate text, image, audio, or video results negatively affecting patients. With the rapid advancement of AI, providers may experience unprecedented stress to learn entire new skill sets and to manage an exponential growth of health care related knowledge. Ethical issues related to data bias, the exacerbation of existing inequalities, and adherence to professional standards must be considered and addressed. It is essential to promote ethical AI practices, provide appropriate training and support to educators and students, and implement privacy and security measures. Training should be designed specifically to help faculty understand the capabilities and limitations of AI technology and how it can be used to enhance the teaching and learning process (Millet, 2019).

Although AI offers promising solutions to health care education, it's not without its drawbacks. For example, just because one can use an AI tool, doesn't mean one should (Zawacki-Richter, et al, 2019). Even when considering basic practices of recognition, identification, and diagnosis, there is a need to deliberately design uncertainty into the AI-driven representations, diagnostics, and feedback students and educators work with (Nguyen, et al, 2021). As such, there is a danger that overly prescriptive AI diagnostics may further hinder students' uncertainty tolerance, giving them a flattened sense of the ambiguities and uncertainties intrinsic in health care. Importantly, expert human educators have a range of qualities that AIEd does not. Educators can draw on their experiences in helping students navigate their way through curricular difficulties and/or help them appreciate that these challenges can be overcome (Molloy & Bearman, 2019).

Many traditional tools perform similarly (or outperform) their AI counterparts depending on the application, such as in predicting mortality of older patients who have undergone hip fracture treatment. Data quality and sources, as well as modeling validation have shown mixed results (Woo, et al, 2020). Novel robotics can be met with resistance. Cultural change is always a factor when introducing something new, but robotics may be misunderstood or considered invasive if not implemented with caution. Healthcare professionals can be fearful AI will result in job loss. This may be true in the future, but current tools and those under development don't replace human jobs; they're intended as enhancements. In addition, there can be concerns about confidentiality and privacy related to AI use. As with any technology, handling sensitive information, risks exist. However, with careful planning and implementation, these risks can be mitigated (Tiase & Cato, 2021).

Conclusion

The application of AI in healthcare comes with financial cost and ethical considerations. Despite these challenges, AI will be an integral part of healthcare delivery, leading to personalized patient care, improved provider efficiency, and enhanced outcomes. A curious, cautious, and collaborative approach to learning about AI tools should be pursued by educators and students, with a focus on enhancing critical thinking and digital literacy skills while upholding academic integrity (Shevtsova, et al, 2024). AI holds the potential to transform lives through increased economic prosperity, improved educational opportunities, and quality of life. AI can empower patients and potentially allow healthcare professionals to relate to their patients as healers supported by the combined wisdom of the best medical research and analytic technology (Koski & Murphy, 2021). At the same time, the potential capabilities and complexities of AI make it important to further advance our understanding of AI. To be effective in this environment, health care educators must have knowledge spanning the care continuum, effectively leverage data platforms, focus on analyzing outcomes and improving performance, and communicate the

meaning of the probabilities generated by massive amounts of data to patients, given their unique human complexities.

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Envisioning an AI-Education Collective

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Image created collaboratively between Stable Diffusion AI and Dr. Facemire.

"NO SENSIBLE DECISION CAN BE MADE ANY LONGER WITHOUT TAKING INTO ACCOUNT NOT ONLY THE WORLD AS IT IS, BUT THE WORLD AS IT WILL BE."
~ISAAC ASIMOV

In the world as we know it, students want to succeed. They want to gain appropriate skills for the workforce. They want to be prepared for their professional futures. AI tools have already permeated various industries from accounting to marketing and sales to healthcare and have shown us what the world might become. If professional fields are embracing this tool, education must, as well. Too, while this can seem like a daunting or overwhelming process, with a focus on developing awareness and using AI to bolster student learning, education can become more future-focused.

Sure, we all have apprehension. However, we've been here before. <Wikipedia enters the chat> Long gone are the days when we think that Wikipedia will minimize student understanding of and awareness of appropriate research. Wikipedia has long been taught as a tool for learning: students can learn a basis of understanding and seek out more credible information in resources listed on a wiki's references page. Of course, this took time. It required educators "Engaging students in complex conversations about this information source...to improve students' information literacy skills" (Park & Bridges, 2022, p. 4). Why not approach AI in the same way? This can start with a discussion between educators and students.

- How is AI used in your future career field?
- How should AI be used in your future career field?
- What are some ethical issues associated with the use of AI?

Asking general questions will help students in any degree path begin to think about (1) what AI is and (2) the ethics behind AI use. It's our job to develop AI literacy, just like we have done with information literacy. From there, we can build on these insights to shape students' understanding and perspectives through proactive AI activities.

Recently, as student asked me, "Can I use ChatGTP write my resume?" I paused. I never want to impede any student's progress by limiting the tools they can use. I want learning to be equitable and accessible, so I responded, "You know you best, so it's a matter of making sure you are appropriately showing your educational and professional experiences. Too, it's important what you write is in your own voice. With that, AI can be used as a starting tool..." This idea is reflected in literature about AI and its use as a springboard for ideas. "So the idea of a digital muse to generate starter ideas, outlines, and questions can

be done, but with the caveat that you do not want to rely on it verbatim, only as a starting point or a spark" (Mora & Semingson, 2023, p. 57). That's the key: focus on AI as a tool that can help spark thinking processes. In doing so, we coach students how to use AI instead of students wanting to use it as an outcome creator.

As education is shifting to focus on more meaningful, individualized practices, educators become more observant and aware of student individuality. We become more observant of students' voices. What does an AI voice look like? Clinical and formulaic. AI writing often lacks nuance. This can be a tool. Give students a ChatGPT email or essay and have them rewrite it in their own voice. Request students critique an AI-generated advertisement or image (you know the ones: those with humans who clearly have AI-generated limbs). The more students will realize that AI is not the superior entity it is sometimes discussed as being, they will realize that it's their own minds that are superior. It's powerful when students can critique what a perceived "ultimate thinking machine" can do. Of course, we can lead students directly to the source. Allow them to use ChatGPT in the classroom, just as Francesc Pujol, a professor in Leadership and Innovation at the University of Navarra has. At the end of each class, he instructs students to ask a question to ChatGPT. He analyzes the results, suggesting that "If they have asked a good question, it means they have understood the class well," ("ChatGPT Arrived", 2023). Too, we must remember that a collaboration of human minds is power. We can and should discuss and collaborate on how best to use AI in our classrooms. We must experiment. Using AI as a brainstorming, foundational tool might just be the start.

I'd be remiss not to remind us all that machines are just that: machines. What makes us different? Well, as Lake et al. have surmised, "Humans are very good at two things that AI-powered machines are not: abstract reasoning and learning how to learn. For example, while machines can learn to play a variety of games better than champion-calibre players, they require training on simulations of hundreds of thousands or millions of games to learn how to do so. Humans, by contrast, often learn gameplay simply by watching someone else play for a few minutes" (as cited in Gillani et al., 2023, p. 105). In parsing this idea out, educators still have the upper hand in helping students develop critical and abstract thinking skills. And, while humans are still the ultimate thinkers, we can still use AI as a tool. One way to do this is to use AI generated

text and have students analyze it. "Students will then evaluate and improve the AI-written work—an exercise designed to teach critical analysis, the importance of a precise thesis statement, and what "good writing" looks like" (Ceres, 2023). The key message here is that students recognize that, regardless of their skills, their writing is, their voices are more meaningful. They can write better than a machine; they must see this for themselves.

As AI continues to consume content, we have the responsibility to steer its use in a fruitful, advantageous way. If, as educators, we approach AI as a daunting, powerful creator, students will too. If we ignore it, students will learn about it on their own, and then education would need to become reactionary. Let's, instead, be visionaries.

Author Bio

Tina Miller is a human who has an insatiable fascination with science and technology. She has been in the education field for 22 years and continually strives to experiment with new educational concepts. Along with being an educational coach, Tina spends her spare time writing and caring for her ever-entertaining dogs.

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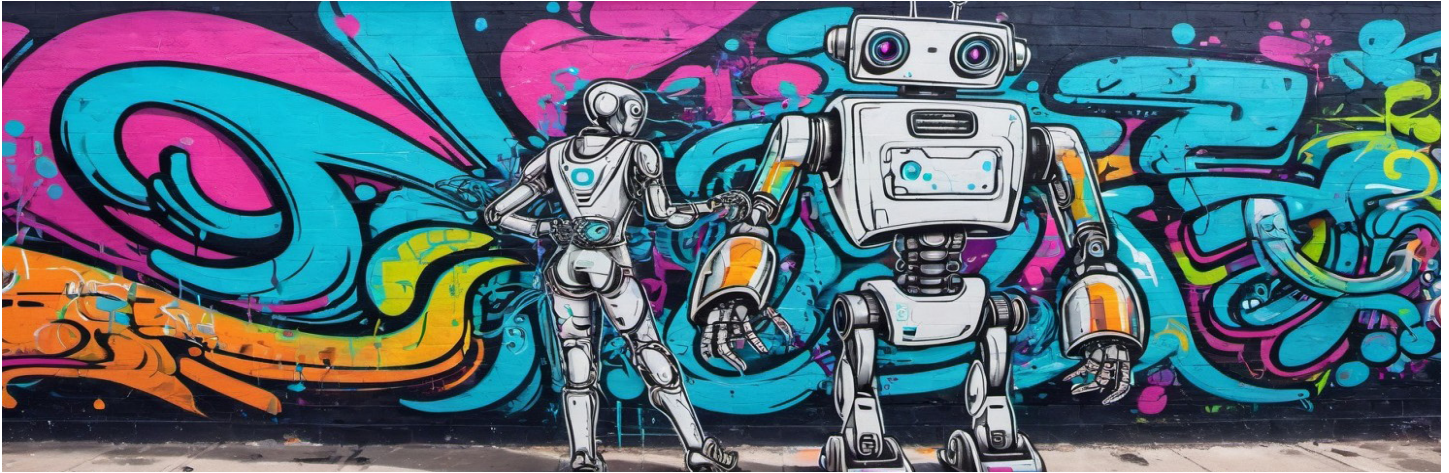
Image created collaboratively between Stable Diffusion AI and Dr. Facemire.

Creativity, Productivity, and Large Language Models: Co-Creation of Doctoral Research Questions

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Introduction

Crafting robust research questions (RQs) is critical to formulating doctoral dissertation projects. Novice researchers and postgraduate students often need help with RQ formulation due to the complexity of the task. Students rely on a co-creation process with their instructors, which can take an extended period and cause frustration and even the decision to delay or defer their doctoral research.

Artificial Intelligence (AI) applications offer potential help with the RQ co-creation process (Chandra & Rahman, 2024). AI tools based on next-generation

Large Language Models (LLMs) may provide a useful means to shorten RQ generation and yield improved results. LLMs may allow students to perform interactive queries using in natural language. They may aid in identifying relevant literature and formulating relevant RQs. However, the role of LLMs in the RQ co-generation process has yet to be determined. It remains unclear whether LLMs will enhance doctoral level RQ quality, creativity, or learning productivity.

Some argue that advanced LLMs can boost creativity and student productivity (Ruiz-Rojas et al., 2023), while others express concerns (Alainati

& Al-Hunaiyyan, 2024). To address this gap, we are investigating the impact of the Gemini LLM by Google on RQ creation among doctoral students at the University of Phoenix. Our study will document existing RQ generation strategies at the University of Phoenix, focusing on interactions between the Doctoral Committee Chair, the University Research Methodologist, and the doctoral student across the four University of Phoenix doctoral programs. This will be followed by amending the existing co-creation strategies through adding Gemini LLM. By evaluating the co-creation process, with and without the LLM, we aim to inform strategies for improving the RQ generation process. This research will contribute to a greater understanding of how LLMs may or may not impact creativity and learning productivity for doctoral students.

Problem Statement

Developing doctoral dissertation research questions (RQs) is a complex and fundamental part of formulating research projects (Azad & Pandya, 2021). It requires creativity and involves a thorough, iterative, and often time-consuming literature review process. Doctoral students may find it challenging to form their RQs. Applications like next-generation LLMs may help doctoral students search for relevant literature and facilitate the development of robust RQs. Students may interactively query the LLM in natural language to identify the studies relevant to their research projects and generate relevant RQs.

Although the literature review process can be simplified and accelerated by using LLMs, it is still being determined whether LLMs can effectively support students and their instructors in the process of developing higher-quality RQs and enhancing their learning process, creativity, and productivity. Creativity plays a vital role in improving the learning process. Different views exist on whether advanced LLMs can enhance (Liu, Chen, et al., 2023; Rezwana & Maher 2023) or hamper creativity (Adewumi et al., 2023). Guidance and strategies for improving the use of LLMs need to be further investigated. To better understand the influence of LLMs on creativity and explore ways to improve it in practical applications, we will conduct further research. In this study, we take the first step by examining our doctoral students' co-creation of RQs across the three disciplines and

four programs in a quasi-experimental analysis using the Gemini LLM.

Purpose

This study aims to document the current doctoral candidate RQ generation strategies at the University of Phoenix through the interactions between the committee Chair, the URM, and the doctoral student and to identify and develop strategies for including the Gemini LLM in the RQ generation process. The study will evaluate the process of RQ generation as a co-creation process between the doctoral student, the committee, with and without the LLM. The different RQ co-creation generation processes will be assessed regarding improved RQ quality, creativity, generating time, and student and committee member satisfaction, among other factors.

Two research questions will be explored. The first relates to the strategy of RQ generation. To develop strategies for using the LLM, a literature review will be conducted to identify pre-existing strategies. Then, a focus group consisting of dissertation chairs and doctoral students will be formed to modify and pilot the strategies. The focus group will include eight members with dissertation chairs and doctoral students from four programs (education, business administration, business management, and healthcare) and three disciplines (management, education, and healthcare). The second relates to the outcomes of the RQ generation process. The study will use a mixed-methods approach to evaluate both quantitative factors, including time to completion (Ruiz-Rojas et al., 2023), and qualitative data obtained via a survey examining the student's experience (Wang et al., 2023) and the instructor's experience generating RQs. We will compare the existing strategies in use and those after integrating the LLM. We will try to answer the question of whether integrating the LLM will improve the robustness and relevance of the RQs. An ANOVA approach will be taken to identify any notable difference in the results from the experience survey and performance metrics.

Significance and Nature of the Study

A literature review suggests that current strategies for doctoral students in forming RQs as they

organize their dissertations include interdisciplinary approaches, emphasis on real-world applications, ethical considerations, and alignment with industry needs in the absence of using Learning Management Systems (LMS) and Artificial Intelligence (AI) tools. A comprehensive review of websites such as arXiv, Google Scholar, ResearchGate, and academic journals in AI provided valuable insights and current strategies for using LLMs to create innovative and impactful research questions in the students' fields. A gap in the literature may be how one can critically evaluate the information you find on these websites to ensure its relevance and reliability for forming doctoral RQs.

When forming doctoral RQs using a LMS and an LLM, one must consider the potential impact of the research, gaps in existing knowledge, feasibility of implementation, and ethical implications. However, aligning research questions with current AI strategies may enhance the relevance and significance of the doctoral study. Overall, integrating LMS and the LLM may streamline the RQ formulation process for postgraduate students, enabling them to produce high-quality and innovative RQs more productively, saving them valuable time so that the students may proceed further with their research.

According to Yang et al. (2016), studies have been conducted to understand how researchers produce innovative ideas for research purposes. The integration of LMS and AI tools may enhance the time, efficiency, and quality of research question formulation for doctoral students. Although recent research has demonstrated the potential of using LLMs to generate RQs, there may remain a lack of understanding about how humans evaluate LLM-generated RQs (Liu, Yu, et al., 2023) in a co-creation process. LLM algorithms can analyze a student's past research interests, reading habits, and writing style to co-create personalized research question suggestions. This can help students explore new avenues and topics that they may not have considered before.

However, LLMs are known to have had problems with factual accuracy (Ji et al., 2023). Therefore, creating high-quality RQs requires input from student researchers for their unique backgrounds and expertise. Strategies that enable students and the LLM to co-create RQs may help students identify gaps in existing knowledge and formulate relevant questions. The interactive and real-time nature of LLMs may provide immediate feedback on the clarity, relevance, and originality of RQs proposed by students, helping them improve the quality of their question formulation.

Meanwhile, the thriving of generative AI technologies has also been widely used in various fields to promote creativity (Liu, Yu, et al., 2023). By automating certain aspects of the RQ co-creation formulation process, such as literature review and data analysis, LLMs may decrease student frustration, improve productivity, and enhance the learning process.

Design and Timeline

This study will be conducted in two phases using a mixed-method approach to address the two research questions. In Phase 1, we will conduct a literature review to identify existing strategies for using an AI tool to generate research questions. We will then evaluate and customize these strategies based on the needs of doctoral students. A focus group consisting of dissertation chairs and doctoral students from three disciplines (education, business, and healthcare) will be formed to pilot the strategies.

In Phase 2, we will secure COR and IRB (Institutional Review Board) approval and evaluate the impact of the Gemini LLM on the ability of students to create robust and relevant research questions. We will use both quantitative factors (such as time to completion) and qualitative data obtained via a survey to examine the student's experience with the AI tool. The study will involve students who use the LLM and those who do not, and we will use an ANOVA approach to identify any notable differences in the results from the experience survey and performance metrics. Chairs and URMs with current DOC/715 (Chapter 1 – Precis) classes will be recruited. Four students in each class will be identified 16 students. Two of the four students will represent the control group and proceed through the RQ co-creation process as was documented in the initial phase. Two of the four students will represent the experimental group and proceed through the RQ co-creation process with the addition of the Gemini LLM. Perceptual survey data will be collected from all students and committee members prior to, during, and after the co-creation process.

The first phase is expected to last approximately 30 days. The second phase will last approximately 45 days and extend through the third week of the DOC/715 class. The data collection and analysis are expected to last approximately 90 days.

Summary and Conclusion

Crafting robust research questions (RQs) is a crucial aspect of doctoral dissertation projects. Novice researchers often face challenges in RQ formulation, leading to frustration and potential delays in their research progress. Artificial Intelligence (AI) tools, particularly Large Language Models (LLMs), show promise in aiding RQ generation. This study at the University of Phoenix aims to explore the impact of Gemini LLM on RQ creation, potentially enhancing creativity and productivity for doctoral students. Through a structured approach, this research seeks to evaluate this opportunity and pave the way to improving RQ quality and streamlining the co-creation process, benefiting students and instructors alike.

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Navigating Leadership and Learning in the AI Era

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Image created collaboratively between Stable Diffusion AI and Dr. Facemire.

Introduction

Welcome to the world of *"Artificial Influence."* While the term AI is the acronym for Artificial Intelligence, shall we boldly step forward, step in, and embrace AI as the artificial influence on life in the 21st century? The question and the tasks are: How do we navigate leadership and learning influenced by innovative technologies for business and new pedagogies for education and training? This discourse offers four recommendations for navigating leadership and learning in the AI Era; specifically, (1) Stop Running from AI; (2) Embrace Change Now; (3) Invest in Learning and AI Literacy, and (4) Foster a Culture of Innovation and Collaborate with AI.

Stop Running from AI

We are experiencing the next evolution of human life, similar to the industrial revolutions of the past that changed societal paradigms for work and life (Baker et al., 2023). Driven by the Internet of Things (IoT), access to generative AI applications has shifted the realities of how everything can occur - inspiring new speculations about the potential to integrate AI into every aspect of life (Baker et al., 2023). Influenced by the potential for augmented realities, leaders (across all industries) seek to integrate modern technologies, new ways of learning, and new paradigms for everything to

navigate their rapidly changing landscapes (Das & Madhusudan, 2024). The navigational challenges that require a mindset and willingness to step in are the art and science of plotting the course, managing the tide, and directing activities of artificially influenced human life.

Embrace Change Now

Embracing change requires institutions to move from thinking about how AI impacts learning to inserting AI Education (AIEd) into the learning practice (Holmes et al., 2019). Pundits of the 4th Industrial Revolution (4IR) advocate that urgency is needed to ensure student readiness for 4IR technologies (Alshammari, 2024), and research is critical to understand the factors that influence readiness for modern technologies. The ultimate goal is to prepare students to move from educational places to workplaces due to the rapidity of 4IR life in today's society (Alshammari, 2024). Holmes et al. (2019) encouraged exploring pedagogical practices for integrating AIEd into the learning practice. Here is one educator's experience with integrating AIEd into the learning practice.

> During a recent entry-level course, I decided that communicating to students about effectively using and citing AI sources would only be helpful if I could show them. So, I decided to

generate AI responses to discussion posts. The weekly discussion and activities evolved around information literacy. Specifically, it confirms the reliability of sources for academic writing.

I used Google Gemini as my AI platform. My first task was to post an announcement about university policies for using and citing an AI-generated source. In my discussion responses, I shared the AI prompt and a response generated by Google Gemini- citing Gemini AI as my source in the text.

Then, I further showed the students how and why validating the AI-generated information was critical for academic writing. I evaluated the AI-generated response by comparing it, line by line, to the course textbook information.

This demonstration showed students how to use and evaluate AI information for course assignments and cite and reference AI-generated text. I repeated this process across several discussions and replies to reinforce the learning practice. Feedback from students was positive.

This educator's narrative was just one example of how to tell and show students. There are many other experiences and studies to be shared. Das and Madhusudan (2023) surveyed 162 higher education students from bachelor to Ph.D. across several learning institutions—data collected in April and June 2023. Surveys uncovered positive responses concerning the use of ChatGPT for academic studies, and there was no significant cultural, gender, or academic programming connection. Researchers concluded that institutional guidelines to address assessment and plagiarism and curriculum activities to encourage critical thinking and ethical discussion on AI issues are the path forward for AI and higher education.

Moreover, Sutton (2024) surveyed two hundred students to determine their comfort with ChatGPT. Eighty-eight percent of respondents confirmed using ChatGPT for concepts theories, paper outlines, and research. As a professor of management and labor relations, Sutton encourages students to use ChatGPT to generate scenarios for long-term assignments, such as employee training and case studies.

Holmes and Porayska-Pomsta (2022) advised addressing the ethical issues concerning AI for academics. By now, most institutions of learning have published their policies and positions on AI-generated text; however, as with all new learning, the application

and awareness of the policy becomes the responsibility of the educators directly engaging with students.

Invest in Learning and AI Literacy

Proponents of Industry 4.0 propose that four foundational types of disruptive technologies will impact the value chain for work and life. Artificial Intelligence is one of the four, and AI technologies are emerging faster than institutions can formulate transparent practices and policies (McKinsey & Company, 2022).

AI "prompt engineering" has evolved as a new job function and a training focus in the consultant industry. Consultants seeking to expand digital literacy are investing in learning to stay ahead of the curve and stay current on the latest AI possibilities. A "Prompt Engineer" was not a commonly known job title prior to the November 2022 launch of ChatGPT; however, the skill set is rapidly becoming a critical consultant training and service focus. Here is one consultant's commentary.

Since the Fall of 2022, I have completely revised my consultant and training business. My clients ask me to develop marketing content using AI prompts or train their marketing staff on prompt engineering. Every entrepreneur and consultant network and every organizational conference I have attended in the past two years has had someone present and training on how to provide AI prompt services to clients. Skilled prompt engineers are word experts tasked with designing input to optimize AI outputs.

Prompt engineering is the rapidly expanding, new niche for entrepreneurial services, which includes writing marketing materials, crafting emails, designing chatbots, and more. The more skilled a consultant can become with words, the more successful they become.

AI Prompt Groups for graphics designers are the most prolific and rapidly expanding entrepreneurial enterprises. Social media is exploding with prompt contests for digital arts and prompt training to help prompt engineers learn how details matter when prompt engineering The explosion of prompt engineering for AI digital art has expanded my business offering and the competition for my business services.

AI is a game changer for entrepreneurial consultants, trainers, and advisors.

> The top performers understand the limitations of the tool. Just like you do not use a hammer to turn a screw, you do not ask gen AI questions that are best answered in other ways. It is about avoiding garbage in and garbage out. This is where prompt engineering comes in. (Brown, 2024)

Navigating this AI era requires an advanced understanding of AI technology to provide client services.

Foster a Culture of Innovation and Collaborate with AI

Leadership is a practice that requires continuous development to keep pace with the demands of business and leadership. Leaders tasked with navigating the AI era can foster a culture of thoughtful innovation within their organizations (Chun et al., 2022). The potential for generative AI is still in its infancy for general business needs. Based on research from Chun et al (2022), here is a summary of the general business potential for AI.

- Marketing/Sales: marketing copy, user guides, customer feedback, and more.
- Operations: customer support chatbots, production errors, and more.
- IT/engineering: write code, generate data tables, machine learning, and more.
- Risk/legal: Review legal documents, summarize large documents, and more.
- Human Resources: Create interview questions, self-serve HR functions, and more.
- Employee Optimization: Automate emails, business presentations, and more.
- And more....

By collaborating with AI systems, leaders can leverage the power of technology to drive innovation and efficiency within their organizations. Rather than seeing AI as a threat to their leadership, leaders with innovation cultures willing to embrace AI to enhance decision-making and problem-solving capabilities are beginning to outpace competitors, as reported in a 2023 McKinsey & Company Global Survey on digital strategy.

Considering that this technology is still in its infancy for general business use, there are critical considerations for leaders when it comes to leadership in the AI era, as advised in this quote:

> As you experiment with these technologies, you must establish regulatory and data security boundaries. Then, figure out where gen AI could drive your organization's most significant strategic advantage by enabling you to accelerate or be more granular and start testing (Brown, 2024).

The goal is to drive creativity that leads to new opportunities for growth and success. This will require research to understand opportunities and limitations for AI in the workplace and school. Two examples of recent research focused on business are from Jia et al (2024) and Qin et al (2023).

Jia et al. (2024) conducted a qualitative field experiment to determine the effect of AI-augmented work on human work. They found that AI-augmented support enhanced higher-skilled employees' creativity when routine job tasks, such as call center work, could be performed using AI. This freed the employee to provide increased productivity for sales tasks. Another significant finding noted by the researchers was that lower-skilled employees were less productive and more threatened by the potential for AI-augmented work. Moreover, Qin et al. (2023) conducted a field experiment to examine the perceived fairness of human managers compared with artificial intelligence in employee performance evaluation at a call center collections office. The experiment required employee managers to evaluate call quality and an AI-generated evaluation system to evaluate call quality. That study found that employees perceived the AI evaluations to be less subjective than the human evaluations. Another key finding is that when employees were aware of the AI evaluations, their call quality and collections increased.

The opportunities for research and evaluation of AI in the workplaces and the school places of societies are boundless. Considering that ChatGPT launched over a million users in the first week it went public is evidence of human interest (Haque et al., 2022). The potential is how society navigates, studies, applies, and uses artificial intelligence or influence. Navigating leadership and learning in the AI era is to boldly step forward and embrace the possibilities.

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Image created collaboratively between Stable Diffusion AI and Dr. Facemire.

ChatGPT Implementation in Higher Education: Advantages and Disadvantages

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Abstract

The recent implementation of ChatGPT, a Generative AI (Artificial Intelligence) tool, has roused interest across the world due to its vast capabilities to create an awe-inspiring spectrum of results based on simple searches. This article examines the implications (advantages and disadvantages) of using ChatGPT in higher education through a review of the literature. This literature review is part of a larger study conducted in 2023 that focused on how ChatGPT can impact teaching, learning, assessment, and

institutional policies within the framework of Rogers' Theory of Diffusion of Innovation. Lessons learned from the synthesis of literature will be presented. The review of literature indicates that there is a strong emphasis on the advantages of utilizing ChatGPT, although there is an acknowledgement of the disadvantages it presents for educators and educational systems.

Introduction

In 2022, ChatGPT emerged as a groundbreaking advancement in Generative AI research, now accessible to the public. Higher education institutions are eager to explore its potential impact on online learning for students and instructors alike. An opportunity exists to explore the functionality of ChatGPT and find working solutions to avoid misuse. Moreover, this technology shows promise as a tool that can enhance student learning at all levels and across multiple disciplines. ChatGPT, despite generating debate, represents a significant breakthrough in AI that warrants further examination to guide educational institutions on how to effectively adopt the technology for future applications.

Problem Statement

The general problem is the unexplored educational implications and strategies of using ChatGPT in higher education institutions, resulting in limited guidance to effective use and outcomes, insufficient identification of useful strategies to support learners and educators and uneducated responses to how the tool can be an effective resource. This research of ChatGPT in online graduate and undergraduate courses explores implications, advantages and disadvantages of using this technology. The specific problem is the potential unexplored educational implications of using ChatGPT in both undergraduate and graduate level courses for online learning. At the time of this research, this lack of investigation resulted in limited guidance to effective use and outcomes, insufficient identification of useful strategies to support learners and educators and uneducated responses to how the tool can be an effective resource. To determine a baseline for faculty perceptions of using AI; specifically, ChatGPT, to support student educational outcomes, researchers conducted a review of literature.

Research Question

This article focused on the implications of using ChatGPT is centered on a thorough review of existing literature aimed at addressing research question 1: *What are the educational ramifications of incorporating ChatGPT into courses at an online institution of higher education?* The focus of this review was to ascertain the prevailing discourse surrounding the advantages and obstacles associated with the utilization of ChatGPT by faculty members to support student learning.

Implications for Using ChatGPT in Courses at Online Higher Education Institutions

As ChatGPT continues to be adopted rapidly, literature is emerging to address how this technology will impact online higher education institutions (Table 1).

Disadvantages

Higher education institutions have student codes of conduct to forbid cheating, require students to complete their own work, and address plagiarism (Anders, 2023). With ChatGPT, students can complete schoolwork in a manner that brings ethical and policy concerns. Currently, there is a lack of programs that can accurately discern between AI developed projects and those developed by a person (Eke, 2023). While Turnitin™ has announced a new tool that can detect AI generated content in student writing, experts claim that the speed in which AI technology is evolving may render detection solutions obsolete (Knox, 2023).

Appleby (2023) reported that rather than addressing AI tools such as ChatGPT within university policy, higher education institutions are deferring to individual instructors to set standards within their classrooms. Institutional policies certainly could address requiring that students must credit the use of AI in the same way they cite human authors (Eke, 2023). Although researchers found higher education institutions that have chosen to ban AI within their policies, it may be futile considering that systems such as Microsoft Word™ is integrating AI into their software.

Regardless of how institutions choose to address ChatGPT, teachers need to consider adjusting their assessments of written assignments (Anders, 2023).

Suggestions include having students integrate individual experiences or perspectives into their written products. Kebritchi, Lipschuetz, and Santiague (2016) stated that because instructors must be comfortable with technology used in the online classroom, they may require additional training. The implication is that institutions may need to create specific training to address ChatGPT tips and techniques for faculty.

Advantages

Once teachers are comfortable with ChatGPT it can have positive implications for learning. Teachers can guide students to use the software for personalizing the learning experience (Firat, 2023). Instructors can develop collaborative online learning with ChatGPT analysis of individual student behavior to group students so that they form more cohesive teams (Nalli et al., 2022). ChatGPT has the potential to aid teachers as they develop new methods to assess learning. They can tailor learning experiences for individual students and use ChatGPT to help with routine teaching tasks. Mucharraz et. al. (2023) explained that ChatGPT can improve online engagement by adding a level of excitement and customized feedback that helps students stay on track.

Some benefits could be personal tutoring, instant feedback to questions asked, supporting student engagement, and preparing students to use technology in their careers. Challenges could include ineffective use of this technology resulting in loss of student learning. According to Icard (2014), best practices or established by identifying the differences in student learning and development. ChatGPT technology can enhance student learning, improve educational outcomes, and inform best practices for using technology in education.

Artificial Intelligence Integration into Higher Education

Brereton (2019) discussed that institutions have already integrated Chatbots into student services roles. The technology is communicating with potential students and even assessing application documents (Newton, 2021). ChatGPT activities are prompting students to complete a variety of tasks that enhance learning by providing students the ability to assess assorted options and compare their own products to ChatGPT proposed solutions. Just as ChatGPT and other AI programs can assist in learning activities,

ChatGPT also has utility for educators to develop lesson plans (Heaven, 2022). One of the bigger advantages is reducing instructor workload and eliminating simple instructor mistakes (Thongprasit & Wannapiroon. 2022). Mucharraz, Venuti and Martinez (2023) agreed that ChatGPT has value assisting educators through time saving grading support. By automating routine tasks such as grading quizzes, it gives the instructor more time to work with students.

Feedback from AI software such as ChatGPT identifies specific areas where students encounter difficulties and can provide additional resources for improvement (Fourtané, 2023). The Southern New Hampshire University is demonstrating these uses by integrating AI to grade student papers (Newton, 2021). ChatGPT has also proved capable of assisting instructors to develop lesson plans that align with specific learning objectives (Chowdhury & Wamba, 2023). Yet, Rangel-de Lazaro et al. (2023) warned that AI generated instructional products do not replace the role of instructors. These AI tools such as ChatGPT should be employed to complement the instructor's expertise.

How Faculty Integrates ChatGPT into Their Teaching Practices

A review of the literature reveals two extremes with the integration of ChatGPT, and a little middle ground. At one end of the spectrum is a school of thought that considers the use of ChatGPT plagiarism, or at least cheating. Some educators acknowledge that the products may not fit the definition of plagiarism because it is not copying another human. Yet it fits the definition of cheating if students do not cite ChatGPT as the source of information (McCray, 2023). Researchers, like Tuomi (2022), have even advocated for a pause on using AI until the repercussions become better understood. The other end of this spectrum contains instructors that view ChatGPT like the introduction of calculators into math classes in the mid-20th Century. It is a welcome addition to college learning with value as a tool to teach fact-checking and critical thought (Eaton, 2023).

Yet, a middle path is emerging as professors realize that students must become familiar with products such as ChatGPT in college. This is because teachers must prepare students with the skills to succeed in their careers, and the workplace is rapidly adopting AI software such as ChatGPT (McCray, 2023). Further, while institutions are debating the issue, both students and teachers have already integrated ChatGPT into

the classroom. Jimenez (2023) reports that an Impact Research study revealed at least 22% of students and 40% of teachers are currently using ChatGPT each week. This implies that instructors have a responsibility to help students gain knowledge by integrating the technology (Liu, 2019).

Teachers can guide students in the use of AI and thus lead them to increased comprehension (Ziheng, et.al., 2022). Students should have access to this recent technology in the classroom and contribute to its evolution (Zhang, Zhu, & Su, 2023). Students who prefer individual exploration of concepts will benefit from integrating AI products such as ChatGPT in the classroom.

Strategies Faculty Use to Mitigate any Challenges Associated with ChatGPT

Miao and Holmes (2021) wrote that educational institutions were at the preliminary stages of policy development and encouraged continued efforts. Yet in 2023, policy challenges still exist with AI and ChatGPT. The challenges range from improper adoption to apprehension of misuse or under-use of this powerful new tool. Strategies associated with mitigation lean toward more acceptance of artificial intelligence (AI) in higher education.

Teaching styles must shift to reinforce student understanding that using the tool for cheating devalues the educational experience (Taneja, 2023). Thaker (2023) assessed ChatGPT and believes that it does not present a huge threat if an educator decides to support use of it by students. Mucharraz, Venuti and Martinez (2023) wrote that adoption of the tool could encourage improvements in writing and help to motivate students who normally struggle with academic communications.

Implemented techniques by educators include focusing on familiarity with student writing styles. Students can submit a handwritten essay at the beginning of class as a benchmark for teachers to use as a baseline when evaluating essays during the semester. Instructors are also developing more nuanced topics and using tools to detect AI (McCray, 2023). To address plagiarism concerns, Ed (2023) assured readers that developers are quickly updating tools like Turnitin to ensure they can identify misuse of ChatGPT.

Mollick and Mollick (2023) see the benefits shared through research and argued that focusing on

strategies that lead to benefit are more productive to higher education than looking for ways that AI tools are hurtful. They further posit that building policies to support the use of AI tools will be more advantageous for learners and educators when done at the classroom level. Students may be unsure how to use ChatGPT, or whether instructors allow use of the software.

Govindasamy and Chan (2022) provided an opinion that adapting policy to deal with the challenges of AI is the best option. Artificial Intelligence is continuing to grow as part of higher education. The logical course of action is to embrace tools such as ChatGPT. This supports higher learning and prepares students for a future that involves routine AI interactions.

Limitations

In little more than a year, at the onset of our research, ChatGPT is now in its fourth version. The implication that time is a limitation from research to publication much can quickly change. A small sample size and singular focus on the use of ChatGPT in a higher educational environment.

Significance

This study's significance is its potential to inform faculty and educational technology developers about the implications of ChatGPT in teaching and identify areas where improvements are needed. The findings of this study can be used to develop best practices for using ChatGPT in teaching and to inform the development of new educational technologies.

Conclusion

The findings gained from this research and study are that ChatGPT is here to stay and circumventing non-use by faculty and students would be impossible. The questions that need to be considered are how can we move forward with an institutional policy that is clear, suitable for advances that occur with AI development and use, and incorporate the use of ChatGPT for teaching, creating, and learning? ChatGPT could encourage improvements in writing and motivate students who struggle with academic communication. Teaching styles must shift to reinforce student understanding that using the tool for cheating devalues the educational experience,

ChatGPT should be employed to complement not replace, the instructor's expertise. Continual research regarding educational use, future institutional policies, and the potential application of generative artificial intelligence and pilot testing are encouraged.

Author Bios

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Mansureh Kebritchi, Ph.D., is an accomplished educational researcher with over 4,470 peer-reviewed citations. She is an expert in instructional design, project management, and dissertation/research mentoring. Dr. Kebritchi is the founder and chair of the Center for Educational and Instructional Technology Research at the College of Doctoral Studies, University of Phoenix

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Dr. Arnetra Arrington is a Global citizen, responsible for founding The Arrington Method, a creative project management consulting firm that focuses on designing resources that cater to innovative thinkers. She has been in the project management industry for over 20 years and has a deep passion for project management, process improvement, and developing engaging courses for online learners. She holds a PMP and Scrum Master certification, as well as a Master Black Belt in Six Sigma with a Master's and Doctorate concentrating on Project Management specifically. Dr. Arrington has been a member of the University of Phoenix Faculty since 2010 instructing project management and core business courses.

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Sonja Lamppa, MAS, is an experienced educator, who has taught at the elementary, middle, high school, and adult education levels. She has been teaching teacher education classes at the University of Phoenix for over 20 years. Sonja was trained by the Phoenix Alliance literacy leadership program and led workshops for teachers on literacy instruction that targeted reading and writing in all discipline areas. Sonja earned a BAS in Family and Consumer Science at the University of Minnesota Duluth and a MAS in Special Education at the University of Wisconsin Superior.

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Richard Schultz, who serves as the Program Chair of the College of Health Professions at the University of Phoenix, has earned a PhD from Walden University. Dr. Schultz married Cheryl DE Fusco Schultz and has two adult children. He received his doctorate in Public Health, focusing on epidemiology in 2015. He is the published author of Predictors of Physician Use of the new NIA Alzheimer's Assessment Protocols, a quantitative study approach examining sole source data collected through his survey instrument. Dr. Shultz is the University of Phoenix Program Chair for the College of Health Professions and held the position for 9+ years. He has been recognized as a Phoenix 500 for his classroom management for three consecutive years.

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Susan Ferebee earned her Ph.D. in Information Systems at Nova Southeastern University. She also has an executive JD from Concord Law School (Purdue University Global) and a master's in educational psychology from Purdue University Global. Dr. Ferebee serves as a chair for doctoral students in business and information technology at University of Phoenix and has taught for University of Phoenix since 2001. Susan has over 25 years of industry experience working for America Online (AOL), Intuit, and Lucent Technologies. She has also served as a consultant, for more than 25 years. She has presented at international conferences and published in academic journals.

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Image created collaboratively between Stable Diffusion AI and Dr. Facemire.

The Current Landscape of Artificial Intelligence in Project Work

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Introduction

Project work is part of every industry, every product, and every creation which is why understanding how to improve project work is vital to organizations. Projects are collaborative as teams work towards shared goals and deliver outcomes within a specific timeframe and budget. Since project work has become increasingly complicated, artificial intelligence (AI) tools could be used to increase the efficiency and cost-effectiveness of projects. Though many applications are not available yet, AI stands ready to disrupt the way project work is currently being done by reducing waste, increasing efficiency, and increasing project success rates. Within project work, there are numerous opportunities to integrate AI to optimize tasks, support effective decision-making, and enhance project outcomes. Potential concerns about AI adoption include ethical considerations, possible job change or displacement, and the need for constant human oversight of AI work.

In their annual Pulse of the Profession report, the Project Management Institute (2024, p.12) reported current project success rates at 73.8%. The Standish Group's Chaos report (2020) indicated a high partial or total failure rate for projects in the information technology industry at 66%. Both metrics indicate significant project challenges resulting in canceled projects, threats to organizational success, and outright project failure. Many believe that the addition of AI tools and technologies to project work can provide improvement in project success rates. As AI makes faster and more accurate predictions based on data than a human can, these tools can support decision-making, predict trends, and provide machine precision to the economics of project work (Agrawal et

al., 2022). Despite these goals, current applications of AI in project work are limited.

Project Work Meets AI Support

Several different types of AI technologies, categorized by goals, are being used to support project work. Most current applications of AI are known as artificial narrow intelligence or weak AI which performs specific tasks such as image recognition, data reporting, or playing games like chess. These are discernable from artificial general intelligence or strong AI which is predicted to have human-level intelligence and abilities. Even more theoretical, artificial super intelligence is thought to be more capable than a human brain. Machine learning is a subset of AI based on mathematical equations that learn from available data allowing the system to make improvements as it is exposed to additional training data. Machine learning tools do not need to be programmed but require vast qualities of data which must be formatted and cleaned to ensure completeness.

Natural language processing (NLP) uses machine learning to process, structure, and interpret text which can be used for classification, uncovering trends, analyzing documents, and understanding user insights. NLP allows project managers and teams to ask questions and request project information. As NLP and AI can process written and spoken language to understand grammar, meaning, and context, NLP is being used in project work with apps such as ChatGPT, Google's Gemini, and Julius AI to create data visualizations for reporting, project planning documents, and forecasts of project task schedules (Yang, 2019). AI tools with NLP also support decision-making for project risk management and the coordination of project work. Other current uses of AI include chatbots to support group communication for project teams and AI scheduling to find meeting opportunities within team calendars while considering time zone differences and alternate options (Yang, 2019).

AI Reseach in Projects

Though AI has a lot of future promise and those in the field are excited to get on board with new possibilities for this technology, current uses for AI tools in project work are still notably limited. As many articles on AI in project work have been rejected by the Project Management Journal for being unscientific or unstructured (Muller et al., 2024), it is vital to ground our understanding of AI capabilities in current offerings and evidence-based research. To assess AI in project work, a structured approach was used to formulate the problem, collect data, evaluate data appropriateness, analyze and interpret results, and organize the final results (Cooper, 1988).

The results supported current uses for AI in project work suggesting that AI tools need to be evaluated for the specific needs of the organization. Organizations need to carefully select AI tools based on their project pain points and how the tool will support their needs by including a high-value return compared to AI tool costs, a holistic approach to project work, and usability through data access (Boudreau, 2019). Selected options must be tested with pilot projects and data to test effectiveness and to ensure that project managers and teams can manage project data and interpret AI results. Selected AI tools need to be an appropriate fit for the organization to solve current issues. Organizations should consider their business needs when selecting AI project management tools that understand system requirements and offer solutions for how project processes should be changed and improved.

The Project Management Institute offers its members an AI project management tool called PMI Infinity to answer informational, explanatory, or opinion-based questions about project management. This tool supports project workers with their project management needs, but the terms of use also remind the user of the limitations of AI as there is no guarantee of the accuracy of the generated content and that all user feedback provided to the tool will be stored and owned by PMI. This reminds project professionals that any data they share with the AI tool is no longer their intellectual property which can be of concern when AI tools are used with organizational data and confidential project information. Project workers must consider what data they can share with third-party AI tools that may be using shared data as a learning tool.

Benefits of AI for Project Work

One of the main benefits of using AI tools in project work is faster and more efficient work. Projects that

are more easily planned, executed, and closed with AI support could reduce project time, increase cost savings, and result in increased revenue for the organization. A survey by Deloitte showed that 11% of organizations reported that their return on investment in AI tools was over 40% and another 12% reported a return on investment of 30% or more (Loucks et al., 2019). Organizations that utilize AI within their project work may see significant benefits, whereas others might be left with minimal gains.

It is expected that AI benefits will include increased efficiency and productivity for projects. AI tools will support decision-making efforts by providing trends and patterns missed by human analysis. Project managers and stakeholders can use this data to make informed decisions to allocate resources where they are most needed, provide clear project budgets, and mitigate risks. AI can also increase communication and support collaborative efforts. Research into current applications of AI in project work showed that these technologies supported administrative tasks such as planning and scheduling meetings, sharing reminders, and providing daily progress updates as well as more complicated tasks like data-based decision-making and risk assessment (Noteboom et al., 2021). This approach shows that AI can support specific tasks within project work, but it is not yet being applied broadly to whole projects.

Challenges of AI Implementation

A recent study by Barcaui and Monat (2023) compared project plans created by human project managers with those created by generative AI tools. Though AI was able to develop project documents that were clear and concise, the human-generated documentation included additional information based on contextual awareness of the project. Human project managers created project documents with additional depth and uniqueness than the documents developed by AI. Project managers must understand and collaborate with AI tools to implement meaningful changes. This will require a clear purpose, documented processes, and a large amount of clean historical project data. As processes will need to be updated to accommodate AI tools, the project manager will be at the forefront of change management to communicate new methods, train others on new tools, and redesign processes.

Current applications of AI in project work are limited

due to several factors. AI technology is cutting-edge and prone to failures and misinformation that can pose difficulties for real-world projects. In generative AI, hallucinations are patterns or objects uncovered by the AI that are nonexistent within the data. As these hallucinations create inaccurate outputs, human oversight is needed to remove mistakes and misinformation in AI-supported work through validation and evaluation (Giray, 2023). To optimize projects, AI tools will need to automate repetitive tasks, provide data-driven insights, and support the various stages of project work. Some of these capabilities are currently available in limited forms, but the possibilities of AI transformation in project work are largely future-oriented. Though AI algorithms can analyze historical data to create project schedules, allocate resources, identify risks, and offer mitigation strategies, few organizations have the amount of historical data needed to train the AI tools. Other current limitations include the cost of AI implementation which can be a barrier to smaller organizations, the maintenance and skill training required to implement and support AI technologies, and a lack of top-down support to purchase, integrate, and maintain AI use in project work (Shang et al., 2023).

Conclusion

The future of AI tools and their ability to support project work is evolving. Potential future applications could branch into more complex tasks than current offerings as self-learning AI systems are developed. Ongoing research, development, and field testing will be needed to support the responsible implementation of this developing field. As the applications for and research in AI continue to grow, project managers and project teams will need to know how to practically use AI tools in their work. Boudreau (2019, p. 148) puts it plainly by stating, "you don't have to be able to write algorithms, but you should know that data is important and which datasets are being fed into the tools." Though they won't need to become programmers, project professionals will need to enhance their technical skills to support the new ways of working utilizing AI tools.

Author Bio

Dr. Melissa Shank earned her Ed.D. in 2020 and her

MBA in 2023. She is working as a project and program manager in Silicon Valley in the tech industry. Dr. Shank has earned several industry credentials including Project Management Professional (PMP) and Disciplined Agile Scrum Master (DASM) through PMI and Certified Artificial Intelligence (AI) Visualization Beginner and Six Sigma Yellow Belt from AIGPE. Her current research topics include leadership, project management, education, classroom management, and artificial intelligence applications in business settings.

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Faculty AI Use Cases

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Image created collaboratively between Stable Diffusion AI and Dr. Facemire.

Faculty Use of AI Tools in the Classroom

Faculty should be using AI tools in the classroom to gain familiarity and skills with AI. There are several ways faculty can deliver value-add to the classroom using Artificial Intelligence tools. Here are four use cases; specifically, (1) Coaching feedback, (2) Supplemental success stories, (3) Giving substantive feedback, and (4) Problem Based Learning Templates.

Faculty Can Use AI Tools to Provide Coaching Feedback

Faculty may teach courses multiple times and in the process of offering feedback to students on how to improve their analysis faculty may develop some "boilerplate" generic messaging. It is possible to upload these files with the faculty member's own words into ChatGPT and then upload a student's paragraph and have the AI tool process the faculty member's own words to construct appropriate feedback for the student with an encouraging tone.

Faculty Can Use AI Tools to Package Success Stories and Blend with Current Events

To provide enriched announcements or discussion posts faculty can also upload previous students' success stories or success stories from the faculty member's own career experience. Then faculty can ask ChatGPT to relate the uploaded success stories to current events in the business world as an example of what to do to be successful in the business world. On the flip side the enriched announcements can be war stories or object lessons of what not to do in business. These kinds of examples stimulate class discussions and help the class bridge the gap between theory and practice in the real world.

Giving Substantive Feedback

Substantive feedback related to the students' submissions is needed and appreciated. To accomplish giving substantive feedback on an industry or market with which we may not be familiar, the faculty must expand their own base of knowledge on the various topics the student is writing about. The faculty could quickly ask a critical thinking question and get an answer that becomes a perfectly fitting piece of the critical thinking puzzle that the student is trying to develop. They can easily incorporate AI responses to specific questions into their feedback. They do not reduce points on students' work if they have done adequate conventional research and used their own words to express a point of view. The goal is to have students read and apply the feedback for future assignments. To encourage students to read the

feedback and think about how to get better they can offer dedicated one-on-one time to discuss it during office hours.

Problem Based Learning Templates

To know what questions to ask ChatGPT the researcher needs to have some idea of what is going on, what cause-effect relationships exist that may be relevant to understanding the problem. Use different templates appropriate for each industry or business functional area. I use several critical thinking processes to coach students before they do an assignment and to offer feedback to students once they have uploaded an initial submission. One is a question-answer problem solving process with four distinct categories of question asking: Situation Appraisal, Problem Analysis, Decision Making, and Potential Problem Analysis (Kepner & Tregoe, 2023). Another critical thinking template is the Business Model Generation Canvas popular with Silicon Valley startups (Strategyzer, n.d.). Another is a SWOT or other worksheet available from companies like Lucidspark (n.d.). Each process has a set of questions asked and answers given to assemble the analysis. These process questions are always relevant from a cause-effect standpoint and can apply to any kind of business content. So regardless of the student's topic Faculty can always have an idea for what questions to ask the AI tool that enables the facilitator to coach the student to do "next level chess" analysis.

Summary

The University of Phoenix provides access to higher education opportunities and maintaining academic rigor is a high priority. The best way to prevent improper use of the AI tools is for faculty to showcase proper use, to demonstrate how using the tools makes the user smarter, helps the user develop knowledge with insight so that they can talk with others and brainstorm. Use of AI enhanced critical thinking helps users develop skills that produce valuable job results and make contributions to the community. This period of AI innovation is an opportunity for faculty to quickly "hyperlearn" new skills and become better at what they do in their careers so they can pass on their students the understanding of what it means to be a "continuous learner" professional. Proper use of AI tools will help students and faculty get better and become more.

Author Bio

Chosen T. Cheng, BSEE, MSEE, MBA is a retired Silicon Valley marketing and corporate training executive and
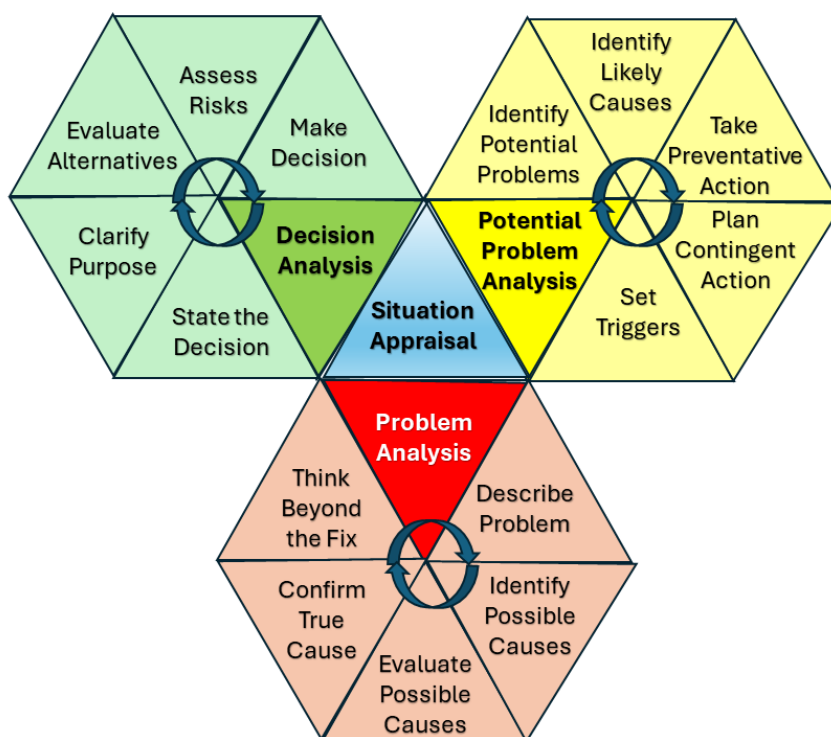
small tech business consultant. Cheng consults with small businesses during the day and teaches at the University of Phoenix at night since early retirement from the high technology corporate world. He teaches because interacting with adult college students in an online modality is stimulating and keeps him sharp since it requires working with the latest multimedia and AI technologies. He values his association with the university since he is called to support ambitious working adults aiming to get ahead in their careers, many of whom are veterans and many of whom are the first member of their family to go to college. The university informs him that he has taught over 4500 students over the years and he is proud of that accomplishment.

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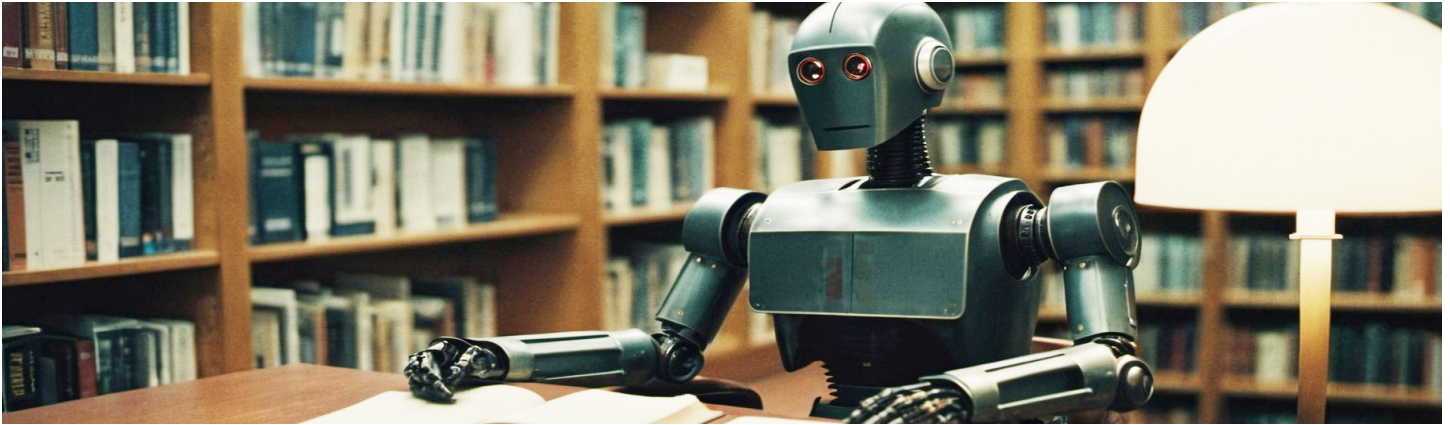
Image created collaboratively between Stable Diffusion AI and Dr. Facemire.

Ethical Considerations in the Integration of Artificial Intelligence in Doctoral Dissertation Research

Janice Terrell, Ed.D., M.Ed.
Staff Faculty
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Abstract

Artificial Intelligence (AI) has become a controversial force in academic research, offering innovative tools for doctoral students to enhance the depth and efficiency of their dissertation research. However, the ethical implications of students using AI as a tool are essential considerations. This paper presents how AI may ethically be integrated into doctoral dissertation research and how doctoral faculty and students may benefit from using AI as a tool within established ethical guidelines.

Introduction

Artificial intelligence (AI) is rapidly transforming every aspect of academic research (Nguyen et al., 2022), providing unprecedented opportunities for academic researchers and doctoral students. AI can support researchers' understanding of phenomena, pique their interests and inquiry into problems, provide recommendations for viable solutions, and assist in identifying research-relevant publications (Da'u & Salim, 2020). As AI technologies become more integrated into research, addressing the ethical considerations surrounding their application becomes more imperative (Borenstein & Howard, 2021). This paper introduces a few of the potential ethical uses of AI in the context of doctoral dissertation research and how faculty and students may ethically benefit from that use.

Ethical Foundations of AI Use

Establishing a foundation of ethical principles and guidelines is critical to the ethical use of AI in dissertation research. Many issues have emerged regarding inaccuracies, privacy, and bias in AI data collection and processing (Holmes et al., 2021) and about risks related to transparency, accountability, fairness, and consent (Sacharidis et al., 2020). Sullivan et al. (2023) discovered that AI chatbots such as ChatGPT have increased academic integrity concerns and, concurrently, the potential for learning in higher

education. Halaweh (2023) and Crawford et al. (2023) emphasized the need for responsible implementation and leadership to ensure the ethical use of AI.

Expectations for ethical and responsible student conduct must be articulated and communicated to guide the integration of AI in doctoral studies, in addition to being supported and monitored by doctoral faculty members and institutional review boards. That responsible approach involves transparently documenting AI tools and methodologies, acknowledging limitations, communicating with participants, and disclosing AI use to evaluators. Ethical guidelines and standards, such as those provided by organizations like the American Psychological Association, can be valuable resources for developing institutional policies and promoting responsible AI use. Within those guidelines, several potential uses of AI may benefit doctoral students, including literature review and synthesis, organization and management of literature sources and data, refinement of methodology and design, data transcription and content analysis, outlining, proofreading, and editing.

Leveraging AI in Literature Review

Another area in which AI can significantly benefit doctoral students is the literature search and review process. AI-powered literature review tools can scan, analyze, and summarize extensive academic literature (Storey, 2023). An AI-assisted literature review can be completed much faster than the traditional manual process (Diggs, 2023). AI chatbots can efficiently analyze literature, suggest practical literature search strings, identify relevant sources, and summarize research articles and other relevant documents. When AI is employed to assist in the literature review process, students must clearly articulate the role of AI in their literature review in concert with established educational institutional policies, ensuring that the process is understandable, replicable, and aligned with academic integrity guidelines.

Enhancing Data Analysis with AI

AI can effectively support doctoral students in uncovering patterns, relationships, and correlations in complex datasets. Data analysis algorithms applied in AI analysis can identify insights drawn from data

that researchers conducting a manual analysis might not detect. Predictive modeling using AI can assist in testing hypotheses and making predictions based on collected data (Charushi et al., 2024). However, researchers must remain aware of fairness and potential biases that might emerge in an AI-assisted analysis. Doctoral students must thoroughly understand their datasets and continuously scrutinize algorithmic outcomes to ensure accuracy and address any detected bias.

Qualitative data transcription (e.g., interview and focus group participant responses) can easily be managed using AI to convert audio or video recordings into text. AI transcription allows researchers to concentrate more fully on analyzing and interpreting the qualitative content (Christou, 2023). Christou advised that AI tools can assist researchers in effectively organizing and managing qualitative data from field notes, documents, and other text-based data sources because many AI applications provide data storage, retrieval, and organization tools.

Enhancing Scholarly Content Analysis and Writing Skills

Content analysis of large volumes of educational texts, qualitative data, and published literature can be achieved using AI. Additionally, students and faculty may use AI to suggest improvements in organizing students' written content and writing composition and mechanics, thereby supporting students' skill development in those critical research areas. AI-based reference management tools may also assist students with organizing and formatting their citations and references. AI content analysis tools can help students discern language patterns and content themes. Additionally, AI-powered plagiarism detection tools can help ensure content originality. Although content review and editing programs like Grammarly are frequently recommended to students, AI is not typically recommended as a writing assistant (Storey, 2023). Despite the many concerns about using AI in dissertation writing, Diggs (2023) noted that AI has the "ability to streamline the research and writing process, enhance accuracy and reliability, and promote creativity and innovation" (p. 6).

Ethical considerations concerning content analysis and writing assistance include compliance with institutional and program-specific guidelines for AI

use and content disclosure. Doctoral faculty must be aware of their student's use of AI tools and ensure academic integrity. Doctoral candidates must also ensure AI-generated content is not plagiarized, cited, and referenced appropriately (Storey, 2023).

Refining Research Design and Methodology

Doctoral research design and methodology can be refined with AI assistance. A student struggling with study alignment may benefit from prompting AI to provide examples of how existing problem and purpose statements and research questions may be more strongly aligned. Additionally, AI may assist in suggesting potential interview, survey, or focus-group questions aligned with research questions. AI-powered virtual assistants and chatbots can also streamline participant communication, consent, and data collection. AI-driven simulations can provide insights into potential research outcomes, aiding faculty and student researchers in designing experiments. Researchers may also find AI helpful in mapping or illustrating conceptual or theoretical models and identifying the theories and concept models most closely related to proposed study topics.

Essential ethical considerations related to research design and methodology include ensuring informed consent, safeguarding participant privacy, and validating the reliability of AI-assisted methodologies. Institutional guidelines must support the responsible incorporation of AI into research design and methodology development.

Ethical Considerations and Approvals

Another ethical challenge associated with AI is the potential for bias in data analysis. Doctoral faculty members and students must be vigilant in identifying and addressing bias in all AI applications to ensure fair and unbiased research outcomes. Faculty and student collaboration with institutional review boards (IRBs) will ensure that AI-assisted research complies with ethical guidelines and protects research participants. Additionally, student and faculty co-investigators need clear guidance from IRBs about how to successfully navigate the ethical review process when disclosing and describing AI applications.

Conclusion

Further research is needed to understand how AI can be an effective research tool (Lund et al., 2023). Doctoral students' use of AI in developing their dissertation research presents opportunities and ethical challenges. By adhering to established ethical principles such as transparency, accountability, fairness, and responsible conduct of research, doctoral faculty can support students in reaping the benefits of AI while minimizing the potential risks.

As technology evolves, doctoral faculty and students will actively shape the ethical standards surrounding AI applications in academic research. By embracing ethical principles and using AI responsibly, researchers can contribute to knowledge generation in their respective fields while complying with ethical standards. In addition, graduating students will be well prepared to conduct further research in a world where AI will increasingly become a tool for discovering new knowledge.

Author Bio

Janice Dossey Terrell is a University of Phoenix staff faculty member in the College of Doctoral Studies and provides leadership and organizational research and development consulting services to profit and non-profit organizations. She has been employed at UOPX for 20 years during which she has instructed undergraduate and graduate content courses and served as a dissertation chair and university research methodologist. Janice's academic career has included senior administrative leadership and instructional roles in public and private colleges and universities. She holds degrees from the University of Central Florida (Ed.D.), the University of Maine (M.Ed.), and Illinois State University (B.S.).

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Knowledge Without Boundaries
RISE of the Scholar-Practitioner
2024 SUMMIT
College of Doctoral Studies

KWB Summit Oct. 17-19, 2024
Call for Proposals

The University of Phoenix is pleased to announce its upcoming virtual conference Knowledge Without Boundaries Summit with the theme "The Rise of the Scholar-Practitioner." This dynamic theme encapsulates our commitment to fostering a culture of academic excellence and practical application across all disciplines. As we embrace the spirit of "We Rise," we invite scholars, practitioners, educators, and industry professionals to join us in exploring innovative approaches, effective practices, and cutting-edge research and scholarship relevant to the academy and beyond.

In today's rapidly evolving landscape, the role of the scholar-practitioner has never been more crucial. This conference provides a platform for interdisciplinary dialogue and collaboration, bridging the gap between theory and practice. We welcome presentations that showcase:

1. Effective Practices: Share your success stories, strategies, and lessons learned in applying scholarly insights to real-world challenges. Whether in education, business, healthcare, or any other field, we invite practical demonstrations of effective practices that drive positive change and innovation.

2. Conceptual Work: Engage in theoretical discussions, conceptual frameworks, and thought-provoking analyses that advance our understanding of the scholar-practitioner model. Explore new paradigms, challenge conventional wisdom, and ignite intellectual curiosity through bold ideas and innovative concepts.

3. Completed/Ongoing Research: Present your latest research findings, ongoing projects, and empirical studies that contribute to the advancement of knowledge and practice. From quantitative analyses to

qualitative inquiries, we seek contributions that push the boundaries of scholarship and offer practical insights for application in both academia and industry.

Who is eligible to present?

Applicable to stakeholders at all levels, including faculty, administrators, students, alumni, staff, and industry partners, this summit aims to foster a collaborative spirit of inquiry and discovery. We encourage submissions from diverse perspectives and disciplines, embracing the rich tapestry of expertise within our community.

Please note, each accepted presentation can have a maximum of three (3) presenters. An individual presenter can be listed on a maximum of three (3) sessions within this event. The primary presenter will be the point of all communication related to the proposal submission. All presentations will be virtual and conducted through a Zoom platform.

The University of Phoenix does not pay for presenter(s) participation in this event and participation is completely voluntary. Please ensure that, as the primary presenter, you have communicated the requirements outlined above to all presenting participants listed on this submission.

Benefits of Participation as a Presenter

We have added digital badging as a way to recognize those who are formally accepted as presenters for the event to be shared via their own social media platforms. For active faculty, your role as a presenter counts towards your faculty scholarship requirements for teaching. CV building is an important part of a researcher's authentication in events that demonstrate their own expertise. Bringing your conference back to the classroom and the research you presented is a way for your students to see that you are staying current in your field. Deadline for Submission of Your Abstract: June 30, 2024 [11:59 MST]

What is Required to Submit

Proposals should include a title, a presentation description (250-350 words with some connection to the literature), references, and three (3) key takeaways participants will gain from your presentation.

Please submit your proposal by Sunday, June 30, 2024, at 11:59 PM (MST). Please direct submission inquiries to Dr. Kimberly Underwood at Kimberly.Underwood@phoenix.edu

To submit scan the QR code below or go to this page.

Upcoming Events and Workshops

The College of Doctoral Studies offers a variety of events and workshops for students, faculty, and alumni. Below, you will find information for upcoming events and workshops; to access the full calendar please visit the **Workshop Calendar** on the Research Hub. All events are in the Arizona time zone, which does not observe daylight savings time. Feel free to reach out to us if you have an idea for a future event or workshop.

Date	Time	Title & Presenter	Description	Details
06/25/24	4 PM (MST)	**Preparing Your Oral Defense and Presenting Your Research Findings** Dr. Nicole Baker	Join Dr. Baker to excel in the final stages of your academic journey. Learn how to effectively communicate your research, handle questions, and showcase your findings with confidence. This session is essential for doctoral candidates looking to deliver compelling and successful defense presentations.	Registration Via Eventbright
07/09/24	4 PM (MST)	**Research Alignment Essentials** Dr. Nicole Baker	This webinar provides detailed explanations and examples for successfully aligning the main research components (e.g., purpose, problem, and questions). Participants may bring their examples to discuss.	Registration Via Eventbright
07/23/24	4 PM (MST)	**Phenomenology Design Essentials** Dr. Karen Johnson	This webinar provides detailed explanations and examples for successfully developing essential components of a phenomenology study. Participants may bring their examples to discuss.	Registration Via Eventbright
08/06/24	4 PM (MST)	**Regression Design Essentials** Dr. Jim Rice	Join our doctoral webinar on Regression Design Essentials to master the fundamental techniques of regression analysis in research. Dr. Rice will discuss model selection, assumption testing, and interpretation of results to enhance the accuracy and reliability of your studies. This session is crucial for doctoral candidates aiming to apply robust statistical methods in their research projects.	Registration forthcoming, details will be on this page

Date	Time	Title & Presenter	Description	Details
08/13/24	4 PM (MST)	**CDS Alumni Webinar** Host: Dr. Louise Underdahl	UOPX Doctoral Graduate Guest Speaker - Karma L. MacDonald, DHA Dissertation Title: Education Factors Inhibiting Nurses from Providing Spiritual Care: A Qualitative Narrative Inquiry	Registration forthcoming, details will be on this page
09/10/24	4 PM (MST)	**Sample Size Essentials** Dr. Jim Rice and Dr. Stella Smith	Join our doctoral webinar on sample size determination, where we'll explore the critical role sample size plays in research validity and statistical power. Drs Rice and Smith will share various methodologies for calculating the appropriate sample size, ensuring your study's results are both reliable and significant. This session is essential for doctoral candidates aiming to design robust and impactful research projects.	Registration forthcoming, details will be on this page
09/17/24	4 PM (MST)	**Appreciative Inquiry Design Essentials** Dr. Jim Lane	Discover the transformative power of Appreciative Inquiry in our upcoming doctoral webinar, where we'll delve into this strengths-based approach to organizational change and development. Dr. Rice will discuss how to harness positivity and collaborative inquiry to drive innovation, engagement, and sustainable success. This session is perfect for doctoral candidates looking to implement effective change management strategies in their research and practice.	Registration forthcoming, details will be on this page
09/24/24	4 PM (MST)	**Delphi Design Essentials** Dr. Phil Davidson	This webinar provides detailed explanations and examples for developing appropriate research problems, purposes, and questions for a Delphi study. Participants may bring their examples to discuss.	Registration forthcoming, details will be on this page

Join us on the Research Hub for all Center activities, KWBA dates, and new research information!

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