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The Quest for Academic Integrity Amidst the Onslaught of Unregulated Generative Ai Use: Integrating Integrity into A.I. Use Via Policy at Laguna State Polytechnic University

Ernesto Thaddeus M. Solmerano

Laguna State Polytechnic University

Abstract

Generative AI (GAI) is a groundbreaking and transformative technology that is enabling paradigm-shifting opportunities for innovation across learning, research, and administrative contexts. However, it also brings in new challenges, especially with the issues of academic dishonesty, ethical concerns on usage, involvement of students in abusing such technologies, and the AI bias and hallucinations, which are widespread even in the most sophisticated GAI. This paper investigates and explores the development of a GAI Policy for Laguna State Polytechnic University (LSPU), with a strong emphasis on promoting responsible and ethical use of GAI tools while safeguarding against abuse. Drawing from an extensive literature review, this study addresses central issues like integrating AI into education, managing AI hallucinations, fostering awareness of biases, and implementing AI with tutor-style one-on-one Socratic dialogue techniques that have been proven by educational research, particularly Benjamin Bloom's 2 Sigma Problem, which found that students tutored one-on-one perform two standard deviations better than those in traditional classroom settings. The resulting policy recommendations emphasize academic integrity, transparency, ethical compliance, stakeholder engagement, and proactive alignment with global advancements in GAI technologies. Concentrating on the problems and potentialities GAI can provide, the study provides a framework for policy development in relation to the challenges and complexities brought about by GAI in the education sector and specifically how it can be used for more productive purposes instead of being used by the students for superficial achievement.

Keywords: Generative AI policies, Socratic dialogue, AI Ethics, AI hallucinations, Bloom's 2 Sigma Problem

1. INTRODUCTION

Technology is an amplification of human intent. People can use an axe to chop wood, or they can use it to attack another person. A microphone can be used to give a beautiful song further reach, but it can also be used to amplify an eardrum-shattering scream. Computers with internet access can be used to access information and knowledge about almost everything, but it is also being used as a way to spread harmful lies, dehumanizing propaganda, and disinformation that corrupts people's brains. The point being: technology will be in the hands of good actors and bad actors. Necessity pushes innovation, but it is ultimately human intent that determines the direction and application of technology.

The genie is out of the bottle, and there is no sealing it back. From the lessons of history, institutions that resist adopting world-changing and society-shaking technologies delay both progress and the inevitable. It is like trying to extinguish a raging forest fire with a bucket of water or trying to redirect a tornado by using a hand fan. For one of the best historical examples, when it had been new, many religious and academic institutions initially rejected and suppressed the spread of the printing press out of fear that uncontrolled information would spread. We must not be like them.

In the same way that using search engines like Google and Bing to instantly get answers, AI is able to provide instant gratification and rapid generation of texts they can submit to their courses [1][2][3]. Traditional grading systems both reward and incentivize getting high grades, while also fostering the illusion that high grades are equivalent to meaningful learning [4][5][6]. At the core of meaningful learning is the process of struggling with trying to understand, overcome, and solve problems and mysteries, and improper use of technology like search engines and AI can rob students of that struggle and process that results in meaningful learning [7][8][9][10]. Thus, with these technologies, students can have a shortcut to a good grade, which can be the basis of them deluding themselves that they have "learned" when they have not.

The first step to ensuring that we have a positive relationship with ground-breaking technologies like AI is to view it optimistically and positively so that we may begin applying it ethically and with integrity. Good policy shall follow from having a techno-optimistic outlook. After all, people are unlikely to emotionally align themselves with using an innovation positively if they are suspicious of it or if they view it as a bad thing. This is all to say: AI is here, and we have no choice but to accept its pervasive invasion into our daily lives. In such a circumstance, we might as well make it work for us instead of against us.

Ultimately, as academics and educators, it is our moral duty to guide students and inform their perspectives so that their use of AI and other technologies is complementary and symbiotic to their learning rather than detrimental and harmful. It is our work to ensure that students' use (rather than abuse) technologies so that they actually learn instead of "learn," to foster in them the pursuit of meaningful learning instead of the shallow pursuit of a "good" grade.

This paper is a literature review that aims to help fulfil the moral obligation of academic institutions to guide students about the positive and ethical use of tools or technology such that it benefits themselves and society. The potential and power of AI to transform the world and make it either better or worse demands urgent attention. Academic institutions such as LSPU must develop clear guidelines that promote ethical, complementary, and symbiotic uses of artificial intelligence in education, ensuring that these tools enhance meaningful learning and mitigate the risks of superficial academic achievement [11][12][13][14][15].

2. OBJECTIVES OF THE STUDY

This study explored the role of AI in education by systematically reviewing existing literature and synthesizing key themes related to ethics, pedagogy, policy, and AI challenges. Specifically, it:

1. Reviewed at least 25 scholarly sources on AI in education, covering ethics, pedagogy, policy, and AI challenges within three months.
2. Organized key themes—ethics, learning outcomes, fairness, policy, and Socratic dialogue—using a thematic synthesis approach by the end of the review.
3. Evaluated the ethical dilemmas associated with integrating large language models into the education process.

4. Develop an AI policy framework and institutional guidelines for the use of AI by LSPU employees, teachers, and students.

3. METHODOLOGY

The methodology used for this systematic review was based on a selection of literature and its review to ensure the topic in question was addressed systematically and from various angles to aggregate information from various sources and give an appropriate and comprehensive understanding of the place of AI in education, science, and culture. This literature review focused on the relationship between AI and education, its ethical aspects, efficiency, and regulation, and synthesized the relevant literature about AI research, its applications, LLMs, and their potential to be applied constructively in academic contexts using particular pedagogical modes. Reviewed at least 25 scholarly sources on AI in education, covering ethics, pedagogy, policy, and AI challenges within three months. Organized key themes—ethics, learning outcomes, fairness, policy, and Socratic dialogue—using a thematic synthesis approach by the end of the review.

Research Design

The literature review adopts a thematic synthesis approach, allowing the integration of diverse sources to draw comprehensive conclusions about AI's role in education by organizing insights into key areas. These include ethical and policy implications [16][17], pedagogical strategies and AI integration [18][19], Socratic dialogue and learning theories [20][21], and AI challenges such as bias, hallucinations, and memory effects [22][23]. The study analyzed AI-assisted Socratic dialogue's role in critical thinking and engagement, synthesizing findings within four months. AI was leveraged for Personalized Socratic Learning as a core pillar of policy implementation.

Source Identification

The criteria included are peer-reviewed journal articles, conference papers, and authoritative books, spanning publications from 2015–2024 to capture recent advancements in AI-driven learning research and from the 1990s to establish foundational educational theories. The focus is on the educational applications of AI, including their ethical, regulatory, and practical challenges. Benchmarked AI-generated outputs for reliability, bias, and hallucinations, ensuring alignment with ethical and pedagogical standards within five months.

Databases and Resources

The sources included in this research were collected from reputable organizations and platforms, including academic databases of peer-reviewed articles or other academic literature (e.g., JSTOR, IEEE Xplore, PubMed, and Google Scholar). Additionally, policy papers, white papers, and reports from respected institutions like MIT Sloan EdTech and Stanford HAI offer insights into emerging trends and technological advancements. Authoritative educational blogs, including Khan Academy, contribute valuable perspectives, particularly in the context of democratizing online education and exploring the positive applications of artificial intelligence in learning.

Data Collection Process

A two-phase approach was adopted, starting with an initial examination of over 60 studies and publications related to the research goal, followed by the application of inclusion criteria to narrow the focus to at least 25 highly relevant sources, prioritizing those directly addressing the thematic areas. Key terms like "AI in education," "generative AI policies," "Socratic dialogue," "academic integrity AI," "AI hallucinations in education," and "educational ethics" guided the search for literature in various databases. Reviewed

instances where students and scholars were unjustly accused of AI plagiarism due to their idiosyncratic writing patterns as non-native English speakers.

Critical Appraisal of Sources

Each selected source was critically evaluated for relevance to the research themes, credibility (with a strong preference for peer-reviewed status, reputable authorship, and publication outlets), timeliness (focusing on recent studies that capture the latest developments in AI technologies like generative AI and Khanmigo), and methodological rigor (with a preference for evidence-based studies and well-documented case analyses, such as [24][25]).

Data Analysis and Synthesis

Data from selected sources were analyzed using thematic coding, identifying key themes such as "academic integrity risks of AI," "pedagogical innovation through Socratic dialogue," and "regulatory frameworks for generative AI." A comparative approach highlighted consistencies and discrepancies between sources (e.g., contrasting Khan's optimism [26] with Heffernan and Heffernan's caution [27]). The insights were organized into structured sections of the review to address the research objectives. Proposed LSPU-specific recommendations on AI implementation focused on policy enforcement, training, and risk mitigation for rollout in the next academic year.

Validation of Findings

To ensure reliability, findings were cross-referenced with multiple sources. Arora and Bansal [28], DigitalOcean [29], and Sparrow et al. [30] supported claims about AI's bias and hallucination issues, while discussions on integrating AI into educational policies were informed by Johnson and Roberts [31], Holmes et al. [32], and Tan and Lee [33].

Definition of Terms

The terms or concepts that are most relevant to the paper have been operationally defined:

Academic Dishonesty. Ethical compliance in academic work, including honesty, originality, and adherence to plagiarism policies, particularly in the use of AI tools [31][34].

AI Bias. Systematic bias in AI outputs due to training dataset irregularities or model flaws, leading to discriminatory impacts [35][36].

AI Ethics. Guidelines governing AI use, addressing concerns about bias, accountability, and transparency [37][38].

AI Hallucination. The generation of incorrect or nonsensical information by AI models due to training limitations [29][28].

Artificial Intelligence (AI). The simulation of human intelligence by machines, applied in fields such as machine learning, NLP, and computer vision [27][32].

Benchmarking in AI. The evaluation of AI systems against standard tasks or datasets to measure performance and reliability [28][39].

Dialogic Inquiry. A learning approach emphasizing dialogue and collaborative exploration [40][41].

EdTech (Educational Technology). The use of technological tools in education, such as LMS platforms [42][33].

Educational Scaffolding. Instructional techniques that provide temporary support to learners [43][44].

Generative AI. AI focused on content creation, such as ChatGPT and Khanmigo [28][45].

Large Language Models (LLMs). AI models trained on extensive text data to generate, summarize, and analyze content [34][46].

Memory Effects (Google Effect). The cognitive tendency to retain less personal information when easily accessible online [30][47].
Personalized Learning. AI-driven educational methods tailored to individual learning needs [48][46].
Six Sigma Problem in Education. The challenge of achieving high-quality and equitable education [49][50].
Socratic Dialogue. A strategy that fosters critical thinking through structured questioning [51][50].

4. RESULTS

The results of this literature review offer a wide-ranging perspective regarding the potentials and the risks as well as the prospects and the modes of AI deployment in higher education institutions. These findings support the thesis's argument that the Laguna State Polytechnic University (LSPU) ought to have clear policy frameworks that go beyond the permissible to ethical, supportive, and integration of generative AI in education. Below are the synthesized results, grouped by thematic relevance:

Bender et al. [51] assess the dilemma of ethics concerning the use of large language models in the education process, including transparency, fairness, and accountability. They stress the possibility of such tools furthering inequities and blocking fair learning opportunities. This aligns with the thesis by emphasizing the necessity for ethical guidelines to mitigate risks such as superficial academic performance driven by biases. This resonates with Wang and Smith [52] and Zhang and Torres [53], which also discuss AI bias in education.

Brown and Wilson [54] explore the problem of educational stability and effective Socratic questioning. Through enhancing understanding on a higher level, Socratic dialogue can go beyond addressing low learning outcomes. Their study supports the thesis by recommending ways of interacting with AI tools that are consistent with proper educational objectives. It connects to Reznitskaya et al. [55] and McMahon [56], which delve into the cognitive benefits of dialogic approaches.

Chi et al. [57] demonstrate the effectiveness of guided inquiry and scaffolding techniques in promoting deep learning. AI systems must be designed with pedagogical intent when used as scaffolding, suggesting AI must be symbiotic with proven educational methodologies. Graesser et al. [58] provide further evidence of how AI-powered tutors achieve this balance.

David et al. [59] assess the dual-edged nature of AI in academia, highlighting transformative possibilities and pitfalls like reliance on shallow learning metrics. They emphasize university policies, expanding on the thesis recommendation for LSPU to establish clear guidelines. Their work supplements Johnson and Roberts [60], who propose policy suggestions for AI regulation in academia.

Graesser et al. [61] present findings on AutoTutor, an AI tool employing conversational learning to improve reasoning skills. By simulating dialogue, AutoTutor avoids promoting superficial understanding, directly aligning with the thesis. Wiser [62] provides supporting evidence of similar outcomes using Khan Academy's AI-powered tutors.

Heffernan and Heffernan [63] discuss the impact of large language models (LLMs) on education, particularly the risk of undermining authentic assessment through plagiarism and overreliance. Their study validates the thesis's emphasis on promoting ethical AI integration to enhance meaningful learning, paralleling Smith and Kumar [64], who examine similar risks in academia.

Holmes et al. [65] investigate the potential of AI integration into educational settings. They describe AI's role in handling differentiation and assessment, modeling students' learning trajectories, and customizing education. This corresponds with LSPU policy's aim to enhance educational processes through AI. Their

insights complement practical findings by Tan and Lee [66] and Wiser [62] in real-world AI applications. Johnson and Roberts [60] suggest a policy-led framework for AI regulation at universities, based on principles of ethics and legal compliance. This aligns with the thesis's aim for LSPU to develop AI policies that ensure its responsible use. Their policy dimensions interrelate with David et al. [59] and Smith and Kumar [64], reinforcing the need for robust governance.

Khan [67] advocates for AI's potential to democratize education by making high-quality resources accessible globally. He discusses AI-powered tutors like Khanmigo, which engage learners in deep, reflective dialogues, aligning with the goals of responsible AI integration at LSPU. His work balances perspectives such as Roberts and Jameson [68], who explore both benefits and risks of LLMs in education.

McArthur and Tally [69] explore ethical principles governing AI in education, stressing transparency and inclusivity. Their study emphasizes the need for frameworks that mitigate risks like AI hallucinations and biases, resonating with Arora and Bansal [70].

McMahon [56] analyzes the Socratic teaching method and its effect on enhancing students' engagement and higher-order thinking. He supports AI's potential to facilitate critical engagement, reinforcing arguments made by Graesser et al. [58] and McArthur and Tally [69].

Nelson [71] advocates for the Socratic method as a means to cultivate critical inquiry and reflection. Wiser [62] suggests that educators can promote meaningful intellectual engagement by applying AI with Socratic questioning capabilities, aligning with the thesis's vision for symbiotic AI use.

Paul and Elder [72] argue that education should focus on critical thinking rather than rote memorization. Their study supports the thesis's call for policies ensuring AI use promotes active learning, aligning with Nelson [71] and McMahon [56].

Reznitskaya et al. [55] examine how dialogic inquiry enhances students' ability to construct nuanced arguments. AI-driven Socratic tools could replicate such frameworks, supporting higher-order thinking in education. Wiser [62] highlights AI tools like Khanmigo that facilitate such engagement.

Roberts and Jameson [68] examine the double-edged nature of LLMs in education. While they enhance personalization, they also increase the risk of overreliance and plagiarism. Their study echoes the thesis's emphasis on ethical governance, resonating with Heffernan and Heffernan [63] and Johnson and Roberts [60].

Siau and Wang [73] explore AI's opportunities and challenges in education, balancing innovation with the need for equitable and unbiased implementation. Their findings provide a nuanced backdrop for LSPU policy, complementing discussions by Zhang and Torres [53] and Heffernan and Heffernan [63].

Smith and Kumar [64] outline regulatory challenges of LLMs in higher education. Their study supports the thesis by highlighting the importance of LSPU policies on AI management, aligning with Johnson and Roberts [60].

Smith et al. [74] link Socratic dialogue with continuous improvement in education, offering insights into how AI tools can be designed to simulate Socratic questioning. Their study supports AI use that ensures depth and quality in learning, complementing Brown and Wilson [54] and Trowbridge and Durney [75].

Sparrow et al. [76] examine how access to AI impacts cognitive processes, highlighting the risk of overreliance. They emphasize the necessity of AI training programs at LSPU, as recommended in Wiser [62] and Johnson and Roberts [60].

Storm and Stone [77] introduce the concept that AI can enhance memory by reducing cognitive load. Their findings support the thesis by positioning AI as a complementary rather than a replacement tool, reinforcing discussions by Chi et al. [57] and Graesser et al. [58].

Tan and Lee [66] present practical examples of LLM integration in higher education. Their findings align with the thesis by promoting ethical AI use while optimizing educational processes, complementing McArthur and Tally [69].

Trowbridge and Durney [75] advocate for Socratic dialogue in education, arguing that AI tools incorporating this approach could foster critical thinking. Their work aligns with Brown and Wilson [54] and McMahon [56], strengthening the thesis's focus on purposeful learning.

Wang and Smith [52] discuss AI bias in education and propose mitigation strategies. Their findings reinforce the need for ethical AI policies at LSPU, paralleling Bender et al. [51] and Zhang and Torres [53].

These findings emphasize the need for LSPU to stay abreast of ethical AI adoption, ensuring the technology enriches learning rather than diminishing its substance. This study reviewed the literature on the intersection of AI and education, particularly considering the positive prospects, ethical issues, and ways of implementing AI in practice, with higher education institutions like LSPU as a focus. This section of the paper explains the results in light of global tendencies, institutional requirements and policies, education, and sensor directions for further research.

5. DISCUSSION

Synthesis and Implications for LSPU

The literature reveals an interconnected web of challenges and opportunities tied to AI use in education. While AI tools like generative LLMs and adaptive learning systems can catalyze deeper engagement and equitable access, their formal integration into LSPU demands vigilance and rules against ethical breaches and superficial usage.

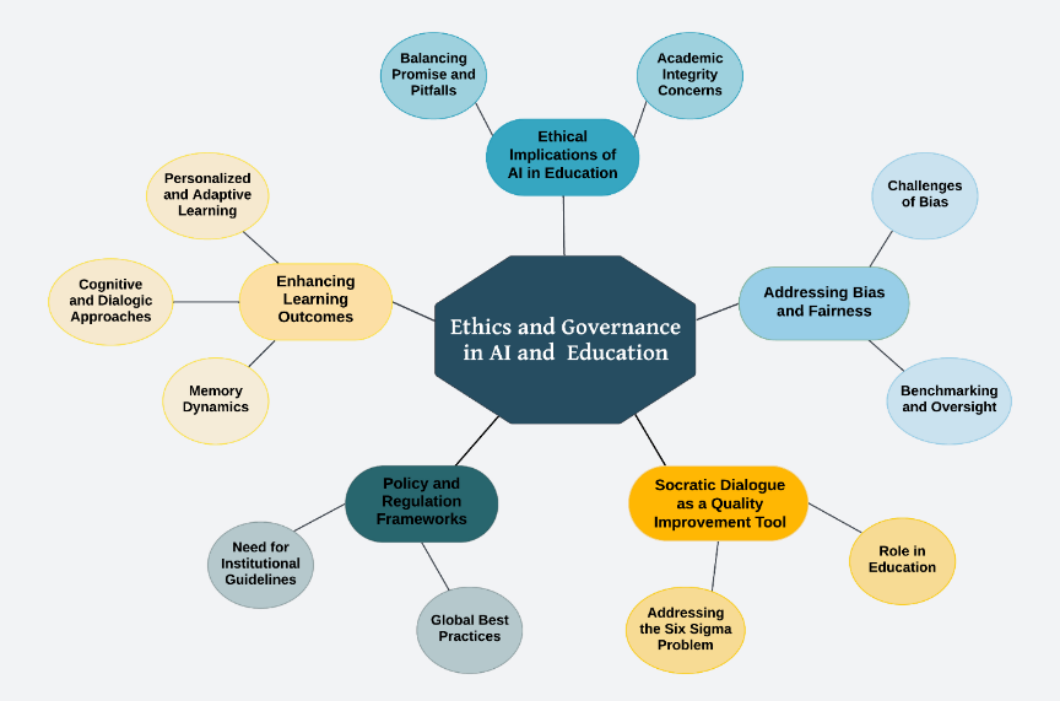

Figure 1. Ethics and Governance in AI and Education

Summarizing how all the literature comes together to inform policy:

a. Ethical Implications of AI in Education

Balancing Promise and Pitfalls. There is always potential in using AI for personalizing the learning experience and for making the processes more effective [78][79], however, there are drawbacks as well. However, the risks of misuse, bias, and "hallucination" in generative AI tools [80][81] highlight the necessity of robust ethical frameworks [82][83].

Academic Integrity Concerns. The increased reliance on AI can give rise to issues such as plagiarism and superficial achievement [84]. Solutions must ensure AI complements rather than undermines human creativity and critical thinking [85].

b. Enhancing Learning Outcomes

Personalized and Adaptive Learning. AI's ability to adapt content to individual learners' needs enhances engagement and understanding [86][87]. Studies on AutoTutor show how AI-driven dialogue systems improve reasoning and retention [79].

Cognitive and Dialogic Approaches. Integrating Socratic questioning in AI tools fosters deep learning and critical engagement [88][89]. Educational scaffolding further supports learners in achieving objectives independently [90].

Memory Dynamics. While tools such as search engines and LLMs support access, they may develop the "Google effect," which indicates the over-reliance on technology to the extent of diminishing memory retention [91][92].

c. Addressing Bias and Fairness

Challenges of Bias. Biases introduced to AI via training data can perpetuate inequalities in educational settings. Studies on large language models (LLMs) demonstrate the risks of biased outputs, necessitating fairness-oriented design; LSPU must use and recommend AI technologies that actively minimize these biases that could lead to inequality in the classroom and beyond [93][94].

Benchmarking and Oversight. Rigorous benchmarking of AI tools is critical to ensure reliability and mitigate errors such as hallucinations [80][95].

d. Policy and Regulation Frameworks

Need for Institutional Guidelines. The concern of misuse, control, and how AI is made available can be addressed by developing effective policy frameworks [96][97]. The role of academic institutions, like LSPU, in crafting these frameworks is crucial to align AI with educational missions [85].

Global Best Practices. Case studies show AI's incorporation into higher education can training, as well as stakeholder involvement [98][97].

e. Socratic Dialogue as a Quality Improvement Tool

Role in Education. Socratic dialogue methods improve argumentation, collaborative inquiry, and process consistency [99][100]. AI tools like Khanmigo have successfully operationalized this approach, merging philosophical pedagogy with technological innovation [87][86].

Addressing the Six Sigma Problem. By focusing on dialogic and inquiry-based approaches, AI can be leveraged to meet diverse learning needs and improve standards consistently [88][101].

For LSPU, the insights suggest actionable steps:

1. Establish clear, enforceable policies that promote academic integrity while leveraging AI's

benefits [84][85].

2. Equip educators and students with the skills to engage meaningfully with AI tools [97][87].
3. Continuously benchmark AI systems and address emergent risks like bias or hallucinations [80][93].
4. Leverage Socratic dialogue and scaffolding within AI platforms to foster critical thinking and independent learning [99][89].

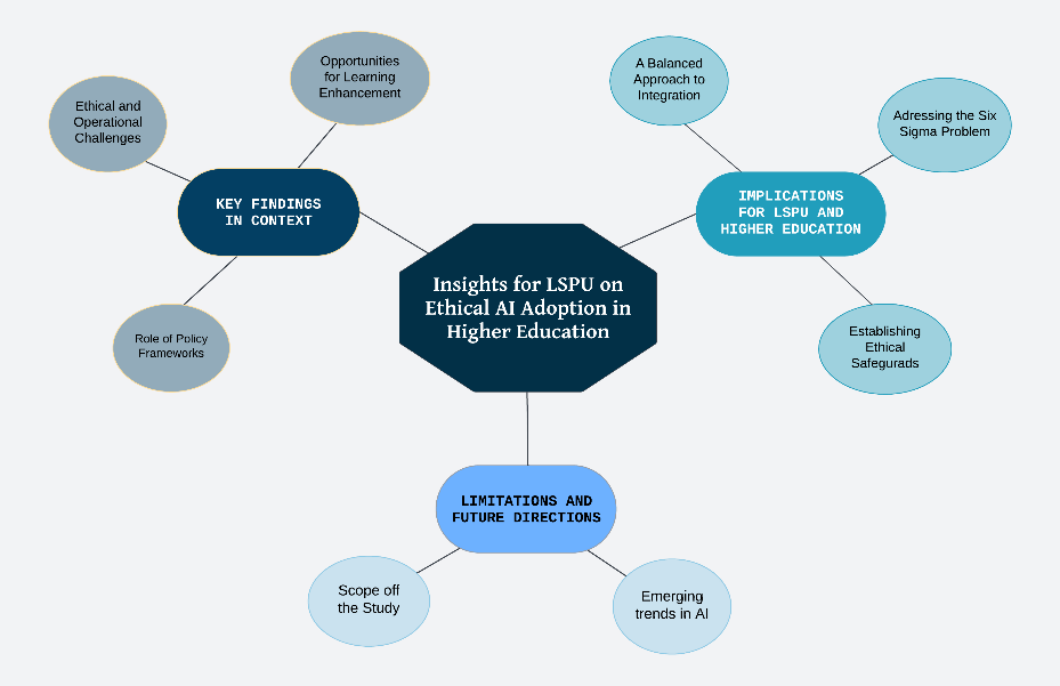

Figure 2. Insights for LSPU on Ethical AI Adoption in Higher Education

a. Key Findings in Context

Opportunities for Learning Enhancement. The findings tend to favor the efficient incorporation of personalized learning approaches and AI-enabled adaptive technologies into the education system. Tools like Khan Academy's Khanmigo, an AI tool developed by Khan Academy, exemplify how generative AI can employ Socratic questioning to develop critical thinking and improve engagement [86][87]. Furthermore, AI offers dynamic scaffold structures that enhance understanding by starting from an individual's level of learning [90][79].

Nonetheless, even though they are efficacious, these tools favor the instructor. A pluralistic approach where an educator can incorporate AI's features depending on the specific curriculum goals. Without adequate training and pedagogical interoperability, AI can become a mere frill and not a holistic solution [98].

Ethical and Operational Challenges. Issues like academic integrity in education or dealing with algorithmic bias represent challenges. Ethical risks range from the trivialization of learning via AI-generated content to significant concerns about equity and inclusivity [82][93]. For instance, the “Google effect,” where easy access to information diminishes deep cognitive engagement, poses long-term implications for learning and individual development [91][92].

The prevalence of hallucinated outputs in AI systems further underscores the need for stringent oversight and benchmarking [80][95]. In the case of the LSPU, this imposes a two-fold responsibility: to resort to technology and, at the same time, to compensate for its drawbacks.

Role of Policy Frameworks. Comprehensive policies are essential for ethical AI adoption in academia. Case studies demonstrate that institutions with clear guidelines on AI usage see improved outcomes in ethical compliance and learning quality [96][97]. The suggested LSPU Generative AI policy emphasizes the concern of academic honesty, training, and engaging stakeholders, which is in accordance with international best practices and provides a framework for the use and practice of ethical AI in the organization [85].

b. Implications for LSPU and Higher Education

A Balanced Approach to Integration. The study's results stress the necessity of embedding AI into education as an adjunct rather than replacing human instruction.

LSPU educators should be able to use AI for inquiry-based learning while adhering to academic integrity and ethics principles. AI can also provide feedback and evaluation, enabling teachers to focus on higher-order teaching functions [78][100].

Addressing the Six Sigma Problem. AI's capability of offering customized and scalable assistance fills a significant void in education: maintaining a quality standard across diverse learners. LSPU can enhance student learning outcomes and institutional performance by embedding tools like Socratic dialogue systems within institutional frameworks. When deployed correctly, these tools can improve equitability within academic institutions [88][99].

Establishing Ethical Safeguards. Leveraging AI in education must be accompanied by ethics and transparency. The proposed LSPU policy on Generative AI should include mechanisms for regular evaluation and adaptation, which include regular retraining, periodic system updates, and feedback to reduce the potential risks of misuse and bias [85][93].

c. Limitations and Future Directions

Scope of the Study. This review relies on existing literature and may not account for emerging AI tools or unexplored ethical dilemmas. Real-world implementation studies are needed to validate theoretical findings and refine policy recommendations.

Emerging Trends in AI. Future research should explore how advances in AI—such as multimodal systems or self-regulated learning models—can further revolutionize education. Additionally, longitudinal studies could assess the long-term impacts of AI on critical thinking, equity, and learning retention. LSPU, if it ever implements AI tools in the ways prescribed by this paper, might offer a sample pool of students and alums for such longitudinal studies.

5. CONCLUSION

The use of AI within the scope of higher education involves double jeopardy: the blessings of enhancement are infinite, but so are the ethical challenges. If LSPU adopts world-class policy frameworks and instills a culture of responsible AI, the university will also be at the frontier regarding ethical AI use. In the end, the success of AI in education hinges on balancing technological potential with the timeless principles of humanistic pedagogy.

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