Misk مسك
مؤسسة محمد بن سلمان
Mohammed Bin Salman Foundation

العالمي
Global

YOUTH SHAPING THE FUTURE: Ethical Considerations for GenAI in Higher Education

YOUTH-LED POLICY RECOMMENDATIONS

IN PARTNERSHIP WITH

Digital Cooperation Organization

accenture

Preface

Mohammed bin Salman Foundation "Misk" is a non-profit foundation established by H.R.H. Crown Prince Mohammed bin Salman in 2011 to discover, develop and empower Saudi youth to become active participants in the future economy. Misk's flagship initiative, The Misk Global Forum (MGF), stands as a platform of empowerment and innovation, amplifying the voices of young people and harnessing their potential to drive transformative change.

Mohammed bin Salman Foundation "Misk", in partnership with the **Digital Cooperation Organization (DCO)** and **Accenture** as knowledge partners, has taken the lead in developing a comprehensive policy paper on the ethical use of Generative AI (GenAI) in education. DCO is a global intergovernmental organization dedicated to accelerating the inclusive and sustainable growth of the digital economy and leverages its expertise in policymaking. The DCO brings together governments from 16 countries, collectively representing nearly $3.5 trillion in GDP and a market of nearly 800 million people, more than 70% of whom are under the age of 35. Accenture is a leading global professional services company that helps the world's leading organizations build their digital core—creating tangible value at speed and scale. Accenture's social sector consulting arm, Accenture Development Partnerships, works with leading international development organizations to address the world's social, economic and environmental issues.

This policy paper underscores Misk Foundation, DCO and Accenture's commitment to empowering youth globally and tackling critical issues in the rapidly evolving digital landscape. By addressing a topic aligned with the organizations' core focus, it examines the opportunities and challenges of integrating GenAI in higher education and offers strategic policy recommendations for stakeholders and decision-makers to harness its potential while effectively mitigating associated risks.

This paper was developed through a collaborative process, incorporating insights from a diverse group of young participants, aged 18 to 32, representing 17 countries worldwide. These insights were collected through a virtual workshop and a Youth Policy Circle held at the Misk Global Forum 2024 in Riyadh, ensuring youth voices are central to policymaking conversations. This facilitated in-depth discussions and the exchange of varied perspectives, culminating in actionable recommendations to promote the ethical use of GenAI in higher education.

Special thanks and sincere gratitude are extended to all individuals and organizations who contributed their time and insights, including the youth participants and experts.

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Executive Summary

Generative AI (GenAI) has revolutionized the education landscape by personalizing learning experiences, enhancing classroom engagement, and fostering innovation. As the global EdTech market is projected to reach $404 billion by 2025[1], fueled by advancements in AI, the potential for GenAI to transform the way individuals teach and learn is immense. However, its rapid integration into educational settings raises critical ethical concerns, including but not limited to data privacy, algorithmic bias, as well as overreliance which undermines critical thinking and academic integrity. With less than 10% of educational institutions equipped with GenAI usage policies[2], a significant gap exists in understanding and governing this technology effectively.

Recognizing the critical role of youth as primary users of GenAI in education and as future leaders, it is essential to incorporate their perspectives in shaping policies that address their unique challenges and aspirations. For instance, The U.S. Department of Education's report, Artificial Intelligence and the Future of Teaching and Learning[3], highlights the need for youth participation in AI research and design for education. This policy paper also underscores the critical role of youth in driving the ethical integration of GenAI, ensuring that policies are relevant, inclusive, and impactful. Drawing insights from diverse youth perspectives collated through various touchpoints, this paper aims to shape actionable recommendations that align with the broader mission of Misk Global Forum 2024 (MGF24): empowering youth to influence the future through their contributions and ideas.

GenAI poses several known and emerging risks, particularly those related to privacy, equity, and accuracy. The United Nations Educational, Scientific and Cultural Organization (UNESCO)'s Guidance for Generative AI in Education and Research[4] identifies pressing concerns such as compromised data privacy, violations of intellectual property rights, biased, harmful and inaccurate content, lack of transparency, and the necessity for critical engagement with GenAI. Post a comprehensive review of the existing policy landscape, these concerns have been synthesized and distilled into four key thematic ethical considerations to guide the recommendations presented:

1. Bias, Harm and Inaccuracy
2. Data Privacy and Security
3. Creativity and Critical Thinking
4. Academic Integrity

The SPDI (Smart Policy Design and Implementation) framework[5], developed by the Harvard Kennedy School, serves as a strategic guide to identify critical challenges, root causes, and actionable solutions within the thematic areas addressed in this paper. This framework was leveraged to structure the design thinking process, where youth engaged in

virtual focus groups (to identify problem statements and analyze underlying causes) and an in-person policy circle (to co-create solutions). The first three steps of the SPDi framework—Identify, Diagnose, and Design—were intentionally integrated to inform the paper's findings, ensuring a rigorous and evidence-based policy engagement process. The core challenges highlighted ranged from the potential risks of misinformation to inequitable access to technology, and lack of knowledge about how GenAI tools work to list a few.

The following table provides a summary of the critical challenges identified in this paper against each theme:

ETHICAL CONSIDERATION	CRITICAL CHALLENGES
Bias, Harm and Inaccuracy	• Difficulty in detection of Bias, Harm and Inaccuracy in GenAI outputs • High trust in GenAI outputs among students
Data Privacy and Security	• Lack of transparency in personal data collection and usage • Variations in data privacy standards across regions
Creativity and Critical Thinking	• Unequal access to GenAI tools • Overreliance on GenAI undermining independent thinking
Academic Integrity	• Difficulty in verifying authenticity of academic submissions • Lack of guidelines for the proper use of GenAI in academic settings

The paper details solutions to address identified challenges, synthesized into five actionable policy recommendations. These recommendations have been specifically designed to address key challenges while promoting the responsible and equitable use of GenAI in education, aiming to balance innovation with fairness, trust, and security:

1 **GenAI Literacy and Capacity Building Programs** – Empowering students and educators with the knowledge and skills to navigate GenAI effectively.

Implementing structured **GenAI competency frameworks and training modules** within the academic curriculum. This will enhance GenAI literacy among students and educators which, in turn, will result in a well-informed community proficient in responsible AI integration.

2 **Academic Code of Practice for Data Protection and Security** – Establishing robust safeguards to protect students' sensitive information.

Academic institutions should conduct due diligence and audits of GenAI tools to ensure compliance with data privacy and security standards. Clear guidelines for data storage and use should be established, ensuring that personal information is securely managed and protected from unauthorized access or misuse. Encryption, data masking, and user-informed agreements should be prioritized to ensure responsible handling of sensitive information.

3 **Guidelines for Academic Integrity in the Use of GenAI Tools** – Promoting integrity in the use of AI in academic settings.

Promoting purposeful use of GenAI in academic institutions by applying structured guidelines for the use of GenAI in academic assignments, approving GenAI reliable tools, and revising assessment criteria enables students to leverage GenAI as a supplementary tool, fostering critical thinking, and independent learning.

4 **Develop Specialized and Credible GenAI tools for Education**– Encouraging the use of education-specific GenAI systems that uphold credibility, fairness, inclusivity, and transparency.

Designing or using only those GenAI tools that meet robust ethical standards, predefined accreditation, and clear standards for bias and hallucinations allows academic institutions to align these tools with their educational values, enhancing safe adoption, building trust among students and educators, and effectively supplementing learning. Additionally, domain-specific GenAI tools for subjects like Math, Science, and Languages ensure targeted, curriculum-aligned solutions that address subject-specific challenges, and improve learning outcomes.

5 **Equitable Access To GenAI Tools** – Ensuring that the benefits of GenAI reach all learners, regardless of background.

Ensuring equal access to GenAI tools and training through initiatives such as free subscription programs, equipped computer labs, low-cost computing solutions and targeted support for underserved communities alleviates the knowledge gap and enables inclusive access to quality education powered by the latest technologies.

This paper systematically identifies the diverse stakeholders interacting with GenAI in education and proposes tailored, actionable recommendations aligned with the specific roles of each group. The objective is to serve as a vital resource for stakeholders, including educators and policymakers across the educational system, helping them integrate youth-driven insights into strategies for the ethical and effective use of GenAI in education. By amplifying youth voices and fostering inclusive dialogue, this paper aspires to shape a future where AI in education is a force for equity, creativity, and progress.

NOTE:

While this paper is focused on GenAI in higher education, there are references to the broader AI systems and the education landscape to collate and present research and analyses. Additionally, while the research and policy recommendations are tailored to higher education, references to broader educational settings and applicability to other educational institutions are also included where relevant.

1 Introduction

Introduction

Generative Artificial Intelligence (GenAI) presents an opportunity to redefine the traditional construct of education in ways we have never seen before. Unlike any other technological intervention, it shapeshifts to assume the role of a learning companion, instructor and sometimes, an influencer.

GenAI models comprise a subclass of AI that can produce fresh text, images, and other types of data[6]. Unlike traditional AI, which relies on pre-existing data patterns, GenAI can create potentially original content based on the information it has learned. GenAI operates through advanced neural networks, such as Generative Adversarial Networks (GANs) or transformers. The models are trained on vast datasets, learning intricate patterns and relationships within the data. During the generation process, the model receives a prompt or input and utilizes its learned knowledge to autonomously create new content. This capability positions it as a transformative force in education, enabling personalized learning, content creation, and problem-solving.

90% of students who study using ChatGPT find it better than using a tutor, which indicates a fast-growing preference for AI-driven learning tools.[7] Familiar applications like OpenAI's ChatGPT are not only preferred but have become deeply integrated into the thinking and creative processes of learners, shaping how ideas are developed and expressed. This transformation is echoed by edtech experts who remark education is uniquely disrupted by GenAI with more individuals using these technologies for learning than in any other domain. One expert stated, **"Education is the only sector that is disproportionately disrupted by GenAI,"** highlighting its widespread use by students and educators alike.

Navigating the transformative impact of GenAI on education necessitates a careful, well-considered approach. As GenAI-driven tools become increasingly embedded in learning environments, their ethical application has emerged as a critical concern. This ongoing shift underscores the need for proactive engagement from educators, students, and policymakers to ensure that the integration of GenAI fosters responsible innovation and equitable learning outcomes.

WHY FOCUS ON ETHICS?

The accelerated adoption of GenAI has brought unprecedented benefits as students now have instant access to resources, personalized tutoring, and powerful research tools. A survey conducted in the UK[8] revealed that AI usage in secondary schools has become widespread, with two-thirds of students acknowledging its use. This includes a range of academic activities, such as solving math problems (42%), writing essays (41%), supporting language learning (25%), generating poetry (24%), and assisting with physics (20%). However, with these benefits come significant concerns, including but not limited to bias, academic integrity, and data privacy. Students may unknowingly share sensitive information, risking data leaks and misuse by third parties. GenAI systems may inadvertently perpetuate societal and historical biases present in

the training datasets, which may lead to inequities in learning outcomes, and reinforcing stereotypes or marginalizing certain groups by producing skewed or culturally insensitive content. The increasing reliance on GenAI in education raises concerns about deepening inequalities, particularly the digital connectivity gap. **"AI will exacerbate the already existing gaps– like the digital connectivity gap. This would potentially lead to a K-shaped future. One end of the K would signify exponential growth due to efficient use of AI; and the other would represent those left far behind because of their inability to access technology."**

Furthermore, as students increasingly rely on AI-generated outputs for assessments, compliance with institute academic code of conduct is at risk, with the potential for diminished critical thinking and originality. These challenges extend to the broader influence of GenAI on shaping youth perspectives as students are likely to accept AI-generated output without engaging critically and reduce their resilience in tackling complex challenges independently. These ethical challenges prompt the need for students and educational institutions to establish clear guidelines on the responsible use of GenAI tools, while ensuring the protection of personal data, fairness, and transparency in education.

ETHICS OF GenAI AT THE FOREFRONT OF THE YOUTH AGENDA

Despite the increasing integration of AI technologies, policies often overlook the unique needs and rights of young people. UNICEF's report, Adolescent Perspectives on Artificial Intelligence[9], explored adolescents' views on AI, revealing that the youth felt decision-making about AI is predominantly adult-centric. Many young participants expressed that their insights and experiences are often overlooked in discussions. This sentiment underscores the pivotal role of youth in shaping AI policies, as experts emphasize that **"Youth are the biggest users of digital platforms and generate the most data."**

Recognizing these challenges, **Misk Foundation** in partnership with the Digital Cooperation Organization (DCO) and Accenture, aims to bring this topic to the forefront of its youth agenda. During Misk Foundation's flagship event, **the Misk Global Forum (MGF) 2024**, which centered on the theme 'By Youth, For Youth', the importance of youth-led efforts in shaping ethical GenAI practices within education were highlighted through the MGF24 Youth Policy Circle on the Ethical Use of GenAI in Higher Education. At MGF 2024, 20+ young participants from 17 countries and industry experts from the public and private sector worked together to co-create policy recommendations on ethical GenAI use in higher education. This paper is informed by the insights gathered during the in-person policy circle, youth survey, focus group discussions, and youth pulse survey. It provides a youth-centered viewpoint on the opportunities and challenges of GenAI in education, grounded in the lived experiences of those directly affected. During the engagement with youth participants, they articulated several nuanced challenges that GenAI might pose and worked to formulate actionable recommendations to address these challenges to improve on several outcomes. One youth participant remarked, **"The issue with GenAI isn't just the technology; it's also fostering a culture of 'fast wins' over grit and perseverance, which poses risks to the mental health of youth."**

This topic has been gaining significant attention from organizations such as the **OECD and UNESCO, which have highlighted the ethical implications of AI in various sectors, including education. The OECD Framework for the Classification of AI Systems**[10] offers a comprehensive guide to policymakers and stakeholders for assessing AI systems, addressing critical concerns such as data privacy, biased outputs, and lack of transparency. **UNESCO's first global guidance on GenAI in education**[4] specifically contextualizes these risks within the educational landscape, emphasizing similar challenges such as biased content, data misuse, potential inaccuracies, hampering of critical analyses, and the increasing student dependency. The **Beijing Consensus on Artificial Intelligence (AI) and Education**[11], published by UNESCO in 2019, represents a significant step towards integrating AI technologies into educational frameworks globally. The Consensus emphasizes the need for systematic integration of

AI in education to innovate teaching and learning practices, stating that "the deployment of AI technologies in education should enhance human capacities and protect human rights."

Drawing from these insights and discoveries, the risks have been synthesized into four key ethical considerations —

1. Bias, Harm and Inaccuracy
2. Data Privacy and Security
3. Creativity and Critical Thinking
4. Academic Integrity

— which streamline and guide the paper's recommendations, discussions and findings.

The policy paper first explores the specific use-cases of GenAI in higher education, including how students leverage these tools for learning enhancement and problem-solving, followed by an in-depth understanding of the ethical challenge pillars substantiated with research and evidence, and a review of the current policy landscape. It culminates in presenting the problem statements and actionable recommendations co-created by the youth working group and experts, offering guidance and perspectives to responsibly integrate GenAI into education.

2 GenAI in Higher Education

GenAI in Higher Education: Laying Out the Foundation

GenAI is reshaping the student learning journey in powerful ways, especially in higher education, where it supports multiple needs from tutoring to assessments.

To comprehend the broader implications and ethical considerations of the usage of GenAI in higher education, it is imperative to develop an understanding of how the lifecycle—spanning the stages of development, deployment, and use—of these tools progresses. Each stage plays a vital role in shaping how the tools are designed, implemented, and utilized to support educational goals.

STAGE 1

DEVELOPMENT

GenAI models are trained on large-scale datasets, leveraging complex algorithms. It performs tasks by generating content autonomously, having learnt to mimic human-like tone, creativity and thought processes. Implementing safeguards, including but not limited to data augmentation and pre-processing techniques during this phase is critical.

POTENTIAL ETHICAL CHALLENGES

Risk of inherent biases in the training dataset used, which can lead to skewed or discriminatory outputs. Additionally, the lack of transparency in the AI development and fine-tuning (where developer decisions and data adjustments are often opaque) process can result in concerns over accountability and fairness.

STAGE 2

DEPLOYMENT

At this stage, the tools are integrated into the educational ecosystem to assist both students and educators. GenAI is primarily leveraged within classrooms to enhance personalized learning, streamline administrative processes, and foster interactive classroom experiences. Countries like Japan and Singapore have demonstrated leadership in deploying AI-driven curricula.

POTENTIAL ETHICAL CHALLENGES

Unequal access to AI tools (due to regional disparities, including but not limited to variances in technical infrastructure and/or students' socioeconomic backgrounds) leading to disparities in educational opportunities. The integration of GenAI into curricula requires careful consideration of data privacy, ensuring that sensitive student information is protected while also addressing the potential for algorithmic bias influencing learning outcomes.

STAGE 3

USE

GenAI tools are actively employed by students, educators, and institutions for various purposes, including research, personalized learning, idea generation, and evaluation. However, its use also raises challenges like dependence on technology, emphasizing the need for maintaining a balance between technology use and human interaction in classrooms.

POTENTIAL ETHICAL CHALLENGES

As GenAI tools are adopted by students and educators, over-reliance on these tools can hinder critical thinking and creativity. Without clear guidelines on ethical use, there's also the potential for misuse, such as plagiarism or unfair academic advantage.

This paper will delve into **Stage 3 - Use**, specifically exploring how students leverage GenAI to enhance their educational journey and discussing the associated ethical implications.

2.1

The Use of GenAI Tools in Higher Education

WHAT DO YOUNG PEOPLE USE GenAI FOR?

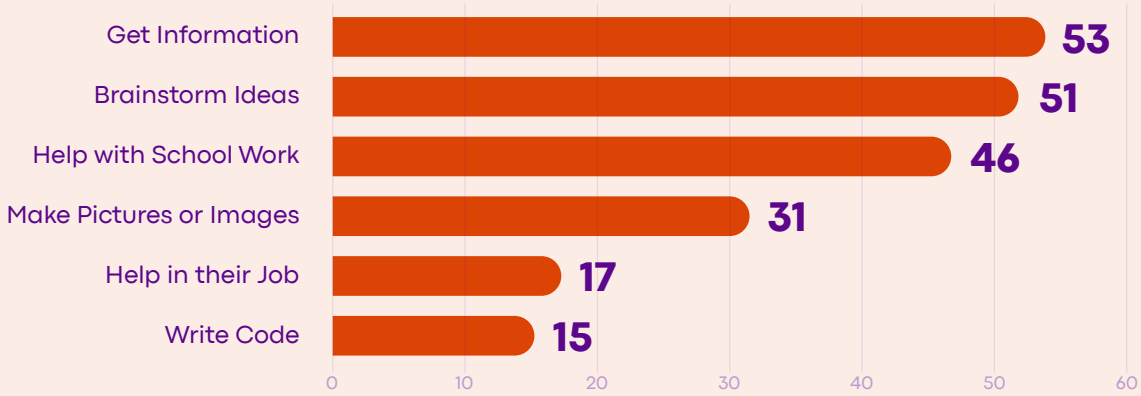


Figure 1: *Use of GenAI by Youth*

Source: NORC survey for Hopelab and Common-Sense Media conducted October 4-November 14, 2023, with 632 young people ages 14–22 nationwide who reported using generative AI.

GenAI tools are increasingly being tailored for educational purposes, enabling personalized learning experiences that cater to individual student needs. These tools can create customized lesson plans, adapt content to various learning styles, and provide real-time feedback. Additionally, domain-specific GenAI tools for subjects like Math, Science, and Languages ensure targeted, curriculum-aligned solutions that address subject-specific challenges, mitigate bias risk andmprove learning outcomes.

For example, ChatGPT can support students by generating research questions, summarizing academic articles, and creating essay drafts, while DALL-E fosters creativity by producing visual aids for projects and presentations. Researchers found that ChatGPT could generate passable responses to assessment questions, prompting a reevaluation of traditional assessment methods to maintain academic standards.[12]

For instance, **ChatGPT Edu** is a specialized version of ChatGPT designed specifically for educational institutions, enabling universities to responsibly deploy AI tools for students, faculty, researchers, and campus operations.

Below, a brief outline of the applications of GenAI tools at each phase of the learning journey is presented. Popular tools and their unique features, use-cases and limitations are highlighted.

PHASE 1

LEARNING AND TUTORIALS

Acquiring new knowledge and foundational learning through classroom engagement and/or interactive materials and lessons

PHASE 2

ASSIGNMENTS AND PROJECT WORK

Students work on applied tasks that require critical thinking and problem-solving, reinforcing what they have learned in the learning phase.

PHASE 3

ASSESSMENTS AND EXAMINATIONS

This phase tests students' ability to recall, apply, and analyze information, often determining their academic progress and success through assessment techniques

USE-CASES AND TOOLS USED (NON EXHAUSTIVE)

Research and Knowledge Discovery: Chatbots to summarize articles, generate initial ideas, highlighting key concepts, conducting literature reviews.

Tools: ChatGPT, Perplexity, Gemini.

Inclusive Lesson Delivery: Real-time transcription services for lectures, making content accessible for students.

Tools: Otter.ai, Rev.ai

Inclusive Lesson Delivery: One-on-one tutoring tailored to a student's learning speed, style, and level

Tools: Khanmigo

Generation of Assignment Solutions: Chatbots provide solutions to assignment questions, outline approach used and suggest resources

Tools: ChatGPT, Gemini

Image Generation: Create different types of visuals for presentations and design projects

Tools: DALL-E, Canva AI

AI-powered writing: Improve and re-write essays by ensuring grammatical accuracy

Tools: Grammarly

Coding Support: Real-time code suggestions, code completion and debugging support

Tools: GitHub Copilot

Generation of References/ Citations

Tools Used: SciSpace Citation Generator, Quetext Citation Generator

Exam preparation support: Upload documents, videos or any other file types to generate mock questions of various formats, AI-powered revision quizzes and flashcards to guide students' exam preparation. Additionally, educators may benefit through these tools to assist exam preparation.

Tools: Quillionz, Quizlet AI, ChatGPT

LIMITATIONS

- Oversimplification of Complex Topics
- Bias and Inaccuracies
- Contextual Limitations
- Overreliance on AI
- Academic Integrity & Plagiarism
- Overreliance on AI generated output diminishing critical analyses of topics
- Limited Creativity & Innovation
- Accessibility Issues
- Narrow Scope & Limited Data

Figure 2: *GenAI in Education Across the Learning Journey*

2.2

Ethical Considerations of the Use of GenAI in Education

This section explores the following key ethical considerations: **Bias, Harm and Inaccuracy; Data Privacy and Security; Creativity and Critical Thinking; and Academic Integrity.** Each pillar is briefly explained, with illustrative use cases that demonstrate how these concerns may arise in educational settings. Research-based evidence is provided to highlight the associated risks, reinforcing the need for proactive measures to ensure the responsible integration of GenAI in education. Additionally, youth-identified challenges and their root causes are examined within each ethical consideration, providing insight into the real-world barriers students face in ensuring GenAI is used responsibly in education. These insights reinforce the need for urgent and proactive measures to ensure responsible GenAI adoption.

ETHICAL CONSIDERATION #1

BIAS, HARM AND INACCURACY

DEFINITIONS

BIAS
Bias is an inclination, prejudice, preference, or tendency towards or against a person, group, thing, idea or belief.

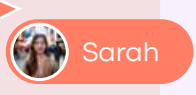
INACCURACY
A situation in which a fact or measurement is not completely correct or exact. GenAI's ability to identify patterns in its training data allows it to produce output that is convincing, even if it is not entirely accurate.

IN THE CONTEXT OF GenAI

Bias in GenAI outputs arises from skewed data inputs, algorithmic flaws, or user interactions, with tools often reflecting creators' biases, training dataset biases, or the AI's interpretations. The **undisclosed training** data further hampers GenAI's ability to verify content or cite credible sources. Additionally, **AI hallucinations** occur when models perceive nonexistent patterns or objects, producing inaccurate or meaningless results. For example, tools like ChatGPT may "**fill in the blanks**" when uncertain, leading to false or misleading information. Similarly, **deepfakes**, which are synthetic media such as images or videos, are becoming indistinguishable from authentic content, raising significant concerns about misinformation and deception. Research indicates that GenAI tools often exhibit sycophantic behaviors, aiming to please users through affirmation and tailored responses.[13] This tendency raises concerns about the potential for creating echo chambers. **In the context of GenAI use in education**, this presents an ethical challenge as students may unknowingly rely on inaccurate or biased information, limiting diverse perspectives and fostering a learning environment where misinformation and unverified content could influence knowledge-building.

USE CASE IN EDUCATION
ILLUSTRATIVE EXAMPLE

Sarah uses GenAI to help with her history paper, but it invents sources when uncertain, leaving her unsure if her references are real or fabricated.



RESEARCH & EVIDENCE

Out of the 30 questions, ChatGPT provided advice for 23 (77%).

Of these,
26% were fully accurate,
22% were correct but incomplete,
30% were partially correct, and
22% were entirely incorrect.[14]

Generative AI models often misrepresent or inadequately represent specific groups due to biased training data. For instance, models trained predominantly on Western literature may overlook or misrepresent non-Western cultures, perpetuating a narrow worldview that can lead to societal harm.[15]

Figure 3: *Ethical Consideration—Bias, Harm and Inaccuracy*

1.1 CRITICAL CHALLENGE:
Detection of Bias, Harm and Inaccuracy in GenAI Outputs

Users of GenAI tools, including students and educators, often struggle to identify biases, harmful content, or factual inaccuracies in GenAI outputs due to opaque AI systems. These challenges arise from a lack of transparency regarding the data sources and algorithms used in GenAI models, which can perpetuate societal biases, inaccuracies, and even fabricate information (hallucination) based on gaps or inconsistencies in the training data. Inherent biases in AI algorithms used in educational contexts can perpetuate existing prejudices, particularly against marginalized groups. Especially in AI-based evaluation tools, these biases can lead to unfair assessments of students whose writing style or cultural background differs from the norm established by the training data, affecting their learning outcomes and overall educational experience.[16]

Use cases such as AI-based grading systems and research tools in higher education can expose biases in algorithms, leading to unfair assessments and the spread of inaccurate information, which negatively impact student performance and academic integrity.

Root Causes

- **Impact of training data selection:** The selection and composition of training data are critical to addressing Bias, Harm and Inaccuracy in GenAI outputs. Unverified or incomplete sources in training data can lead to biased and inaccurate AI-generated content, as the models learn patterns from data that may lack diverse perspectives or ethical oversight. Like other deep learning-based tools, ChatGPT can only be as good as its training data and is probabilistic and stochastic, as it predicts the most likely next word based on learned patterns, leading to variability and potential inconsistencies.[17] In regions with limited digital representation, especially data-poor regions in the Global South, AI models trained predominantly on data reflecting the values of the Global North may produce content that is culturally inappropriate and contextually irrelevant. This can create educational inequities, as students may receive content misaligned with local needs.[4]

- **Unexplainable AI Models:** Chatbots like ChatGPT can be characterized as "black box" AI systems, meaning the AI systems' internal workings, decision-making processes, and the logic behind their outputs are not transparent or easily understandable to users.[18] This lack of transparency hampers users' ability to assess the validity of outputs. Without insight into how these outputs are constructed and the complexity of the decision-making process of AI systems, users are more likely to place unwarranted trust in the information provided, which may inadvertently propagate misleading, biased, or contextually inappropriate content. This risk is heightened in educational contexts, where unverified outputs, presented in an authoritative tone, can undermine the reliability of information and critical thinking.

1.2 CRITICAL CHALLENGE:
High Trust in GenAI Outputs Among Students

The high level of trust student place in GenAI outputs increases the risk of widespread misinformation. Research shows that about 75% of students believe GenAI improves their schoolwork, viewing it as a reliable academic tool.19 GenAI tools, such as ChatGPT, effectively mirror the tone of user inputs, enhancing the perceived relevance and relatability of responses.[20] Tone mirroring refers to a GenAI model's ability to detect and replicate the tone, sentiment, style, or level of formality of the input prompt when generating a response. This nuanced interaction makes AI outputs feel more personalized and contextually aligned, possibly leading to a higher level of trust in its responses.

Overreliance on GenAI without critical engagement can amplify misinformation, as authoritative-sounding responses may include fabricated data or false citations, undermining research integrity. In the long term, this overreliance could weaken students' ability to develop independent analytical skills. They may be less inclined to question the validity of AI-generated content, potentially affecting the depth

of understanding and engagement with complex subjects. This may gradually diminish the quality of education by limiting intellectual curiosity and thoughtful inquiry.

Root Causes

- **Lack of proper training or guidance on GenAI usage:** Due to a lack of guidance on how to critically evaluate AI-generated content, users like students are ill-equipped to identify biases or inaccuracies in the outputs they encounter. Building literacy in GenAI is important to engage critically with AI-generated content, allowing students and educators to recognize when and how GenAI is used in various domains and assess the reliability and validity of outputs.[21] Without proper training, users may lack the evaluative skills needed to scrutinize AI outputs, making them more likely to accept information provided at face value. Education institutions, like most other comparable bodies and organizations, are still trailing on ideating, training and applying processes to integrate the use of GenAI in teaching, assessing and administrative processes, for e.g., pedagogy or updating assessment methods to address AI-produced submissions.

ETHICAL CONSIDERATION #2

DATA PRIVACY AND SECURITY

DEFINITIONS

DATA PRIVACY
The protection of personal data from those who should not have access to it and the ability of individuals to determine who can access their personal information. Data privacy is a set of principles that govern the responsible handling, protection, and control of individuals' personal information to prevent unauthorized access or usage.

DATA SECURITY
The practice of protecting digital information from unauthorized access, corruption or theft throughout its entire lifecycle.

IN THE CONTEXT OF GenAI

The use of GenAI raises **privacy concerns**, as user data is often collected, stored, and potentially shared with third parties for **marketing or surveillance**, risking sensitive information. **LLMs** process large amounts of training data, which may include sensitive personal information that could inadvertently appear in generated outputs, exposing confidential details. Many models rely on data scraped from public sources, social media, and other platforms, therefore without **explicit consent**. Additionally, GenAI is vulnerable to **model inversion attacks**, where adversaries reverse-engineer models to extract sensitive information from the training data, posing significant risks when datasets include personal or demographic details. Another threat is the possibility of data poisoning attacks. Data poisoning occurs when attackers inject malicious or corrupted data into training datasets, aiming to manipulate the behavior of AI models. **In the context of GenAI use in education**, this is an ethical challenge as it risks exposing sensitive student data to breaches, unauthorized access, and misuse, compromising privacy and trust.

USE CASE IN EDUCATION
ILLUSTRATIVE EXAMPLE

Shane uses a generative AI tool to help with homework, later finding that his browsing habits and study interests are used to target ads, raising concerns about data tracking.

RESEARCH & EVIDENCE

20% of Organizations in the UK Banned Use of GenAI Over Privacy and Data Security Risks.[22]

The Cisco 2024 Data Privacy Benchmark Study reveals that most organizations are limiting the use of GenAI over data privacy and security issues. 27% had banned its use, at least temporarily. The same survey found that 61% of respondents control which generative AI tools can be used, and 63% limit the type of data that can be entered into these tools.

Figure 4: *Ethical Consideration—Data Privacy and Security*

2.1 CRITICAL CHALLENGE:
Lack of transparency in Personal Data Collection and Usage

Many generative AI tools lack transparency regarding how users' personal data is collected, processed, and utilized. The lack of transparency arises from the complexity of AI systems, where data handling processes are embedded in opaque algorithms, making it difficult to explain or audit how data is used. In education, students often interact with GenAI tools without understanding how their personal data—potentially including sensitive academic records, behavioral patterns, or even emotional responses—is collected, processed, and used. For instance, sensitive information exposed through student interactions with GenAI tools may include emotional responses, such as AI analysis of written sentiment, revealing mental health concerns, or identifiable personal information like names, contact details, or student IDs, which could be misused or exploited.

Students are often unaware of the extent to which their data contributes to AI model performance improvements and use these tools without understanding the risks tied to data sharing. Data breaches in the context of GenAI tools in education pose significant risks, as unauthorized access to sensitive personal data can result in severe privacy violations. The absence of clear communication about data handling also increases the potential for data breaches, further jeopardizing student privacy and security. Ethical responsibility rests with AI developers to adopt privacy-by-design principles, ensuring users can understand and control how their personal data is managed.

Root Causes

- **Lack of Standardized Global Frameworks:** The absence of a standardized global framework for data privacy and protection in GenAI directly contributes to the unchecked use of personal data. GenAI tools operate in a fragmented regulatory environment. This may allow developers to collect, process, and use sensitive information, including students' academic records and behavioral patterns, without consistent oversight. For example, in Europe the GDPR regulations grant individuals the right to insist that organizations forget their data. However, GenAI tools may not have the full ability to remove individual data items from their training dataset.[24]

2.2 CRITICAL CHALLENGE:
Variations in data privacy standards across regions

The lack of globally harmonized data privacy regulatory frameworks leads to significant disparities in user data protection, with some regions having robust legal frameworks (e.g., GDPR in EU) and others having minimal or no regulations. This exposes users in less-regulated areas to higher risks of data breaches and misuse, including potential leaks, unauthorized access, or secondary uses of personal information.

Use cases in globally deployed GenAI tools expose users in different countries to varying data privacy standards, increasing the risk of breaches and misuse in regions with weak regulatory frameworks.

Root Causes

- Lack of Standardized Global Frameworks: Differences in national priorities, regulatory capacities and maturity, and economic contexts have led to varying approaches to data privacy across regions.[25] This variability presents challenges in the implementation and enforcement of data protection laws for GenAI tools, especially in developing countries where resources for establishing comprehensive regulatory frameworks are limited. The ability of a region to implement and enforce data privacy laws also varies based on its technological infrastructure and regulatory maturity including aspects like presence of regulations, data protection authorities and enforcement mechanisms. More developed regions may have the resources to enforce strict data privacy laws. The varying state of regulatory maturity leads to differences in the formulation of laws as some regions are still in the process of developing laws that specifically address the complexities of GenAI. Moreover, disparities in policy goals

between nations complicate efforts to establish a unified global standard for the safeguarding of personal data within GenAI systems.

- Rapid Technological Advancements: As is the case with most of the disruptive innovations, the pace of AI innovation outstrips the development and implementation of corresponding data privacy regulations, leaving gaps in user protection. Many of the laws governing data privacy, intellectual property and consumer protection were not designed with AI in mind.[26] Additionally, there is a considerable knowledge gap among regulators regarding the capabilities and risks of emerging technologies. The rapid advancement of AI technologies outpaces the development of regulations and privacy protection measures, making it challenging to ensure effective oversight and safeguards.[27] This underscores the need for a more agile, anticipatory approach to regulation, one that can proactively address emerging risks rather than relying solely on reactive measures.

ETHICAL CONSIDERATION #3

CREATIVITY AND CRITICAL THINKING

DEFINITIONS

CREATIVITY
The tendency to generate or recognize ideas, alternatives, or possibilities that may be useful in solving problems.

CRITICAL THINKING
Disciplined process of actively analyzing, synthesizing, and evaluating information to guide decision-making

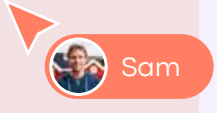
IN THE CONTEXT OF GenAI

Over-relying on tools to complete educational tasks can hinder students' ability to engage deeply with content, explore diverse perspectives, and develop original solutions, stunting their critical thinking and creativity. This could potentially **weaken essential cognitive abilities** such as critical thinking and analytical reasoning.

Critics argue that this reliance could degrade **educational quality** by **stifling innovation**, as students might not engage deeply with material or think critically about information presented to them. For instance, while AI can help overcome writer's block or streamline content creation, it may also lead to a situation where individuals default to AI-generated ideas instead of cultivating their own creative processes.

USE CASE IN EDUCATION
ILLUSTRATIVE EXAMPLE

Sam uses GenAI to solve math problems, but after a while, he struggles to work through challenges on his own and feels less confident in his abilities.



RESEARCH & EVIDENCE

16% of college students preferred to brainstorm without AI: a small number, compared to 100% stating that AI is useful for brainstorming.[28]

A University of Southern California study[28] found that while ChatGPT enhanced students' individual creative output, its ideas were often repetitive due to recycling existing content. Some students reported a "fixation of the mind," finding it difficult to generate original ideas after seeing the AI's suggestions.

Figure 5: *Ethical Consideration—Creativity and Critical Thinking*

3.1 CRITICAL CHALLENGE:
Overreliance on GenAI undermining independent thinking

Students who heavily depend on GenAI tools risk bypassing essential cognitive processes needed for creative and critical thinking. This dependence may weaken their ability to analyze, reason, and generate original ideas. The convenience of AI-generated responses may lead to passive learning, where students consume information without actively engaging in the thought processes required for deep understanding. Over time, this could weaken their ability to think independently, adapt to complex real-world challenges, and innovate in their respective fields.

Use cases in AI-assisted research, essay writing, and problem-solving tools may lead to overreliance, limiting students' ability to think autonomously

Root Causes

- **Academic Pressure and Time Constraints:** Students across the globe face overwhelming and continuously increasing workloads (as noted in several research studies[29]). This may lead them to resort to shortcuts like using GenAI tools to complete the tasks over personal academic development. For instance, 67% of UK secondary school students use AI for homework and assignments.[30] While academic workloads are a significant factor, the ease and convenience of GenAI tools also tempt some students to take the easier route for task completion, even without external pressures.

3.2 CRITICAL CHALLENGE:
Unequal Access to Generative AI Tools

GenAI may be a powerful enabler in generating initial ideas, sparking initial creativity and performance outcomes. However, when access to such technologies is restricted, it risks creating a divide—both in the learning curve and in performance outcomes—between those with access and those without. Unequal access may arise due to economic and infrastructural barriers. Urban areas typically benefit from better internet connectivity, greater access to advanced technology, and higher levels of awareness, while rural areas often face limited access to reliable internet and devices, as well as less exposure, hindering students' access to GenAI. Unequal access to these technologies can hinder disadvantaged students, as they may not have the same quick and effortless access to a wide range of information from multiple sources that GenAI provides, which supports the creative thinking process of their peers. When used without overreliance, GenAI can help spark idea generation by providing information from varied sources and facilitating exploration of different perspectives. However, it is crucial to critically engage with generative AI, ensuring users understand its potential while maintaining an awareness of its limitations.

Use cases in AI-based learning tools, research platforms, and tutoring tools often exacerbate inequalities, as students from lower socio-economic backgrounds struggle to access them.

Root Causes

- **Lack of funds and adequate digital infrastructure:** Students from disadvantaged socio-economic backgrounds often lack access to GenAI tools due to limited awareness or economical inability to afford the required hardware, network connections, and paid subscriptions. For instance, a recent survey indicated that the most privileged students were much more likely to say they expect to use GenAI tools in the future than other students.31 This puts underprivileged students at a disadvantage compared to peers who can access and afford the same tools to enhance creativity, idea generation, and critical thinking, leading to deepening of educational inequities. A lack of adequate digital infrastructure, including limited local development of AI tools due to insufficient compute power, further exacerbates the issue. Over time, this gap may translate into reduced employment prospects, as they are less equipped to navigate a workforce increasingly reliant on AI-driven tools and technologies, perpetuating social and economic inequalities.

ETHICAL CONSIDERATION #4

ACADEMIC INTEGRITY

DEFINITION

ACADEMIC INTEGRITY
Academic integrity may be defined as the commitment to and demonstration of honest and moral behavior in an academic setting. In the context of GenAI, undisclosed and unauthorized use of AI tools for academic work can be seen as misconduct, as it risks unfair advantages and undermines integrity

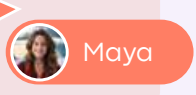
IN THE CONTEXT OF GenAI

As AI-generated content becomes harder to distinguish from human work, maintaining fairness and honesty grows increasingly challenging. Current automatic detection tools have been less sophisticated and unreliable, making it **challenging for educators to identify** instances of academic misconduct effectively.

With tools that can generate text, solve problems, and even assist with research, students may find it easier to engage in **plagiarism** or other forms of cheating through GenAI. GenAI's outputs can unknowingly replicate **copyrighted material** from its training data, raising **academic integrity concerns** when students use such content without proper attribution. This misuse risks breaching **intellectual property laws.**

USE CASE IN EDUCATION
ILLUSTRATIVE EXAMPLE

Maya uses GenAI for research, which generates output from various papers without attribution, and later, she is accused of plagiarism by her university.



RESEARCH & EVIDENCE

47%+ of Cambridge University students have used AI to complete coursework. Are true values of degrees compromised?[32]

The International Center for Academic Integrity reported that **58%** of students admitted to using AI tools to complete assignments dishonestly.[33]

13 copyright-related lawsuits were filed against GenAI companies in 2023, which claimed AI developers unlawfully utilized copyrighted material.[34]

Figure 6: *Ethical Consideration—Academic Integrity*

4.1 CRITICAL CHALLENGE:
Difficulty in verifying authenticity of academic submissions

Various research publications like ChatGPT and the Rise of Generative AI: Threat to Academic Integrity?[35] acknowledge the rise of students using GenAI tools for academic submissions while the regulations around it remain incomplete, varied or at the very least, incompetent to detect original versus AI-generated content. The long-term impact of not verifying student submissions using generative AI could raise concerns about the authenticity of academic credentials, potentially affecting the perceived value of degrees. This may also pose challenges for employers, who might face uncertainties regarding the true skills and competencies of candidates, which could influence hiring decisions.

Use cases in AI-assisted essay writing, research generation, and academic content creation raise concerns about the difficulty in verifying the authenticity of student submissions.

Root Causes

- **Outdated Assessment Frameworks and Inadequate AI Detection Tools:** Traditional grading and evaluation systems have not been updated yet to differentiate between AI-generated and original work, leaving a gap in accurately measuring creativity and rewarding ethics and honesty. The rapid uptake of GenAI to assist student work not only highlights the importance of revisiting key concepts in assessment (e.g. assessment security and validity) but also points to the need for reviewing and redesigning assessment in higher education to better prepare students for a world with AI.[36] Additionally, AI detection tools assess text by examining word patterns, sentence structures, and stylistic elements to differentiate between human and AI-generated content. AI-generated text often exhibits repetitive phrasing, uniform sentence length, and unusual word usage frequency. However, as AI models advance and produce more human-like outputs, detection accuracy declines. Detection tools can produce inaccurate results, either incorrectly flagging human-written content (false positives) or failing to detect AI-generated text (false negatives). This is particularly problematic with content that blends human and AI inputs. A study[37] found that while some AI-generated content was accurately identified, detection tools frequently yielded false negatives and uncertain classifications. This inconsistency raises concerns about the effectiveness of these tools, particularly in critical contexts such as academic integrity investigations.

4.2 CRITICAL CHALLENGE:
Lack of Guidelines for the Proper Use of GenAI in Academic Settings

The absence of clear guidelines and guardrails regarding the use of GenAI in academic settings leaves gaps for academic dishonesty attempts, whether intentionally or not. Without established protocols, students and faculty may struggle to understand what constitutes acceptable use of AI tools, resulting in confusion about plagiarism and the ethical implications of AI-generated content.[36]

Use cases in academic research, examination and project work, and AI-assisted learning highlight the need for clear guidelines, as the lack of established protocols fosters ambiguity around acceptable AI usage.

Root Causes

[same as for critical challenge **2.2 – "Rapid Technological Advancements"**]

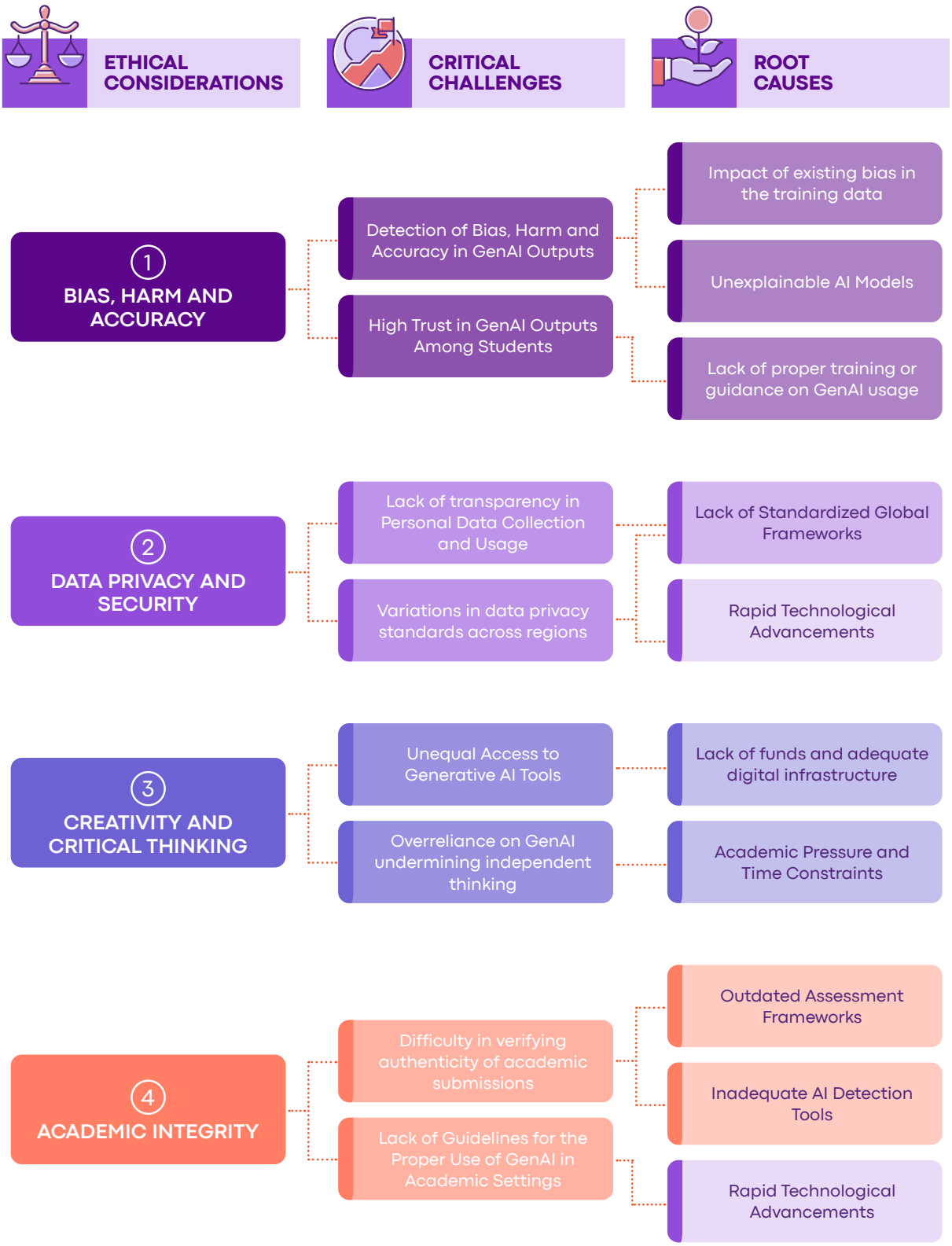


Figure 7: *Summary Mapping of Ethical Considerations, Critical Challenges and Root Causes*

3 A Review of AI Policy Landscape

A Review of AI Policy Landscape

Collaboration among institutions, tech providers, and policymakers will be different in shaping the ethical governance of AI in the education sector. An overview of the landscape informs the areas that this paper attempts to address from a youth perspective.

Recent developments, such as the EU AI Act[38] and the U.S. Blueprint for an AI Bill of Rights[39], mark a global shift towards establishing laws and guidelines aimed at balancing ethical oversight with fostering technological innovation, signaling the beginning of a structured, accountable AI era.

A review of the existing AI policy landscape provides a guiding framework to navigate the complexities of AI's rapid evolution. Current frameworks vary across regions, reflecting local priorities. By analyzing these initiatives, we can identify gaps, adapt existing policies, and undertake new initiatives that address emerging challenges.

UNITED STATES

- The national AI initiative act 2020
- FTC | aiming for truth, fairness and equity in company's use of AI 2021
- Artificial intelligence and algorithmic fairness initiative 2021
- Blueprint for an AI bill of rights 2022
- NIST AI risk management framework 2022
- AI Foundation Model Transparency Act 2023
- US Executive Order 2023
- NIST GenAI profile and cybersecurity program 2024
- National Security Memorandum on AI, 2024

UK

- Data Ethics Framework – 2018
- AI in the Public Sector – 2019
- Understanding AI Ethics and Safety – 2019
- National AI Strategy 2021
- Guidance on AI and data protection 2021
- Defence AI strategy 2022
- Policy paper: Establishing a pro-innovation approach to regulating AI 2022
- Health and Care Act 2022
- Policy paper: A pro-innovation approach to AI regulation 2023
- CMA Report on AI Foundation Models 2023
- Public sector AI Private Members' Bill , 2024

EU

- European AI Strategy 2018
- Ethics guidelines for trustworthy AI 2019
- European Health Data Space 2022
- EU Clinical Trial Regulation 2014
- EU Regulation on Human Medicines
- EU Medical Devices Regulation
- EU 2017/45 In Vitro Diagnostic Medical Devices Regulation
- European Convention on Human Rights Article 8
- Oviedo Convention on Human Rights and Biomedicine
- Convention for the Protection of Individuals with Regard to Automatic Processing of Personal Data
- EU AI Liability Directive 2022 [updated 2024]
- EU Data Governance Act 2022
- EU Data Act 2023
- EU AI Act 2024
- New guidance on AI and equality available to public sector bodies, 2024

CHINA

- Guidelines for the construction of a national new generation AI standards system 2020
- New Generation AI Ethics Code/Norms 2021
- Provisions on the Administration of Internet Information Service Algorithm Recommendations 2022
- Measures for the Management of Generative AI Services 2023
- Regulations on the Administration of Deep Synthesis of Internet Information Technology 2023
- Information Security Technology - AI Computing Platform Security Framework 2023
- White paper on AI Security Standardization (2023 Edition)
- Guidelines for content identification method for generative AI 2023
- Regulations on the Safety Management of Facial Recognition Technology Application 2023
- AI Safety governance framework, 2024
- Shanghai Declaration on Global AI Governance, 2024

HONG KONG

- Consumer protection in respect of use of GenAI, 2024

JAPAN

- Report on AI Governance in Japan Ver. 1.1 - 2021
- AI governance guidelines for implementation of AI Principles ver. 1.1 2022
- AI strategy 2022
- ML Quality management guideline 2023

KSA

- SDAIA: AI Ethics Principles, 2023
- Policies on the Use of Generative AI in Digital Learning, 2024

BRAZIL

- Bill No. 2338/2023 on Artificial Intelligence

CHILE

- National Policy on AI – 2022

INDIA

- Operationalizing principles for responsible AI 2021
- Handbook for developers of AI addressing essential ethical frameworks in AI 2021
- Handbook for mitigating bias in AI 2021
- Presentation Proposal for a Digital India Act 2023
- National Strategy on Robotics 2023

AUSTRALIA

- AI Ethics Principles – 2019
- AI Action Plan – 2022
- Issues Paper: Automated Decision Making and AI Regulation – 2022

Figure 8: *AI Policy Landscape Map*

Source: Accenture Research

AI governance extends beyond AI-specific regulations to include broader frameworks like personal data protection laws, which serve as foundational elements in managing AI systems' ethical and secure deployment. For instance, regulations such as the General Data Protection Regulation (GDPR)[40] in Europe mandate that for any specific purpose, only the minimal required data should be used. AI mechanisms must abide by this too. While relevance must be given to this entire gamut of AI governance, the focus below is on highlighting key developments in AI-specific policies and regulations.

REGION-SPECIFIC POLICIES AND REGULATIONS

AI governance frameworks vary significantly across regions reflecting national priorities and highlighting unique concerns ranging from risk management to data privacy and security.

EU AI ACT

The European Union has been a frontrunner in the development of AI regulations, with The Artificial Intelligence Act of the European Union[38], (also known as the EU AI Act) serving as the world's first comprehensive AI legislation. The law governs the development and/or use of AI in the region. The act classifies AI systems, and imposes requirements, according to different levels and severity of risk: unacceptable, high, limited, and low or minimal. The law applies to providers (developers), deployers and importers of AI systems. Education-related AI systems deemed "high-risk", will have to be registered in the EU database and will be assessed before being put on the market. These systems must undergo a third-party assessment before they can be sold or used. The implications for education include increased accountability and oversight of AI technologies, which can enhance trust and safety in educational settings.

AUSTRALIAN FRAMEWORK FOR GENERATIVE ARTIFICIAL INTELLIGENCE (GenAI) IN SCHOOLS

Launched by the National AI in Schools Taskforce in 2023[41], the framework provides essential guidelines for the ethical and responsible use of generative AI tools in educational settings. It emphasizes six core principles (spanning the areas of teaching and learning; human and social well-being; transparency; fairness; accountability; and privacy, security, and safety) and 25 guiding statements that aim to foster a safe learning environment.

A few of the key guiding statements are outlined below—

1. **Critical thinking:** generative AI tools are used in ways that support and enhance critical thinking and creativity, rather than restrict human thought and experience.

2. **Academic integrity:** students are supported to use generative AI tools ethically in their schoolwork, including by ensuring appropriate attribution.

3. **Explainability:** vendors ensure that end users broadly understand the methods used by generative AI tools and their potential biases.

4. **Privacy disclosure:** school communities are proactively informed about how and what data will be collected, used, and shared while using generative AI tools, and consent is sought where needed.

POLICIES ON THE USE OF GENERATIVE AI IN DIGITAL LEARNING IN KSA

In the Kingdom of Saudi Arabia (KSA), policies regarding the use of generative AI in education aim to enhance digital learning while ensuring ethical practices. In June 2024, The Ministry of Education established guidelines that promote the responsible integration of AI technologies into classrooms.[42] These policies emphasize the importance of training educators to effectively incorporate generative AI tools into their teaching methods and include mechanisms for assessing the impact of these technologies on educational outcomes. Additionally, comprehensive training to educate students and educators on responsible GenAI use, misuse recognition, ethical practices, and fraud detection is highlighted. The objective is to enhance teaching practices and student engagement while maintaining ethical standards.

UNITED STATES' BLUEPRINT FOR AN AI BILL OF RIGHTS

The Blueprint for an AI Bill of Rights[39] published in October 2022 by the White House Office of Science and Technology Policy is a framework aimed at guiding the responsible and ethical use of AI in the U.S. The blueprint underscores five core principles:

1. **Safe and Effective Systems** - AI systems should undergo rigorous testing and risk mitigation to ensure safety and reliability.

2. **Algorithmic Discrimination Protections** - Systems must be designed to avoid bias and ensure equitable outcomes for all individuals.

3. **Data Privacy** - Users should have control over how their personal data is collected and used, with heightened oversight for sensitive data.

4. **Notice and Explanation** - AI users should be informed about the presence of automated systems and understand how decisions are made.

5. **Human Alternatives, Consideration, and Fallback**- When appropriate, individuals should have the option to opt out of automated processes in favor of human intervention.

CHINA'S GENAI REGULATIONS

China issued the first administrative regulation on the management of GenAI services[43], which came into effect on August 15, 2023. The protocols to be followed include—

1. **Data training:** GenAI service providers must use data and models from legitimate sources, respect intellectual property rights and personal information, and strive to improve the quality, authenticity, accuracy, objectivity and diversity of the training data they utilize.

2. **Content moderation:** GenAI service providers are required to remove any illegal content and employ measures for model optimization training.

3. **Reporting mechanism:** GenAI service providers must establish a complaints and reporting mechanism, where they accept and handle complaints and reports from the public and provide feedback on the outcome of these cases.

INTERNATIONAL BODIES: GLOBAL COLLABORATION FOR ETHICAL AI

International organizations play a critical role in standardizing AI governance across countries, providing ethical guidelines which may influence national strategies. Though the current discourse has not yet been formalized as frameworks and mandatory regulations, some current developments include—

UNESCO'S RECOMMENDATION ON THE ETHICS OF AI

This comprehensive framework prioritizes human rights and ethical principles in AI use.[44] In education, UNESCO emphasizes mitigating bias, ensuring equitable access to AI tools, and fostering AI literacy to bridge divides. For instance, it calls for building frameworks that prevent AI misuse, ensuring systems are inclusive and transparent.

UNESCO'S GUIDANCE FOR GENERATIVE AI IN EDUCATION AND RESEARCH

Emphasizing a human-centered approach, the guidance promotes inclusion, equity, and cultural diversity while addressing risks such as data privacy and age restrictions on AI tool usage.[4] It outlines seven key steps for effective regulation, including establishing data protection standards and enhancing teacher training.

UNESCO'S "AI AND EDUCATION: GUIDANCE FOR POLICYMAKERS"[45]

Advises policymakers to develop inclusive and transparent AI policies that prioritize human rights, ethical considerations, and fairness. It stresses the importance of AI literacy, building educators' capacities to integrate these tools responsibly, and ensuring equitable access to AI for all students.

WORLD ECONOMIC FORUM (WEF)

WEF outlines seven principles to demonstrate best practices for deploying AI in classrooms.[46] These principles advocate for safety, inclusiveness, and fairness, encouraging collaboration between governments and private sectors. The principles underscore the importance of promoting AI literacy, maintaining human decision-making while using AI.

Continuous dialogue and adaptive strategies will be essential for promoting responsible AI use as the technology continues to evolve. While policies and regulations for AI in education are still in the early stages of development, they offer initial guidance for best practices moving forward. As primary stakeholders in the education ecosystem and digital landscape, youth participation is essential in shaping AI governance. Their lived experiences and innovative thinking can inform policy design, offering insights that resonate with their generation. The subsequent section of the paper harnesses youth perspectives and adopts a youth-led approach to co-designing actionable solutions.

4 Stakeholders in Focus

Stakeholders in Focus

This section highlights key challenges identified by youth as barriers to the ethical use of GenAI in education, along with their underlying causes.

The unchecked adoption of GenAI raises concerns about its impact on critical thinking, academic integrity, and transparency, among others. However, its transformative potential for learning and assessment is also acknowledged.

Building on the recognition of both challenges and opportunities, the paper maps out key stakeholders and delineates their specific roles within the educational ecosystem. It examines the risks of GenAI, such as potential misuse and threats to academic integrity, alongside its opportunities to enhance learning and assessment methods. By integrating these insights, the paper seeks to deliver a nuanced understanding of ethical challenges and practical solutions, ultimately guiding stakeholders toward actionable strategies that foster both innovation and integrity in education.

IDENTIFYING KEY STAKEHOLDERS

While addressing the ethical challenges of GenAI in education, it is crucial to identify and engage key stakeholders within the education ecosystem.

Each stakeholder is impacted differently by GenAI, driven by the differences in their roles and responsibilities. By tailoring recommendations to a specific stakeholder, we can ensure a coordinated effort across the education system, promoting responsible use of GenAI that aligns with ethical standards and supports positive learning outcomes. Furthermore, advocating for the participation of civil society, including community-based organizations and non-governmental organizations, is essential. Civil society can act as an effective advocacy partner by organizing awareness campaigns, lobbying for policy changes to ensure ethical AI deployment, monitoring AI-related practices for transparency, and collaborating with educators to design and deliver AI literacy programs that empower students and teachers to navigate and critically evaluate GenAI tools.

Presented below are the key stakeholders and their responsibilities in the education ecosystem, to maximize the opportunities GenAI offers and address the challenges it poses.

STAKEHOLDER	ROLE IN THE EDUCATION SYSTEM	OPPORTUNITIES	CHALLENGES
Policymakers, especially the Education Ministries	• Designing and setting national education standards and priorities. • Setting education policies, regulations, accrediting programs for higher education institutions.	• New opportunities to expand technological access to underserved and vulnerable populations. • Efficiency in streamlining repetitive and/or administrative tasks. • Innovation in Curriculum: Integrating AI literacy in national curricula to empower future generations. GenAI tools can be leveraged for long-term educational planning, enhancing learning outcomes and elevating national education standards.	• Continuous updates to curricula and examination standards. • Aligning new educational policies. • Lack of capacity or infrastructure in some regions to disseminate adequate training and deployment of tools.
Educational Institutions	• Developing and updating institutional policies rules of conduct • Ensuring compliance with regulations and accreditation standards.	• Improves operational efficiency through automation of administrative tasks. • Improved learning environment for students: GenAI can help create tailored learning experiences, addressing diverse student needs. • Tools to assist educators in lesson planning, grading, and content generation, increasing teaching efficiency. • Enhanced and more efficient institutional research output.	• Challenges in defining and updating academic ethical principles to prevent the misuse of GenAI tools. • Implementation Costs: High costs of acquiring and maintaining GenAI tools may burden under-resourced institutions.
Educators/ Teachers	• Delivering education by designing and disseminating relevant course content. • Conducting research, and mentoring students.	• GenAI tools have multiple relevant use cases—automated grading, enhanced lesson planning and interactive content delivery etc. • AI can assist with administrative tasks, giving teachers more time for focused teaching.	• Inability to easily distinguish AI generated content from human output. • Risk of students' overreliance on GenAI. • Resistance to Change: Faculty and administrators may resist adopting new technologies.
Students	• Seek knowledge and actively participate in the learning process to develop personal and professional paths.	• Personalized and adaptive learning pathways • Instant learning support and query resolution • Personalized tutoring, homework help, and real-time feedback to enhance learning may be accessed	• Risk of misinformation, biased and inaccurate content. • Overreliance is detrimental to critical thinking and learning development. • Concerns over personal data being collected, processed, and potentially misused without informed consent.
Technology Providers	• Designing and delivering GenAI tools that align with academic needs.	• Opportunity to design innovative solutions tailored for education.	• Accountability and ethical challenges for misuse of their technologies. • Navigating complex and diverse regulatory requirements.

A clear understanding of stakeholder roles and associated challenges is critical to drafting actionable, stakeholder-specific recommendations. The following section outlines tailored solutions aimed at addressing these challenges and ensuring effective implementation across the education ecosystem.

5 Youth-led Policy Recommendations

Youth-led Policy Recommendations

The youth-driven recommendations are designed to address the risks tied to the four identified ethical considerations arising from the use of GenAI in higher education. Delving into each consideration, the recommendations propose actionable solutions to the challenges posed while emphasizing the importance of collaboration between stakeholders, ensuring youth perspectives remain central to decision-making.

The prioritized recommendations, recognized as most critical and relevant by both youth and experts, are outlined. These recommendations were developed using a feasibility-versus-impact matrix to ensure they lead to practical and meaningful outcomes.

GenAI LITERACY AND CAPACITY BUILDING PROGRAMS

POLICY RECOMMENDATION:

Implementing structured **GenAI competency frameworks and training modules** within the academic curriculum. This will lead to enhancing GenAI literacy among students and educators which, in turn, will result in a well-informed community proficient in responsible AI integration.

DESCRIPTION

What is generative AI literacy? A set of competencies which includes awareness about its use and utility, enabling individuals to critically evaluate generative AI technologies, communicate and collaborate effectively with generative AI, and use generative AI as a tool at home and in a workplace setting.[47] GenAI literacy expands to include the following competencies: elementary AI literacy; knowledge of GenAI models; skills to use GenAI models; ability to detect AI-generated content; knowledge of the ethical implications.[48]

COMPONENTS OF THE RECOMMENDATION

A structured GenAI competency framework and training modules embedded in the academic curriculum would address the key learning needs of students and educators ensuring responsible educational AI integration. The competency framework should be designed with progressive skill levels—basic, intermediate, and advanced—to progressively develop GenAI proficiency, enabling responsible use, critical evaluation, and effective application across academic contexts and addressing the different stakeholder

groups. Institutes should define mandatory skill requirements depending on the academic field and student goals. For instance, STEM students may need to attain at least intermediate-level GenAI proficiency to engage with AI-driven research or computational tasks, while students in humanities may require critical evaluation and ethical AI literacy skills. Furthermore, the framework should incorporate a taxonomy for identifying and comprehending common biases, inaccuracies, and potential harm perpetuated by GenAI, equipping users with the skills needed to critically assess AI outputs and ensure ethical use.

To effectively implement the competency framework, there should be periodic assessments and measurable learning outcomes to track proficiency at each skill level. For the basic skill level, modules should be mandatory, focusing on fundamental awareness and basic applications of GenAI to ensure that all students possess foundational literacy. At the intermediate and advanced skill levels, the framework will combine mandatory requirements with optional modules for specialized learning [e.g. industry-specific AI applications; using GenAI for data analysis in business or creating AI-generated content in digital media].

Basic:

Understanding GenAI fundamentals, including its purpose and basic applications. Ability to interact with AI tools for simple tasks like content generation and summarization. Courses at this level would cover topics like an introduction to GenAI, ethical considerations in AI use, AI content creation, and basic verification techniques for assessing the validity of AI-generated outputs.

Intermediate:

Gaining the ability to critically assess AI outputs for bias, inaccuracies, and ethical implications. Utilizing AI for more complex tasks like research assistance and problem-solving in academic contexts. Comprehensive understanding of AI models and how they operate, their applications, and limitations.

Advanced:

Proficiency in designing and creating AI models; ability to optimize and deploy GenAI solutions for practical use in education, research, and beyond. Emphasize mastery in applying GenAI for complex tasks, including building and fine-tuning their own custom GPT models, conducting AI-driven research, and developing solutions to mitigate AI risks. Mandatory courses will cover advanced topics such as AI model training, deep learning techniques, AI-driven data analysis, and regulatory implications of AI usage.

Some essential training modules that could be incorporated within the academic curriculum are outlined below:

FOR STUDENTS

Foundational Knowledge:

Learning how GenAI works, its applications, and ways to engage effectively with the tools.

Critical Evaluation Skills:

Developing the ability to critically assess GenAI outputs for bias, inaccuracies, and ethical implications.

Ethical Literacy:

Focusing on data privacy, academic integrity, and balanced use of tools to foster creativity and problem-solving.

Human-Centered Mindset:

Encouraging students to understand and assert their agency in interacting with GenAI tools.

FOR EDUCATORS:

Practical Integration:

Conducting targeted workshops on integrating GenAI tools into education, including:

- Tools like ChatGPT, commonly used by students.
- AI for lesson planning, grading, and classroom engagement.
- AI-detection technologies to maintain academic integrity.

Ethical Guidance:

Equipping educators to address challenges like bias and data privacy while guiding students on responsible GenAI usage.

Hands-On Training:

Offering hands-on sessions on leveraging GenAI for administrative and instructional efficiency.

IMPLEMENTATION PROCESS

STAKEHOLDERS INVOLVED	ACTIONABLE STEPS
Policymakers and Education Ministries	• Establish national guidelines for GenAI competency integration, ensuring consistency across institutions while allowing for local adaptations. Consult supranational organizations to ensure unidirectional standards • Set the indicative minimum requirements for competency levels • Adapt to reflect regional context and necessary modifications • Set up monitoring and evaluation metrics to measure the implementation and impact of GenAI literacy programs across institutes • Develop a framework document outlining the taxonomy, with examples and use cases tailored to educational contexts
Educational Institutions	• Design and customize competency framework to align with institutional focus, ensuring adherence to national guidelines and promoting skill development in GenAI applications • Incorporate GenAI literacy into curricula, ensuring comprehensive training for students and faculty. The training may also be designed for specific tools that the institute approves • Organize awareness campaigns, conduct regular workshops and certifications for educators on AI literacy and teaching methods
Educators & Students	• Undertake training and ensure continuous learning on latest trends of the use of GenAI in education and instructional learning • Apply training knowledge and incorporate guidelines into daily GenAI usage
Tech providers	• Tech providers could partner with local schools and institutions to conduct generative AI literacy workshops. Collaborate with governments and schools to co-create educational modules

[Note: While there may be involvement by additional stakeholders like intergovernmental organizations, local NGOs, and others, we focus on outlining the actionable steps for the relevant ecosystem stakeholders]

OUTCOMES

Bias, Harm and Inaccuracy:

The GenAI competency framework would equip students and educators with the necessary knowledge to identify biases and understand GenAI limitation. By understanding how AI systems generate outputs, users would be more aware and cautious about detecting misinformation. Additionally, students should learn strategies for critically assessing GenAI content, identifying potential misrepresentations or imbalances, and questioning the source of data used by AI systems to generate outputs. This awareness would empower them to detect misinformation and engage with AI outputs more responsibly. The framework will also focus on promoting awareness of the ethical implications of GenAI in education, empowering users to make more informed decisions about its application. To assess the effectiveness of these outcomes, measurable indicators will track improvements in students' and educators' capacity to identify biased or inaccurate AI outputs and their ability to engage critically with AI-generated content, particularly through practical assessments and scenario-based exercises. This approach emphasizes capacity building by strengthening users' analytical skills and ability to assess AI-generated content with a critical and informed mindset.

Data Privacy and Security:

A clear understanding would provide awareness about how user data could potentially be used and empower individuals to protect sensitive data and comply with ethical standards. This training will increase awareness of potential privacy risks and ensure that all users are familiar with ethical data practices, encouraging responsible handling of sensitive information. To measure the success of this outcome, institutions can track the reduction in data-related incidents, improvements in user compliance with privacy guidelines, and the level of understanding among students and educators regarding the ethical implications of data sharing.

Academic Integrity:

Structured guidance on how best to use AI in education and reinforce ethical norms (transparency in disclosure of GenAI usage, purposeful usage. This outcome could be measured by evaluating the adherence to institutional guidelines on AI usage, monitoring instances of academic dishonesty.

EVIDENCE AND RATIONALE

UNESCO's AI Competency framework[49] encourages integrating AI-related topics into core subjects across the curriculum, emphasizing interdisciplinary learning in both STEM and social studies. The Human-Centered Mindset highlighted in UNESCO's competency framework emphasizes empowering students to actively shape their interactions with AI tools rather than passively accepting AI-generated outcomes.

Singapore's Education Ministry adopted AI for Math teaching[50] in public primary schools nationwide after a two-year pilot project involving 33 schools. Educators use GenAI for designing lesson plans and supporting classroom material, while students are allowed to use tools like ChatGPT under the supervision of their teachers.

ACADEMIC CODE OF PRACTICE FOR DATA PROTECTION AND SECURITY

POLICY RECOMMENDATION:

Academic institutions should conduct **due diligence and audits** of GenAI tools to ensure compliance with data privacy and security standards. Clear guidelines for **data storage and use** should be established, ensuring that personal information is securely managed and protected from unauthorized access or misuse. **Encryption, data masking, and user-informed agreements** should be prioritized to ensure responsible handling of sensitive information.

DESCRIPTION

Why is data privacy and security important? AI tools learn from conversations, and data may be stored either locally or on cloud servers. Additionally, data can be transmitted back to general training datasets that may inform other use cases or remain contained within a specific interaction. In some cases, input data are deleted immediately after use, while in other cases, data may be stored in user profiles to enhance personalization. A lack of robust global regulation in data handling poses risks to personal information and trust in AI systems. Control over what data is being shared is essential. Since there are varied approaches to data governance, it is important to develop uniform yet adaptive guidelines, and balance global standards with regional specifics and nuances.

What is an Academic Code of Practice for Data Protection and Security? An Academic Code of Practice for Data Protection and Security, outlined by educational institutions, governs the management of on-premises data generated within academic environments. It mandates due diligence and audits of GenAI tools to ensure compliance with institute data privacy and security standards. The code of practice also establishes clear guidelines for data storage and use, ensuring that personal information is securely managed and protected from unauthorized access or misuse. Additionally, it includes access restrictions, encryption, and user consent, ensuring sensitive information is protected.

COMPONENTS OF THE RECOMMENDATION

This recommendation ensures the responsible and secure use of GenAI tools in academic institutions through rigorous due diligence and audits to verify compliance with data privacy and security standards. To achieve this, institutions should conduct pre-implementation audits to assess how these tools collect, store, and process data, identifying potential risks before deployment. A vetting and approval system should be established to ensure that only GenAI tools meeting compliance standards are integrated into academic environments. Additionally, regular compliance checks must be performed to address evolving security threats and regulatory changes, ensuring continuous adherence to best practices for data protection. To ensure compliance, institutions should require independent audits or third-party evaluations of AI vendors' data privacy practices. Security measures include encryption, which transforms data into unreadable code during storage and transmission, ensuring that only authorized users can access it, and data masking, which replaces sensitive information with fictitious but realistic data for testing and AI training purposes. For schools, this protects student records, search histories, and other personal information from breaches. Clear user-informed agreements and strict guidelines for data storage and use must be developed to transparently explain data collection, storage, and usage practices, allowing students and parents to provide informed consent. Institutions must also implement explicit and comprehensive consent mechanisms, clearly explaining how personal data is used, and retention periods. Students and parents should be able to opt-out or request deletion of their data in an accessible manner.

Accountability structures must be set to define responsibility in case of a breach, including how affected users are notified and actions taken to mitigate consequences. Institutions should involve third-party auditors to evaluate their data privacy practices post-breach, ensuring an impartial assessment of the incident and recovery actions necessary. Incorporating synthetic data for AI training further reduces risks of exposing personal information while maintaining tool accuracy.

Finally, in the long-term, a unified academic code of data privacy, aligned with international standards to promote global collaboration, should define permissible data collection (e.g., gender, location, etc.) and enforce ethical usage, ensuring that institutions create a trustworthy, secure, and transparent AI ecosystem.

IMPLEMENTATION PROCESS

STAKEHOLDERS INVOLVED	ACTIONABLE STEPS
Policymakers and Education Ministries	• Partner with national data protection bodies to understand ideal Data Protection Policies and Regulation • Develop national data security and privacy policies: Mandate encryption, data masking, and ethical AI use, contextualized in an education setting • Define a unified academic code of conduct that specifies permissible data types (e.g., demographic information) and ethical AI practices, ensuring uniformity across educational institutions
Technology providers	• Develop systems adhering to required educational policies, incorporating encryption and masking protocols in the long-term • Ensure privacy-by-design in GenAI tools and enable customizable security settings • Work with institutions to co-design features like chat history summaries and alert systems to safeguard students against threats like cyberbullying or exposure to harmful content (e.g., deepfakes)
Educational institutions	• Adopt and develop institutional guidelines on using approved GenAI tool that incorporate data security measures • Form evaluation committees to assess tools for compliance with privacy standards and reject those lacking adequate security measures • Review and deploy AI tools that comply with data privacy guidelines and educate students about the tools and the user agreement terms • Provide regular training for educators on AI tool usage, risks, and student guidance. Ensure privacy-compliant monitoring that respects student data rights
Educators	• Participate in training to understand clear and easily understandable terms of data agreements and educate students about their implications. Simplified terms promote better understanding, informed decisions, and trust in AI systems • Guide students in identifying harmful content and responding appropriately
Student	• Do not share personally identifiable and sensitive information. Adhere to institute guidelines on using approved GenAI tools • Notify educators or administrators of any harmful content or breaches encountered while using AI tools

OUTCOMES

Data Privacy and Security:

Strict guidelines on data encryption, masking, and informed agreements ensure users' data is protected against unauthorized access. This recommendation addresses the lack of transparency in personal data collection and usage by requiring academic institutions to adhere to clear, user-informed agreements that explain how data is collected, stored, and used. This allows students and parents to make informed decisions, fostering trust and accountability. A unified academic code of practice for data privacy ensures that academic institutions, technology providers, and educational GenAI tools comply with strict vetting processes, allowing only approved tools that meet security and transparency standards to be used. To measure the effectiveness of this recommendation, academic institutions could track compliance with data privacy guidelines, the percentage of students and guardians who consent to data collection based on informed agreements, and improvements in perceived data security through regular surveys and audits.

EVIDENCE AND RATIONALE:

The World Economic Forum[51] emphasizes that AI design must prioritize data privacy. They advocate for anonymization and aggregation of data to protect user identities while still allowing for effective AI training. Implementing strong de-identification techniques, such as synthetic datasets, is essential. The forum highlights the need for strict access controls and continuous auditing of data access to prevent breaches.

The WEF's discussion on trustworthy AI[52] emphasizes that businesses need assurance that their data will be handled safely and confidentially when using GenAI tools. This includes respecting data privacy, ownership, and access restrictions by design, ensuring that explicit consent is obtained for data usage.

ChatGPT Edu[53] aims to responsibly integrate AI into educational environments, providing tools for students, faculty, researchers, and campus operations. The tool claims that conversations and user data are not used to train OpenAI models, addressing concerns related to data privacy in educational contexts. The platform includes features like single sign-on (SSO), group permissions, and strict administrative controls to manage user access and protect sensitive information.

Salesforce's Einstein Trust Layer[54] is designed to enhance data privacy and security while utilizing generative AI technologies. The Einstein Trust Layer employs data masking techniques to ensure that personally identifiable information (PII) does not reach large language models (LLMs) during processing. A critical aspect is its zero data retention policy, which mandates that LLMs forget all Salesforce data after generating an AI response.

GUIDELINES FOR ACADEMIC INTEGRITY IN THE USE OF GenAI TOOLS

DEVELOPING AN ACADEMIC CODE OF CONDUCT AND ETHICS POLICY RECOMMENDATION:

Promoting purposeful use of GenAI in academic institutions by applying structured guidelines, approving reliable tools, and revising assessment criteria enables students to leverage GenAI as a supplementary tool, fostering critical thinking and independent learning.

DESCRIPTION

What is academic code of conduct and ethics? Developed and implemented by an academic institute, it serves as both a description of a

university's standards for academic integrity and a guarantee of students' rights and responsibilities. The code provides policies and procedures related to academic conduct and defines prohibited behaviors such as cheating and plagiarism, fabrication, or falsification of information, emphasizing that violations undermine the learning experience. Academic ethics refers to the moral principles and standards that govern behavior in academic settings. It encompasses the values and practices that promote integrity, honesty, and fairness among students, faculty, and researchers.

COMPONENTS OF THE RECOMMENDATION

To encourage the purposeful use of GenAI, structured guidelines should be outlined, defining the ethical and educational boundaries of usage. Purposeful use entails leveraging GenAI as a supplementary tool to enhance learning without compromising academic integrity or critical thinking. By requiring students to disclose when they use GenAI tools, academic institutions ensure that the sources of information, ideas, and content are clear. This practice gives educators a clearer understanding of how the student work was produced, ensuring the AI tool was used ethically and appropriately. Institutions should curate and approve a list of existing reliable GenAI tools which are safe to be used in an education environment, ensuring they align with data privacy standards and educational objectives. A regular review process, led by an expert panel, should be implemented to evaluate and update the approved tools, ensuring they remain effective, secure, and compliant with evolving standards. Recognizing the limitations of current AI detection tools, additional verification methods should be implemented to ensure academic integrity. While imperfect, AI detection tools can act as an initial screening mechanism to flag potential misuse, though incorporating in-person evaluations may be more effective in measuring student comprehension and process rather than final output.

REVISED ASSESSMENT CRITERIA SHOULD INCLUDE TWO CRITICAL COMPONENTS

Academic institutions can ensure enhanced integrity by setting clear rules defining acceptable use of GenAI in coursework, including:

- Percentage Limits: Specify the maximum percentage of AI-generated content allowed in assignments (e.g., between a specified range, like 15 to 30%).
- Transparency Requirements: Mandate that students disclose the extent and type (e.g., research assistance, writing assistance, image generation etc.) of AI usage in their submissions.
- Revised Grading Policies: Incorporate grading criteria that penalize overreliance on AI or reward authenticity, ensuring students balance AI support with original work.

Types of Assessments and Prioritization:

Assessments should evolve to focus more on evaluating students' understanding, analytical reasoning, and critical thinking rather than just the final output. For example, project-based evaluations, in-class presentations, debates, or oral examinations can emphasize process and comprehension. Prioritization should be given to measuring originality, ethical AI usage, and the ability to contextualize and critique AI-generated insights.

Grading Mechanisms and Norm Compliance:

Grading should explicitly reward adherence to structured norms around GenAI usage. For instance, students may be allowed to use GenAI to supplement research (e.g., summarizing articles or generating ideas). However, non-acceptable uses would include tasks such as writing assignments, crafting final project reports, or completing

assessments, where the model's output directly substitutes the student's intellectual effort. Higher grades should be awarded for original work that reflects independent thought and limited reliance on AI tools, with deductions for over-reliance or failure to adhere to established guidelines. For instance, a minor deduction could be applied for using GenAI to refine the language of the presented report, but more significant penalties may include: a 10-20% grade deduction if GenAI is used to generate an outline or rough draft, 25-30% if GenAI is used for full sections of an essay or paper, and 50% if GenAI is used to write an entire assignment or report. Additionally, explicit guidelines should be established regarding the extent to which AI can be used in different types of assignments, ensuring consistency and transparency in the evaluation process.

These steps ensure that students use GenAI tools to complement their learning processes, fostering independent research, problem-solving, and creativity.

IMPLEMENTATION PROCESS

STAKEHOLDERS INVOLVED	ACTIONABLE STEPS
Policymakers and Education Ministries	• Define national benchmarks for responsible AI use in education to ensure consistency across institutions • Create a vetted list of GenAI tools, in consultation with experts and publish guidelines for ethical and safe usage • Implement a regular review process for evaluating and updating approved GenAI tools based on expert assessments
Educational Institutions	• Develop and implement guidelines on institute-specific GenAI usage • Adapt assignments and update grading criteria, with cross-educational institute consultations and discussions • Plan for implementation of revised code of conduct • Establish monitoring mechanisms to track adherence to ethical and responsible AI use
Educators	• Undertake training on how to effectively use AI detection tools • Enforce guidelines in the classroom by ensuring students are aware of the boundaries of AI use and transparency in assignments • Monitor student work for authenticity and flag instances of excessive AI content using detection tools
Students	• Adhere to guidelines by using GenAI tools responsibly, ensuring work is original and be transparent about AI usage • Engage critically with AI generated content • Use GenAI to supplement research but not replace original academic work

OUTCOMES

Creativity and Critical Thinking:

Revised assessments emphasizing originality of thought (like group discussions, debates, etc.) encourage AI usage for idea generation, feedback, or data analysis while developing core cognitive skills. By limiting GenAI usage to supplementary tasks like research enhancement rather than content creation, students are encouraged to engage in independent thinking and problem-solving, reducing the risk of overreliance on AI tools. Qualitative assessments like peer reviews or self-assessments can help gauge students' engagement and reliance on AI versus their own creativity. For example, peer reviews allow students to assess not only the quality of each other's work but also how much original thought and effort went into the final

product. Additionally, peers and instructors may use open-ended questions or interviews to probe students' thought processes. Self-assessments could prompt students to reflect on their use of GenAI throughout a particular project, encouraging them to identify areas where AI tools were used to enhance their work and where independent thought was required.

Academic integrity:

Academic guidelines issue structured guidelines for GenAI usage and reinforce ethical behavior, ensuring AI supports learning without enabling dishonest practices.

Surveys of students and educators could be used periodically to assess understanding and adherence to these guidelines, as well as to evaluate the effectiveness of the policies in fostering responsible AI usage. These guidelines, combined with revised grading mechanisms that reward compliance and originality, ensure that students and educators adhere to defined standards, preventing misuse, plagiarism, and unethical AI dependence while fostering responsible AI integration.

EVIDENCE AND RATIONALE

The Victoria Department of Education, Australia[55] established comprehensive guidelines for schools to promote academic integrity in the context of GenAI. These guidelines are designed to help educators set clear expectations for students regarding the ethical use of AI tools and design assessments that consider AI capabilities. Educators are encouraged to adapt their assessment designs to account for the capabilities of generative AI. This includes: limiting its use by selecting assessments that cannot be fully completed by generative AI tools, such as oral presentations, while permitting research using these tools; and modifying tasks to include open-ended questions that require students to think critically and creatively and apply local context or information that generative AI tools cannot access.

The University of Michigan[56] has established clear guidelines for students on the ethical use of GenAI. The guidance emphasizes that while GenAI can be a helpful tool, students must adhere to academic integrity policies and it should enhance, not hinder, learning. At the course level, the University allows instructors to set their own policies regarding GenAI usage. Instructors can prohibit use of GenAI or can permit specific uses of GenAI, such as brainstorming, translating or drafting outlines, but must clearly communicate what is acceptable. Additionally, the University has developed its own suite of closed generative AI tools designed to prioritize privacy and accessibility for its community. These tools are intended for educational purposes and are free to use.

DEVELOP SPECIALIZED AND CREDIBLE GENAI TOOLS FOR EDUCATION

POLICY RECOMMENDATION:

Designing or using only those GenAI tools that meet **robust ethical standards**, predefined accreditation, and clear standards for bias and hallucinations allows academic institutions to align these tools with their educational values, enhancing safe adoption, building trust among students and educators, and effectively supplementing learning. Additionally, **domain-specific GenAI tools** for subjects like Math, Science, and Languages ensure targeted, curriculum-aligned solutions that address subject-specific challenges and improve learning outcomes.

DESCRIPTION

Educational GenAI Tools are AI systems designed to assist in educational settings by generating content, providing feedback, and facilitating learning experiences tailored to individual student needs.

COMPONENTS OF THE RECOMMENDATION

The recommendation advocates for academic institutions to adopt only those GenAI tools that meet rigorous ethical standards. To support this, cleaner and bias-free training data should be a core requirement for any AI tool used, ensuring that these tools are built on high-quality, ethically sourced datasets. Education-specific data quality standards are designed to ensure that GenAI tools used in educational settings are accurate, relevant, and free from bias. These standards focus on ensuring relevance and context, where datasets align with specific subject areas, age groups, and educational needs. Accuracy and validity are key, requiring that the data be credible, from reputable academic sources, and aligned with curriculum goals. Education-specific GenAI tools must comply with Intellectual Property standards, ensuring generated content aligns with IP laws. These tools should embed sophisticated mechanisms to track and validate content ownership, ensuring that any AI-generated output respects the rights of original content creators. They must account for nuanced issues like fair use, derivative works, and attribution requirements, while also preventing the misuse of copyrighted material in academic work. Furthermore, data must be ethically sourced, with clear transparency and ethical sourcing, and must comply with privacy and security regulations to protect sensitive student information. For example, EdGPT models are trained with specific data to serve educational purposes. EdGPT aims to refine the model that has been derived from massive amounts of general training data with smaller amounts of high-quality, domain-specific education data.[4] By focusing on curriculum-aligned solutions, domain-specific tools ensure that educational content remains accurate, contextually relevant, and age-appropriate. For students, the targeted support improves engagement, comprehension, and learning outcomes, enabling them to overcome subject-specific challenges.

Additionally, governments should play an active role in establishing regulations for AI companies to implement mechanisms for detecting and mitigating bias, inaccuracies, and harm in their tools. This includes creating mandatory frameworks for regular audits of AI tools, enabling both educational institutions and students to be assured of the integrity and fairness of the technology.

IMPLEMENTATION PROCESS

STAKEHOLDERS INVOLVED	ACTIONABLE STEPS
Policymakers and Education Ministries	• Consult with experts to define ethical guidelines for GenAI tools in education, covering bias prevention, hallucination reduction, and privacy safeguards • Mandate regulations and enforce compliance through certifications for education-specific GenAI tools • Support the development of domain specific Gen-AI tools within agreed ethical guidelines for GenAI tools development
Technology Providers	• Develop innovative and ethically compliant tools to support educational activities • Ensure all tools meet stringent regulations by continuous evaluation and updates • Work with educators and domain experts to contextualize AI training datasets for education-specific accuracy
Educational Institutions	• Establish internal committees to vet GenAI tools for compliance with ethical and privacy standards. • Adapt guidelines on tools to reflect institute specific priorities and curriculum • Approve tools and monitor usage
Students	• Use GenAI tools in line with approved guidelines, ensuring proper citation and transparency

OUTCOMES

Bias, Harm and Inaccuracy:

Tools developed under ethical guidelines provide fact-checked, reliable information, fostering safer learning environments. By mandating ethical design, the policy requires that GenAI tools undergo robust training to minimize bias and hallucinations. By adopting only GenAI tools that meet rigorous ethical standards and require cleaner, bias-free training data, institutions can ensure that the tools used are built on high-quality, diverse datasets that minimize bias and harm. Moreover, clear standards for bias and hallucination prevention give students confidence in the integrity and reliability of the GenAI tools they are using. Measurable outcomes for this could include tracking the frequency and types of biases detected in AI outputs through regular audits or feedback surveys from students and educators, as well as monitoring the prevalence of factual inaccuracies identified during classroom activities.

Data Privacy and Security:

Requiring clear user policies and prioritizing data privacy mechanisms ensures user data is encrypted, anonymized, and used transparently. Developers will need to disclose how data is stored, shared, or used to improve AI models. This transparency helps mitigate concerns about unauthorized data collection and strengthens trust in the tools. Achievement of the outcome could be assessed by conducting audits of data security measures, gathering feedback from students and parents regarding their comfort level with privacy practices, and tracking compliance with national or international privacy standards, such as GDPR.

Academic Integrity:

Tools deemed safe and ethical by institutes can be used by students. AI tools adhering to institutional ethical standards ensure a balance between leveraging AI capabilities and promoting genuine learning. The recommendation ensures that tools are used as supplements to learning (e.g., for research purposes, hypothesis or idea generations) rather than tools for writing assignments. Achievement of the outcome could be assessed by monitoring the percentage of assignments that disclose AI use, tracking instances of academic misconduct related to AI tools, and gathering data on how AI tools are being used in learning (e.g., for idea generation vs. content creation) through student surveys and faculty assessments.

EVIDENCE AND RATIONALE

Under the EU AI Act[57], high-risk AI systems, such as those used in education, must use high-quality datasets to minimize risks and discriminatory outcomes. The tools are subject to obligations such as implementing effective risk assessment and mitigation strategies, using high-quality datasets to prevent biases, maintaining traceable activity logs, providing comprehensive documentation, and ensuring robust human oversight.

Some educational institutions have been managing adoption of GenAI by conducting tool risk assessments, allowing a small group of teachers to experiment with "approved" GenAI tools, or piloting tools. For instance, Bolton College, is experimenting with integrating GenAI technology into the college's existing digital tools.[58]

EQUITABLE ACCESS TO GenAI TOOLS

POLICY RECOMMENDATION:

Ensuring equal access to GenAI tools and training through initiatives such as **free subscription programs, equipped computer labs, low-cost computing solutions** and targeted support for underserved communities alleviates the knowledge gap and enables inclusive access to quality education powered by the latest technologies.

DESCRIPTION

Why is equitable access important? GenAI has the potential to further enhance and personalize learning experiences by catering to specific learner

needs, but ensuring equitable access is crucial to maintain ethical standards and promote fairness in education.

COMPONENTS OF RECOMMENDATION

To ensure equitable access to GenAI tools and training, academic institutions and governments must implement targeted initiatives such as free subscription programs, equipped computer labs, and support systems for underserved communities. Free subscription programs can provide access to AI tools through public-private partnerships, ensuring affordability for low-income regions. Free subscription programs can provide access to AI tools through public-private partnerships, wherein tech companies offer free or subsidized licenses to educational institutions in exchange for future talent pipelines or corporate social responsibility incentives. Governments can facilitate such partnerships by offering tax benefits or grants to participating companies, ensuring affordability for low-income regions. Mobile units can travel to remote or underserved regions where permanent infrastructure, like schools or computer labs, may not be available. These units can serve as traveling digital learning hubs, bringing technology access and training directly to remote regions, thus overcoming geographical barriers. Governments and academic institutions can partner with tech firms to set up AI learning hubs, offering supervised access to tools in schools or mobile units. Equipping computer labs with up-to-date software, high-speed internet, and mobile units for remote areas can address infrastructure gaps. Targeted support, including workshops, culturally relevant content, and language-specific tools, can bridge digital literacy divides.

IMPLEMENTATION PROCESS

STAKEHOLDERS INVOLVED	ACTIONABLE STEPS
Policymakers and Education Ministries	• Allocate funding for initiatives such as free subscription programs and subsidized access to GenAI tools for underserved communities • Collaborate with international development organizations to establish a uniform framework for equitable GenAI access and training needed • Collaborate with tech firms via public-private partnerships to subsidize GenAI tools
Educational Institutions	• Partner with government and tech providers to set up computer labs equipped with GenAI tools • Allow free access to paid GenAI tools in the labs using government subsidies, or local corporate partnerships
Technology Providers	• Offer free or discounted subscriptions to educational institutions and provide technical support to ensure proper deployment of GenAI tools • Customize tools to be accessible to vulnerable communities, including multilingual support and offline functionalities

OUTCOMES

Bias, Harm and Inaccuracy:

Ensuring equal access to GenAI tools expands the user base, generating diverse and extensive data points which can be incorporated in the training data to reduce algorithmic bias. This democratized access fosters more representative and inclusive AI solutions, enhancing fairness in educational outcomes. Success of the outcome could be tracked by analyzing demographic diversity in AI usage and measuring any reduction in bias or disparities in outcomes (e.g., through fairness audits or examining performance gaps between groups).

Creativity and Critical Thinking:

With increase in AI uptake, new users will be able to access information easily to sharpen and inform their thinking. By making AI tools accessible to all students, the policy ensures that previously underserved learners can use AI to enhance their understanding, develop critical thinking skills, and engage with information more effectively. Success of the outcome can be gauged by tracking improvements in critical thinking through assessments, student feedback, or the frequency and type of AI-supported creative assignments. Surveys or performance analytics could also highlight whether students' cognitive engagement and creativity levels have increased.

Academic Integrity:

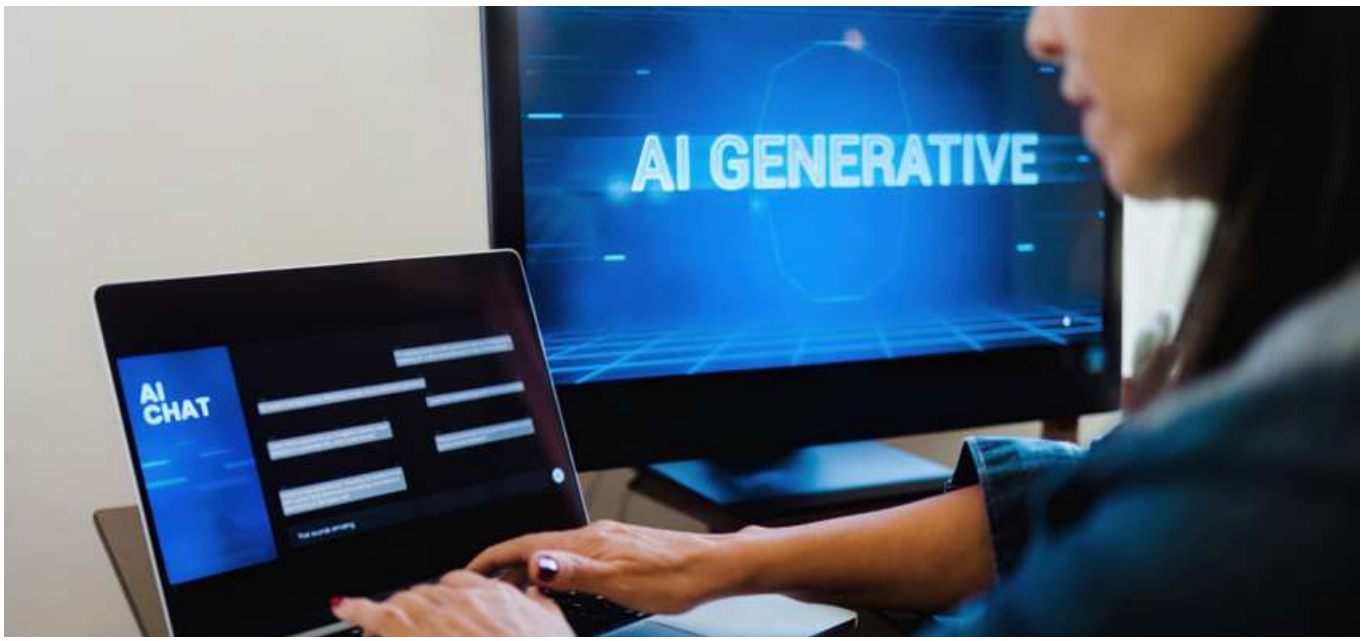
Democratized access to AI does not allow certain students to have unfair advantages. This ensures that all students are on a more level playing field, minimizing the risk of academic dishonesty as equal access promotes a relatively fair use of AI. Measurement for this could involve tracking instances of academic misconduct, monitoring access to AI tools across different demographics, and comparing performance outcomes to ensure that no group is disproportionately benefiting from AI assistance.

EVIDENCE AND RATIONALE

Amazon Web Services (AWS) Machine Learning University has introduced a new, no-cost initiative aimed at assisting community colleges, minority-serving institutions (MSIs), and historically Black colleges and universities (HBCUs) in teaching essential concepts in databases, artificial intelligence (AI), and machine learning (ML).[59]

India's Digital India program[60] exemplifies a successful public-private partnership aimed at expanding digital access in education. This initiative focuses on:

- Providing internet connectivity and modern devices to schools in rural and underserved areas.
- Implementing lightweight AI models that can function offline or with minimal internet, making advanced educational tools accessible even in resource-constrained settings



6 Conclusion

Conclusion

The paper presents a comprehensive set of youth-formed and expert-validated recommendations, developed through extensive youth consultations and rigorous touchpoints. Guided by the SPDI (Smart Policy Design and Implementation) framework, these recommendations are designed to address key challenges in the ethical use and integration of GenAI in education.

The paper presents four critical ethical considerations—Bias, Harm and Inaccuracy; data privacy and security; creativity and critical thinking; and academic integrity—as foundational to understanding the broader risks and implications of GenAI in education. Challenges in using GenAI tools in education—such as difficulties in bias detection, data privacy risks, overreliance on AI diminishing independent thinking, among others—are mapped to their root causes to guide targeted solutions, emphasizing the need for responsible and equitable AI integration. By linking these critical issues to their root causes, a more holistic and actionable strategy can be developed, addressing both immediate symptoms and long-term systemic barriers. To address the identified challenges, policy recommendations are formulated which are primarily focused on AI literacy, data privacy, ethical design, equitable access, and academic guidelines. These recommendations are presented in a practical manner with tailored actionable steps for the identified key stakeholders—policymakers, education ministries, institutions, technology providers, educators, and students.

The youth-led insights emphasize pressing issues like the digital divide, academic dishonesty risks, and bias in AI outputs, calling for inclusive policies to bridge inequalities and safeguard educational values. The research presented in the paper underscores and corroborates identified critical challenges such as bias in AI outputs, inequitable access, and academic integrity risks, forming the foundation for the recommendations. For instance, bias in AI algorithms risks perpetuating existing societal prejudices, particularly against marginalized groups. This challenge is exacerbated in data-poor regions, especially in the Global South, which remain excluded and face domination by AI standards embedded in GPT models, unsuitable for local contexts. To counteract these risks, the recommendations stress fostering equitable access to AI tools, promoting transparency in AI training data, and developing locally relevant AI solutions. Addressing academic integrity challenges, the recommendations propose clear protocols to help educators and students navigate acceptable and responsible use of AI tools.

While actionable strategies are proposed, some limitations—such as varying regional regulations and global implementation challenges— demand coordinated international efforts. The paper aims to guide conversation and drive action by showcasing its findings in relevant forums, initiate dialogues with policymakers, and collaborative platforms. Recognizing the importance of this topic, the report aspires to catalyze targeted interventions at local, national, and global levels.

To ensure the ethical and effective integration of generative AI in education, stakeholders must act with urgency and collaboration and work towards implementing solutions. A global commitment is essential to protect educational integrity and uphold equitable learning opportunities for all.

7 Glossary

Glossary

a

Artificial Intelligence

Artificial intelligence (AI) is technology that enables computers and machines to simulate human learning, comprehension, problem solving, decision making, creativity and autonomy.[71]

Accuracy

Accuracy describes how precise or correct a measurement, analysis, or outcome is to the truth.

AI Ethics

AI ethics refers to the principles that govern AI's behavior in terms of human values. AI ethics help ensure that AI is developed and used in ways that are beneficial to society. It encompasses a broad range of considerations, including fairness, transparency, accountability, privacy, security, and the potential societal impacts.

AI Literacy

A set of competencies that enables individuals to critically evaluate AI technologies, communicate and collaborate effectively with AI, and use AI as a tool online, at home, and in the workplace.

b

Bespoke GenAI tool

In the context of this paper, bespoke GenAI tools are custom-built solutions designed specifically for educational use, ensuring alignment with ethical standards and responsible use in learning environments.

Bias and Harm

Bias is an inclination, prejudice, preference, or tendency towards or against a person, group, thing, idea or belief.

c

Critical Thinking

Critical thinking may be defined as a disciplined process of actively analyzing, synthesizing, and evaluating information to guide decision-making.

d

Data Masking

Data masking is a data security technique in which a dataset is copied but with sensitive data obfuscated. This benign replica is then used instead of the authentic data for testing or training purposes.

Data Privacy

Data privacy is the protection of an individual's personal data from those who should not have access to it and the ability of individuals to determine who can access their personal information.

Glossary

Data Security

Data security is the practice of protecting digital information from unauthorized access, corruption or theft throughout its entire lifecycle.

e

EdTech

Education Technology (EdTech) uses computers, computer programs, and educational systems to provide learning and training to students and employees. It encompasses not only the hardware and software programs used in what is commonly known as "remote learning," "distance learning," or "online education," but also theories of learning and increasing research into what are the most effective means of teaching people new knowledge and skills.

g

Generative Adversarial Networks

A generative adversarial network (GAN) is a deep learning architecture. It trains two neural networks to compete against each other to generate more authentic new data from a given training dataset.

Generative AI

Generative AI (GenAI) refers to deep-learning models that can generate high-quality text, images, and other content based on the data they were trained on.

h

Hallucination

Multiple GenAI tools have been found to provide users with fabricated data that appears authentic, termed Hallucinations. Hallucinations and biases in generative AI outputs result from the nature of their training data, the tools' design focus on pattern-based content generation, and the inherent limitations of AI technology.

s

Secondary Use of personal information

Secondary use of personal information refers to the utilization of an individual's data for purposes other than those for which it was initially collected, often without the user's explicit knowledge or consent.

Synthetic Data

Synthetic data is information that's been generated on a computer to augment or replace real data to improve AI models, protect sensitive data, and mitigate bias. The data generated is artificial yet statistically realistic data.

8 Appendix

APPENDIX A

Methodology

The policy paper is rooted in the belief that youth perspectives are central to shaping policies around GenAI in education and therefore, prioritized the synthesis of youth-informed insights into actionable recommendations.

To achieve this, the study adopts a mixed-method approach, integrating structured frameworks, youth co-creation workshops, expert input, and extensive desk research. Leveraging the Smart Policy Design and Implementation (SPDi) framework, the methodology combines design thinking exercises, surveys, and expert consultations to balance real-world insights with rigorous data collection.

COMPONENTS OF METHODOLOGY

SPDI FRAMEWORK (SMART POLICY DESIGN AND IMPLEMENTATION)

The SPDi framework guides the design thinking process, where youth participate in virtual focus groups (Identify problem statements and diagnose root causes) and an in-person policy circle (design solutions). The first three steps (identify, diagnose and design) of the SPDi framework were incorporated to inform the paper's findings. This structured approach helps participants explore challenges and collaborate on solutions.

FOCUS GROUP DISCUSSION & POLICY CIRCLE

Over a three-week engagement period, selected youth participants from 17 countries contributed diverse perspectives to the initiative. The multi-touchpoint process began with participants being splintered into smaller groups, each tasked with examining one of the ethical challenge pillars: Bias, Harm and Inaccuracy; data privacy and security; creativity and critical thinking; academic integrity. A Mural board was designed to collect youth inputs on problem statements, root causes, and recommendations and to foster collaboration and co-creation. They participated in expert-led discussions, providing insights that were systematically captured for further exploration. Following these discussions, the participants advanced to the in-person policy circle at the MISK Global Forum in Riyadh. The youth groups worked together to craft refined problem statements and developed a solution-oriented mindset, ideating actionable policy recommendations to solve for the problems identified.

YOUTH PULSE SURVEY

A comprehensive youth survey collects data on GenAI's impact, use, and ethical concerns in education. It targets a wide range of respondents to ensure a representative view. The survey is floated to students and young professionals across the world to gather and validate youth sentiment on the topic.

EXPERT INTERVIEWS

Interviews with Responsible AI and education sector professionals offer in-depth perspectives on current trends, responsible AI usage, ethical implications, and policy recommendations. These insights are integrated with survey findings to form balanced conclusions. This paper is informed by in-depth interviews and discussions with experts in AI, Ed-Tech, Education, and Policy, ensuring a comprehensive and multidisciplinary perspective on the topic.

DESK RESEARCH

Secondary research provides supporting data, drawing from academic studies, reports, and case examples on AI in education and its ethical challenges, offering a solid foundation for the primary research methods.

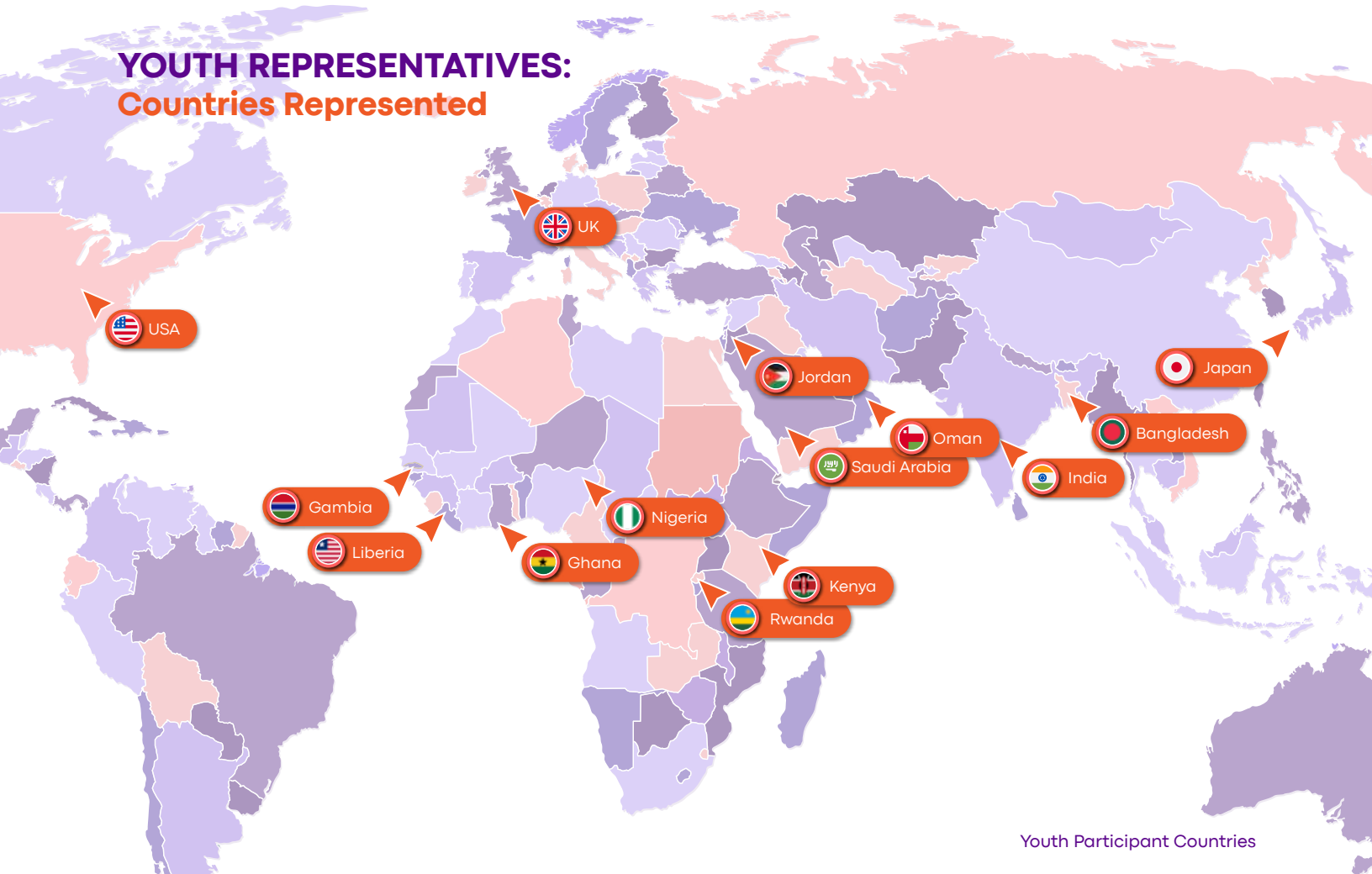
LIMITATIONS AND BIAS MITIGATION

Potential biases include sample selection and overrepresentation of certain demographics. These are mitigated by cross-validating findings through expert consultations and iterative discussions with participants. Additionally, the paper aims to be global so we do not propose any region-specific recommendations (as we acknowledge the contexts may be vastly different); however, we may identify and address the implementors in different regional contexts.

YOUTH-IDENTIFIED PROBLEM STATEMENTS AND RECOMMENDATIONS

The following table presents the original problem statements and recommendations by the youth during MGF24, the consolidated recommendations presented in the paper and the expert rankings. Post presentation of the recommendations, experts ranked each on a scale of low, medium, high across the parameters of relevance, feasibility and impact:

YOUTH REPRESENTATIVES: Countries Represented



Youth Participant Countries

APPENDIX B

Youth Pulse Survey Results

The following charts provide an overview of the demographics of respondents who participated in the youth survey, covering key aspects such as gender, education background, countries represented, employment status, and age range. Understanding the demographic profile is crucial for interpreting the survey results, ensuring that insights are contextualized based on the diverse backgrounds of participants.

SURVEY RESPONDENT DEMOGRAPHICS:

WHO TOOK THE SURVEY? SURVEY DEMOGRAPHICS

Gender

Male	63%
Female	37%

Countries of Residence

Saudi Arabia	79%
United Arab Emirates	3%
Japan	3%
Bangladesh	5%
Jordan	8%
Malawi	3%

Age Range

18-21	11%
21-24	13%
24-27	21%
27-30	13%
30-33	24%
33-36	79%
36-39	11%

Education

Diploma / Vocational or Technical training	8%
Bachelor's degree	53%
Master's degree	16%
Doctorate (PhD or equivalent)	16%
Other	8%

Employment Status

Entrepreneur	29%
Employee	50%
Unemployed	3%
Student / In training	16%
Other	3%

Employment Sector

Private sector	75%
Not employed	14%
Public sector	21%
Non-profit sector	21%
Other	7%

When the open-ended survey question **"If you were to suggest one policy recommendation for the ethical use of GenAI in education, what would that be?"** was prompted, respondents emphasized several key themes. A recurring suggestion was the need for **ethical guidelines and global standards**, including the establishment of oversight committees and the development of AI ethics frameworks tailored to educational goals. Many highlighted the need to prioritize **data privacy, transparency, and accountability,** with a focus on ensuring that AI supports education without replacing human interaction. Several respondents stressed the importance of ensuring **fairness and inclusivity,** calling for AI systems to be free from bias and reflective of diverse cultural backgrounds. Another key recommendation was to introduce **digital literacy programs** that help students, educators, and parents understand and use AI responsibly. Some participants suggested setting **clear limits on AI usage,** such as restricting it to complex tasks or allowing only a certain percentage of AI-generated content in assignments. Notably, a few respondents shared personal experiences, underscoring that AI can be a powerful assistive tool for students with learning disabilities. Overall, the responses reflect a balanced approach to policy recommendations, aiming to harness the potential of GenAI while safeguarding ethical considerations.

The survey consisted of multiple-choice questions—some were **single-choice** (highlighted in **blue**), where percentages represent the share of responses for each option, while others were **multiple-choice** (highlighted in **orange**), where percentages represent the share of respondents selecting each option. This approach ensures clarity in interpreting response distribution for different question types. The analysis provides valuable insights into patterns and preferences across both categorical and flexible response types. Additionally, there are open-ended questions included for qualitative insights.

Have you used GenAI tools for general learning or assignments?

Yes	84%
No	11%
No response	5%

How often do you use GenAI tools for general learning or assignments?

Daily	45%
Weekly	16%
Occasionally	16%
Monthly	16%
Never	3%
No Response	5%

Which GenAI tools do you use?

AI-powered writing tools (e.g., Grammarly)	34%
Text-to-image generators (e.g., DALL-E)	26%
Audio-to-text converters	18%
No Response	5%

Do you have a fundamental understanding of how LLMs (Large Language Models) and GenAI models work?

I have a basic understanding	37%
Yes, I understand them in-depth	26%
I have heard of them but don't know how they work	21%
No, I don't understand them at all	11%
No Response	5%

What do you typically use GenAI tools for?

Research and Learning	84%
Content/ Text creation (E.g., essays)	66%
Idea generations	66%
Image generation	29%
Assignment/exam preparation	29%
Task automation	21%
I do not use GenAI tools	3%
Other (please specify)	0%
No Response	5%

How do you use GenAI as a tool to learn new concepts?

I use it to get explanations of complex topics	74%
I use it to find quick answers to questions	66%
I use it to generate summaries of large texts	53%
I use it to get an outline or structure for different tasks	47%
I do not use GenAI to learn new concepts	8%
Other	0%
No Response	5%

What according to you are the biggest opportunities for using GenAI tools in higher education?

Providing 24/7 access to learning assistance	68%
Personalizing learning experiences	66%
Enhancing creativity and idea generation	58%
Gain increased knowledge in a specific topic	50%
Enhanced support for assignment preparation	50%
Other	0%
No Response	5%

What concerns do you have about GenAI tools being used in higher education?

Relying too much on GenAI instead of personal effort	58%
Copying work for assignments without proper credit/permission	55%
Risk to personal information, data and privacy	53%
Possibility of inaccurate information in GenAI outputs	45%
Overreliance of GenAI tools limiting creativity/ critical thinking	37%
Unfair or biased GenAI output based	26%
Lack of transparency in how AI works	21%
Other	0%

Do you think GenAI should be allowed as a tool for completing assignments and projects?

Agree	37%
Strongly agree	39%
Neutral	16%
Disagree	3%

If you were an educator, what concerns would you have about using GenAI in classrooms?

Over-reliance on AI tools, reducing students' critical thinking skills	61%
Misuse of GenAI for cheating or plagiarism	58%
Privacy concerns related to student data and AI interactions	45%
Potential biases in AI content that could influence students	42%
Challenges in ensuring all students have equal access to AI tools	34%
Lack of control over content generated by AI (accuracy, appropriateness)	32%
Risk of AI replacing teacher roles or reducing personal interaction	18%
Increased screen time and possible negative health impacts	13%
Other	0%
No Response	5%

What aspects do you think would make a GenAI tool more ethical?

Ensuring AI-generated content is unbiased and free from harm	66%
Transparency on the data used by GenAI tools to generate responses	55%
Limiting student data collection and ensuring anonymity	50%
Robust intellectual property regulation	32%
Making GenAI accessible to all	21%
Other	0%
No Response	5%

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