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## \*CORRESPONDENCE

Dongwon Lee  
✉ dongwon@psu.edu

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# Guiding the uncharted: the emerging (and missing) policies on Generative AI in higher education

Meruyert Aristombayeva<sup>1</sup>, Ryskhan Satybaldiyeva<sup>1</sup>,  
Barani Maung Maung<sup>2</sup> and Dongwon Lee<sup>3\*</sup>

<sup>1</sup>Satbayev University, Almaty, Kazakhstan, <sup>2</sup>University of Oxford, Oxford, United Kingdom, <sup>3</sup>The Pennsylvania State University, University Park, PA, United States

## KEYWORDS

higher education, Generative AI, education policy, comparative analysis, artificial intelligence

## Introduction

In the near future, AI may move beyond its role as a mere tool to function as a creative agent—potentially even as a virtual student or professor—capable of generating original artworks and contributing to research leadership. However, it remains unclear whether educational institutions are adequately prepared for such a rapid integration of AI into educational and research processes. This question becomes particularly relevant in the context of the rapid advancement of large language models (LLMs) and generative artificial intelligence (GenAI), given their potential to transform both the landscape of scientific research and educational methodologies. This study, therefore, examines how educational institutions are responding to the integration of AI into research and education. Specifically, we analyzed the policies and guidelines regulating the use of GenAI in both general universities and art-focused institutions, and conducted a strategic review of institutional approaches, along with a content analysis of selected curricula related to GenAI implementation. Based on the analysis, we posit that current GenAI policies in higher education are largely reactive, unevenly implemented across regions and disciplines, and often fail to address research-specific use cases and the distinct challenges faced by art-focused institutions. This finding aligns with recent studies showing that institutions tend to conform to external regulatory, normative, and mimetic pressures in their adoption of GenAI, often prioritizing legitimacy and compliance over proactive strategic vision (Singh, 2024). From an educational perspective, researchers further argued that Bloom's Taxonomy requires revision to address the cognitive, affective, and metacognitive demands of AI-assisted learning, underscoring the need for institutional policies that not only regulate GenAI but also foster critical thinking, ethical reasoning, and iterative learning processes in higher education (Gonsalves, 2024).

## Overview of guidelines on the use of generative AI in higher education

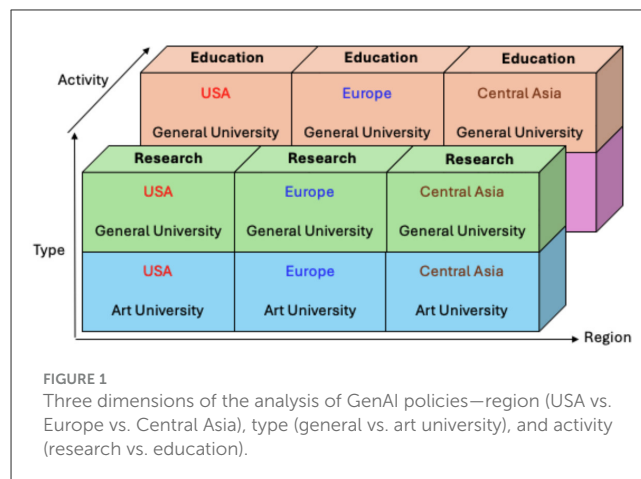
Universities worldwide face the dual nature of using these technologies (Hutson et al., 2022; National Art Education Association. *NAEA Position Statement on Use of Artificial Intelligence (AI) and AI-generated Imagery in Visual Arts Education*, 2024), navigating

the potential for innovation alongside the need to address ethical and practical concerns (Ullah et al., 2024) that may disproportionately affect students and faculty (Maung Maung et al., 2024). Notably, current guidelines for the use of GenAI in higher education tend to represent a reactive response, often embedded within modern technology programs. The discourse surrounding GenAI in higher education is multifaceted, encompassing discussions on academic integrity, innovative teaching programs, and the potential for GenAI to enhance student outcomes (Ullah et al., 2024; Leonard, 2021). With the release of ChatGPT, these issues have gained particular relevance. While many universities have experienced challenges associated with plagiarism, data confidentiality, and privacy (Koh et al., 2024; Ullah et al., 2024; Wang et al., 2024), art-focused universities have encountered issues related to copyright protection and assessment of the originality of creativity (Mayo, 2024).

In this paper, we comprehensively reviewed publicly available policies and guidelines regarding the use of GenAI in education and research from higher education institutions in the US, Europe, and Central Asia. General universities from the US and Europe were selected from among the leaders of the QS World University Rankings 2024. For the US, we focused on the top 20 universities according to QS World University Rankings 2024 (general category). The list of European universities was compiled with explicit consideration of geographical diversity, ensuring representation from different European countries. Starting at the top of the QS rankings, we applied an additional rule: if several consecutive institutions belonged to the same country (e.g., multiple from the UK), we selected the highest-ranked one and then moved to the next university from another European country. This procedure helped to avoid overrepresentation of a single country while still capturing leading institutions. If a university appeared in the ranking but did not provide publicly available GenAI-related policies or guidelines (i.e., official documents explicitly outlining recommendations or regulations), it was excluded from the sample. In such cases, we continued down the QS list until a suitable institution was identified. References to projects, pilot initiatives, or informal mentions of GenAI were not considered sufficient for inclusion. It is important to note that although many institutions articulate strategies (e.g., vision statements and curricular integration plans), these do not always translate into concrete policies (e.g., official guidelines for faculty and students). Throughout the analysis, we therefore treat strategies as indicative of institutional intent, while policies are considered evidence of operationalized regulation.

The list of art universities was compiled based on the QS World University Rankings by Subject (Art & Design), but not many relevant policies were publicly available on the universities' websites. We searched for existing policies and guidelines using the following keywords on Google: "Generative AI Policy in art universities USA", "Generative AI Policy in art universities Europe [countries]", and "Generative AI Policy in higher education".

Universities in Central Asia were selected based on the QS World University Rankings by Region: Central Asia 2024, with consideration given to institutions from all five Central Asian countries. Since many universities in the region on the list did not have policies or guidelines available on their official websites, we conducted additional searches using Google. In our search,



we used keywords in both English and Russian, such as "Policy on the use of generative AI in Kazakhstan", "Satbayev University Generative AI Guide", and similar formulations for each university and country in the region. To identify art universities in Central Asia, we conducted a separate search using keywords such as "Art Universities in Kazakhstan" and equivalent terms for other countries in the region.

Figure 1 illustrates the selection of policies and guidelines from general and art universities in the US, Europe, and Central Asia for this study. The analyzed documents provide information on existing policies and guidelines for students, teaching staff, and researchers regarding the safe and ethical use of generative AI in teaching and research.

The analysis demonstrates that many general universities in the USA and Europe have developed their own policies and guidelines; however, policies regulating the use of generative AI are less developed in art-focused universities. Policies addressing students and faculty are more prevalent than those for researchers; however, 40% of the analyzed universities have separate guidelines for researchers with detailed recommendations. In Central Asian universities, there is a notable absence of policies and guidelines regulating the use of GenAI. Only a few general universities, including Nazarbayev University in Kazakhstan and Westminster International University in Uzbekistan, have published relevant documents. No policies or recommendations regarding the use of GenAI are found on the official websites of art universities in the region.

To assess institutional readiness and policies regarding GenAI across different regions, we applied the theoretical framework, originally proposed by Lim et al. (2019) and later adopted in Dai et al. (2025), which encompasses seven dimensions of strategic planning. Building on this framework, we constructed a structured analytical matrix covering each dimension (e.g., vision and narrative, curriculum integration, technology-centric support, human-centric support, and stakeholder engagement), and mapped the content of institutional policies to these categories. Three researchers independently described the policies of each university across the seven dimensions of the Lim et al. framework. Their individual descriptions were then compared and consolidated into a unified account through discussion, which

TABLE 1 Leniency ratings on a 5-pt Likert scale for universities in USA and Europe.

United States (General Universities)				Europe (General Universities)			
University name	First release	Research	Education	University name	First release	Research	Education
MIT	Nov 2024, Apr 2024	3	3	Oxford	Apr 2024	4	3
Harvard	Mar 2024, Sep 2023	4	3	Imperial College	Sep 2023	4	4
Stanford	Dec 2023	-	4	ETH Zurich	Mar 2024	-	4
UC Berkeley	Dec 2024	-	3	University of Edinburgh	Oct 2024	-	4
UChicago	/Feb 2025	4	3	EPFL	Mar 2024	-	4
UPenn	/Jan 2025 /Mar 2025	3	4	University of Amsterdam	Sep 2024	-	2
Cornell	Jan 2024	4	4	LMU Munich		-	2
Caltech	Oct 2023	-	3	KU Leuven	Mar 2024, May 2023	4	3
Yale	Nov 2024, Jan 2023	4	4	KTH	Nov 2024	-	3
Princeton	Dec 2024	3	3	Trinity College Dublin	Jul 2024	-	4
Columbia	Feb 2024	3	3	Uppsala University		-	3
Johns Hopkins	Nov 2024	-	3	Aalto University	Jul 2023, Jun 2023	3	3
UCLA	Apr 2023	-	3	University of Oslo	Nov 2024, Aug 2023	4	3
UMich	Sep 2024, Dec 2023	-	3	KIT	/Feb 2025	-	4
NYU	Jun 2023	-	3	HU Berlin	Jul 2024	3	3
United States (Art Universities)				Europe (Art Universities)			
University name	First release	Research	Education	University name	First release	Research	Education
Ringling	Dec 2024	-	3	Plymouth	Feb 2024	4	4
RISD	Sep 2024	-	3	UAL	Apr 2024	-	4
MICA	/Feb 2025	-	3	University of Art Linz	Sep 2024	4	4
Pratt	Nov 2023	-	3	HFBK Hamburg	Jan 2024	-	4
CCA	Jan 2024	-	3	RCA	Jun 2024	4	4
CCS	Aug 2024	-	3	UdK Berlin	-	-	-

"1" = "Extremely restrictive" (restricts almost all types of Generative AI use), "2" = "Somewhat restrictive" (allows the limited use of Generative AI for narrowly defined purposes, such as grammar corrections, text simplification, or non-sensitive data analysis; transparency and consultation are required before adopting AI tools), and "3" = "Neither lenient nor restrictive" (balanced with restrictions and allowances, permitting selected tasks such as editing, summarizing, and idea generation under clear guidelines that prioritize transparency, data protection, and accuracy). However, tasks such as examinations, discussion-based assessments, class tests, laboratories, and practicals are prohibited. "4" = "Somewhat lenient" (permits most applications of Generative AI in academic, research, and creative contexts, provided ethical guidelines are adhered to and usage is disclosed. Supports tasks such as academic content creation, data analysis, and creative exploration, while maintaining awareness of copyright and intellectual property concerns). "5" = "Extremely lenient" (allows the use of all types of Generative AI). Universities with no policies are marked as '-'. University policies were initially evaluated between 9 and 18 December 2024, and subsequently reviewed and revised between 8 and 14 April 2025. Color shading indicates the relative leniency of institutional policies: yellow represents moderate leniency, while green denotes more lenient or permissive approaches. Lower scores correspond to more restrictive policies.

helped to ensure consistency of interpretation. While this approach provided a structured basis for cross-regional comparison, we acknowledge certain limitations: In several cases, institutions did not provide comprehensive or publicly accessible documentation, and therefore, only partial evidence could be included, which may underrepresent the actual extent of institutional readiness. Separately, a rating system inspired by the methodology of Nahar et al. (2025) was developed to evaluate the leniency of university policies. Table 1 presents the universities from the US and Europe included in the analysis, along with their leniency ratings based on a 5-point Likert scale. Universities from Central Asia are excluded, as most do not have GenAI policies yet. Three authors independently evaluated the policies after agreeing on rating criteria. Final ratings were determined by majority vote.

Nevertheless, we acknowledge the potential influence of subjective factors on the assessment results, which is primarily due to implicit ambiguities in policy formulations.

The majority of universities showed a moderate degree of leniency (ratings of "3" or "4") to the integration of GenAI into the educational process and scientific research, while all educational institutions recognize the importance of using new technologies and the need to adapt to modern realities. For instance, the University of Chicago's policy received a "3" for education because the university allows GenAI in selected tasks, from brainstorming ideas to clarifying complex concepts, but also sets limits on its use in some academic work. The University of Edinburgh was rated "4" as it permits the use of GenAI flexibly, provided it is disclosed. Only two universities received a rating of "2" for education: the

TABLE 2 Key differences and common strategies for Generative AI between general universities and art-focused institutions.

Aspect	General universities	Art-focused institutions	Common strategies
Intellectual Property	Focus on plagiarism detection, citation integrity	Concerned with copyright, originality	Promote transparent attribution and responsible use of AI-generated content
Ethical Considerations	Address AI bias, misinformation	Emphasize authenticity, authorship	Training on AI ethics, academic integrity, and responsible innovation
Regulatory Compliance	Align with academic integrity policies, data privacy, and research ethics	Fair use and cultural appropriation, confidentiality in creative works	Develop institutional guidelines ensuring inclusivity and non-discrimination
Assessment and Evaluation	Ensure student work reflects actual knowledge rather than AI-generated responses	Balance AI-assisted art with student originality	Transparent assessment rubrics and clear disclosure of AI use in academic and creative outputs

University of Amsterdam and the Ludwig Maximilian University of Munich, because they allow only limited use for narrowly defined purposes.

*Takeaway:* These initial observations highlight a fundamental gap: while many institutions recognize the transformative potential of GenAI, policy responses remain largely reactive and fragmented, lacking a unified framework to support both educational and research practices.

## Policy comparison between institution types

We analyzed a total of 30 general universities in the United States and Europe. However, selecting art-focused universities based on rankings has been challenging due to the absence of publicly available policies and guidelines. As a result of an extensive review of existing policies and guidelines available online, we ultimately selected six US and five European art-focused universities, as shown in Table 1.

As previously noted, the approaches of general universities and art-related institutions are very similar, though there are slight differences in their strategies. Table 2 shows the key differences and common strategies for GenAI between general and art-focused universities. Generally, universities focus on academic ethics and the educational process, while art-focused institutions place greater focus on authorship, creativity, and the cultural implications of using GenAI.

We further analyzed how general universities and art-related institutions implement GenAI across institutional practices by applying the framework proposed by Dai et al. (2025), which identifies seven core areas: vision and policy, curriculum, infrastructure and resources, professional development, student support, partnerships, and research. General universities such as MIT, Harvard, Stanford, Oxford, and KU Leuven have adopted a structured and multi-dimensional approach to GenAI integration, aligning closely with the seven areas outlined in Lim et al.'s (2019) framework. These institutions typically begin with strong institutional visions that emphasize transparency, academic integrity, and ethical responsibility. Faculty are supported through detailed syllabus templates, training workshops, and ethical guidelines for GenAI use in both teaching and research. On the infrastructure side, many universities provide secure, licensed environments (e.g., PhoenixAI in UChicago, U-M GPT

in UMich, and AI Sandbox in Harvard) and risk assessment protocols to ensure data privacy. Human-centric support includes consultations, seminars, and instructional design assistance to foster critical engagement with GenAI. Furthermore, policy development is collaborative and interdisciplinary, involving IT services, legal counsel, teaching centers, and ethics boards. This comprehensive model reflects the proactive institutionalization of GenAI tools into academic, administrative, and research processes.

In contrast, art-related institutions such as RISD, Ringling, MICA, Pratt, and CCA are still in the early stages of GenAI policy development. While some of them have begun experimenting with GenAI integration, their efforts remain largely decentralized and course-specific. Faculty are often granted autonomy to set GenAI-related rules, and institutional visions emphasize creativity, authorship, and reflective use of AI rather than systemic implementation. Curricular integration is typically limited to design and writing assignments, with an emphasis on process, iteration, and ethical exploration. Infrastructure is often limited to recommended external tools (e.g., Midjourney, ChatGPT, and DALL-E), with safety and attribution guidelines provided through libraries and teaching centers. Human-centric support includes workshops, collaborative assignments, and critical dialogue around copyright, bias, and authenticity. While some institutions (e.g., RISD and Pratt) are beginning to formalize policies through provost offices or AI task forces, engagement with stakeholders is typically informal and driven by teaching units, librarians, and design labs. This bottom-up and discipline-driven model aligns only partially with Lim et al.'s framework—primarily in the areas of curriculum, vision, and student support—highlighting an ongoing transition toward more formalized institutional strategies.

We analyzed the curricula of these universities to examine how they adapt to modern technological advancements. In recent years, they have been actively modernizing their educational programs in response to the development of AI. In particular, the integration of specialized courses on GenAI highlights its growing role in creative work. Many art universities are integrating courses on GenAI, AI-driven writing, and AI techniques in art into their curricula. In May 2024, for instance, Ringling College of Art and Design in the US announced the launch of a new AI undergraduate certificate program to equip students with the knowledge and skills needed to understand and use AI in creative industries of all kinds. In April 2024, in addition, the Rhode Island School of Design in the US offered two new courses on GenAI, such as Designing with Emerging Technologies: Generative AI and Text Transformed:

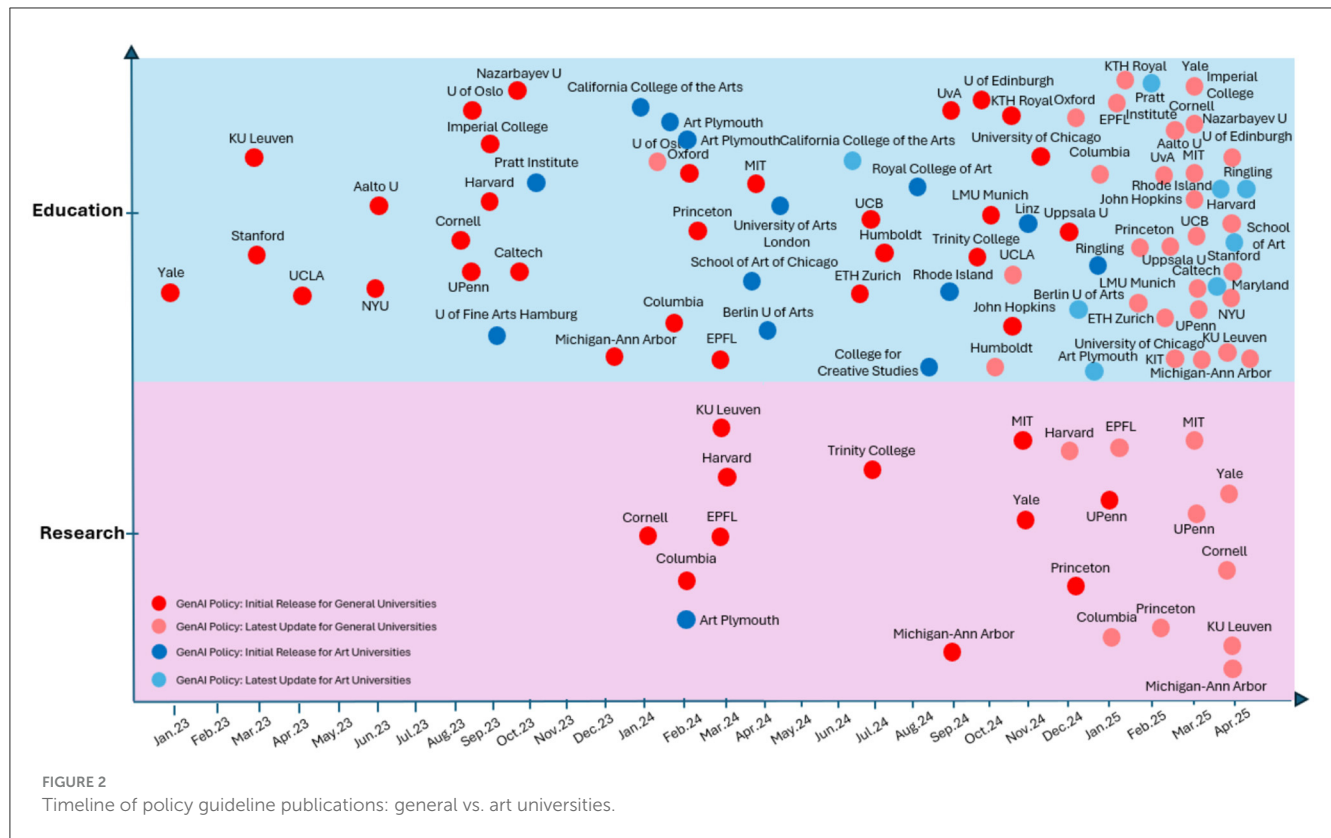


FIGURE 2  
Timeline of policy guideline publications: general vs. art universities.

Writing in the Age of AI. However, many schools have no GenAI-related policies for their students or faculty.

In addition, Figures 2 and 3 show the timeline starting from the emergence of GPT-3.5, when policies for the use of GenAI began to be developed in the first few general universities. The timeline figures were compiled based on the deadlines provided in the guidelines published on the official websites of universities. In cases where date information was not available, the date was estimated using the Wayback Machine service, based on the time of the last update of the relevant material on the site. In general, universities first introduced GenAI policies for educational activities, and only a few subsequently extended them to research activities. By and large, the primary focus has been on guiding students' learning and faculty's teaching practices involving GenAI.

**Takeaway:** This contrast reinforces the core argument that while general universities are making structured efforts toward policy development, art-focused institutions are lagging, exposing a disciplinary divide that leaves creative fields without coherent or comprehensive GenAI guidance.

## Policy comparison between regions

Figure 3 presents a timeline of policy publications across regions. The US and Europe have been actively implementing guidelines and policies for the use of GenAI since 2023. In general, approaches to regulating this process show little to no variation based on regional characteristics. Both areas placed significant emphasis on academic integrity, transparency, confidential data

protection, and copyright compliance. Most universities were rated "3" or "4". Notably, GenAI policies for research only began to appear in 2024, almost a year after the initial guidelines for education were introduced.

However, in Central Asia, the process of developing and adapting each policy is still in its infancy. One of the primary challenges lies in limited technological access, insufficient resources, and inadequate institutional infrastructure (Jin et al., 2025), alongside the absence of centralized national policies specifically addressing the use of GenAI in education. Although many Central Asian universities have not yet developed formal guidelines, they are taking steps to integrate these technologies into the educational process and research. In particular, universities organize various seminars, round tables, and discussions, while also actively integrating GenAI courses into their curricula.

**Takeaway:** The regional disparity, especially the policy vacuum in Central Asia, underscores the global unevenness in institutional readiness, highlighting the absence of centralized national strategies and the pressing need for inclusive, region-sensitive GenAI governance in higher education.

## Discussion and recommendations

Based on the analysis, the three groups of higher education institutions lack clear policies or regulatory guidance on the use of GenAI. The first group includes universities, both general and art-focused, that do not have policies or guidelines defining the principles for the use of GenAI in research—e.g., when or whether graduate students can use GenAI to create synthetic research data,

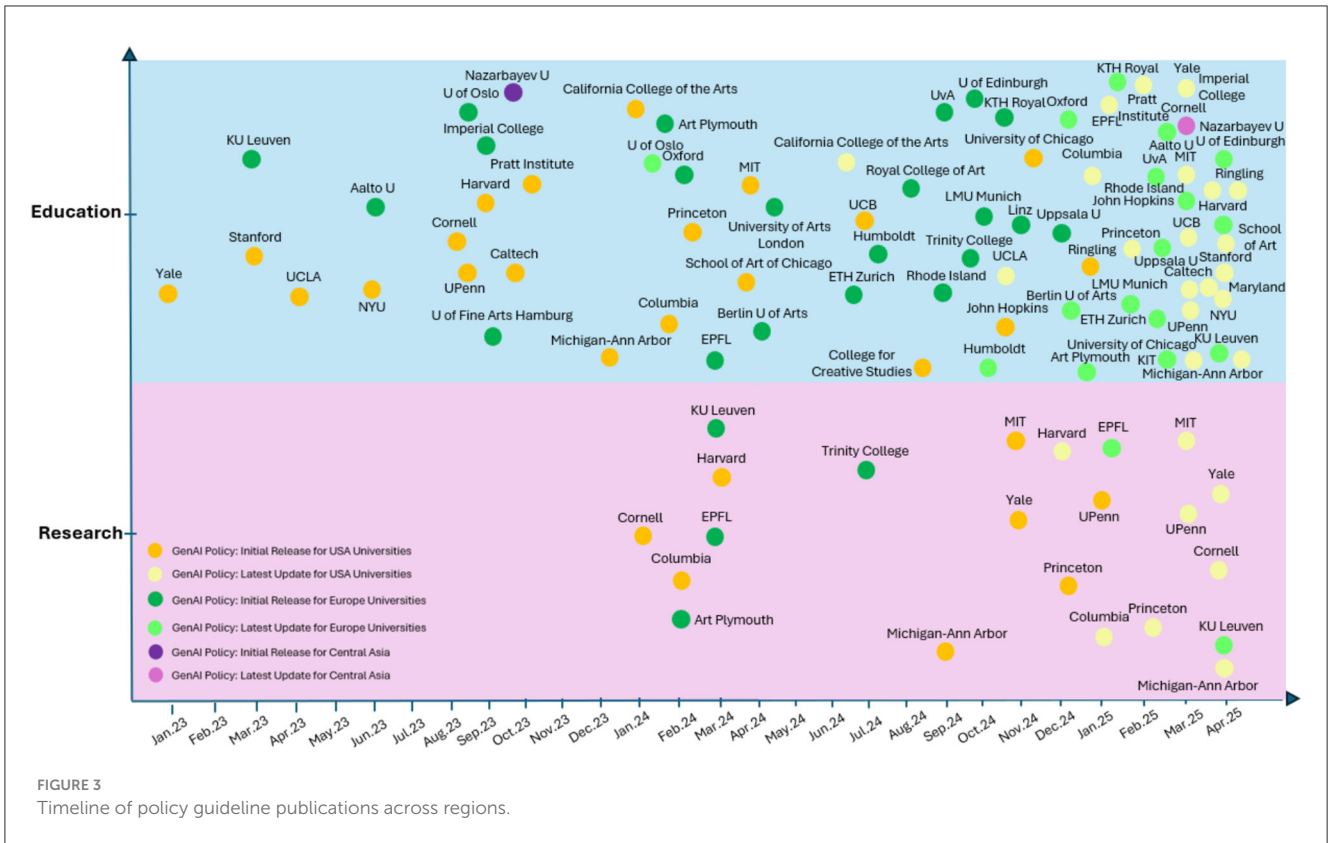


FIGURE 3  
Timeline of policy guideline publications across regions.

or faculty members can use GenAI to assist in writing scholarly articles. Out of 41 universities, only 17 (42%) have established articulated guidelines for research. The second group consists of art-focused universities around the world, only a small number of which have developed relevant guidelines or policies. Even after an extensive search, we identified only six GenAI policies from art universities in the USA and five in Europe. The third group comprises universities in Central Asian countries. Out of 30 universities that we have examined, only 2 (6.6%) had guidelines for the use of GenAI. Based on the identified characteristics, we have formulated the following recommendations for each of the three groups of educational institutions.

Our analysis further demonstrated the value of applying Dai et al. (2025) framework to systematize institutional policies. In leading U.S. and European universities, declarative statements regarding GenAI (e.g., visions of responsible and ethical use) are at least partially reinforced by concrete measures in other dimensions, such as curriculum guidelines, provision of secure AI tools, and faculty support initiatives. By contrast, in art-focused institutions, the imbalance between vision and practice is more pronounced. While creativity, authorship, and ethical reflection are consistently highlighted at the conceptual level (e.g., Ringling, RISD, MICA, Pratt, and RCA), these principles are only weakly supported by infrastructural investment, systematic curricular integration, or institutionalized faculty and student support. Stakeholder engagement also tends to remain fragmented and project-based. Taken together, this comparison underscores that although top-ranked general universities often begin to translate their declarative visions into tangible practices, art-focused

institutions still face significant gaps between articulated values and operational mechanisms.

For the first group, institutions should encourage researchers to disclose the use of GenAI in research activities, including the writing and reviewing of scientific publications and grant proposals. Such transparency is essential for ensuring the reproducibility and integrity of research. Another critical area is the standardization of informed consent procedures, particularly in cases where participant data may be used to train AI models. Universities should also establish internal review mechanisms to assess potential risks associated with the use of GenAI in research, including the evaluation of algorithmic biases, model limitations, and their possible effects on research outcomes. Additionally, universities are encouraged to promote AI literacy among both researchers and students. This can be achieved through the development of targeted courses, workshops on AI ethics, and the integration of AI competency frameworks into existing curricula.

Nartey (2025) presents a comprehensive sequence of recommendations for integrating GenAI into higher education. These include educational workshops, curriculum integration, ethical policy development, transparent communication, feedback-driven refinement, faculty support, empirical evaluation, the promotion of critical thinking, and ensuring equitable access. While many general universities have adopted these measures to varying degrees, art-focused universities still lack a coherent and unified strategy for incorporating GenAI technologies—highlighting the need for clear guidelines and policy development.

For art universities (the second group), unique challenges arise due to the centrality of creative expression, authorship, and artistic

labor. Policies for these institutions must account for concerns such as job displacement, privacy and data protection, ethical use, social inequality, and loss of human agency, as emphasized in [Nartey \(2025\)](#). Moreover, particular attention should be given to preserving the authenticity and value of creative labor in the age of GenAI.

Finally, for the third group—universities in Central Asia—it is recommended that institutions begin developing GenAI-related policies and guidelines by drawing on the best practices of leading U.S. and European universities, while at the same time adapting them to the cultural, linguistic, and institutional specificities of the region, as well as to the concrete educational needs of both faculty and students. Such efforts should remain aligned with emerging global frameworks and ethical standards articulated by international organizations such as UNESCO and the OECD, thereby enabling local initiatives to contribute to broader global academic interoperability. As [Taylor \(2024\)](#) emphasizes, although UNESCO's Guidance provides a suitable starting point for policy development, local contextualization and evaluation are essential for its meaningful application. In this regard, [Table 2](#) outlines a comparative framework that highlights the distinctive emphasis of general and art-focused universities while also identifying their shared strategies, which can guide the formulation of policies that are both context-sensitive and globally coherent.

At the same time, the findings of this analysis should be interpreted in light of several limitations. First, the study covers only publicly available documents, which may lead to an underestimation of the actual level of institutional readiness, while simultaneously pointing to the limited transparency of certain universities. Second, the analysis was qualitative in nature and relied on textual interpretation; although the descriptions were carried out independently by multiple researchers and subsequently reconciled collectively, the possibility of subjective interpretation cannot be entirely excluded. Third, the study focused on only three regions (the US, Europe, and Central Asia); to achieve a more comprehensive understanding of institutional dynamics, future research should expand to include additional regions and use methods such as interviews with administrators, faculty, and students, as well as access to internal institutional documents.

## Author contributions

MA: Formal analysis, Writing – review & editing, Visualization, Writing – original draft, Methodology, Data curation,

Investigation, Validation. RS: Validation, Writing – review & editing, Writing – original draft, Methodology, Investigation, Data curation. BM: Investigation, Writing – original draft, Data curation, Validation, Methodology, Writing – review & editing. DL: Project administration, Conceptualization, Validation, Supervision, Methodology, Writing – review & editing, Writing – original draft.

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## Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## Generative AI statement

The author(s) declare that no Gen AI was used in the creation of this manuscript.

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