Generative AI in higher education

Current practices and ways forward

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Generative AI in higher education: Current practices and ways forward

A whitepaper from the ‘Generative AI in Education: Opportunities, Challenges and Future Directions in Asia and the Pacific’ project

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Foreword

This report stakes out a territory in transformation: higher education in the face of the rapid advancement of generative artificial intelligence and its incremental application across all sectors of post-secondary education. Universities as the custodians of this territory are still slow in responding to this change when they should be swift and anticipatory, given the pace of AI development. However, navigating the new reality is complex and requires institutions to rethink basic assumptions that have underpinned their value proposition as education providers and their institutional operations.

Universities are faced with an emerging technology that displays still many uncertainties in terms of development, standardization, regulation, and usability. The main takeaways of Stanford University's Artificial Intelligence Index Report 2024[1] demonstrate this clearly: AI has surpassed human performance in some areas but still lags on many more complex tasks. Industry dominates frontier AI research, outdistancing academia and industry-academia collaborations; here, the US outpaces China, the EU, and the UK as the leading source of top AI models. The training costs of frontier AI models are increasingly high, while funding for generative AI has surged to reach $25.2 billion annually. Comparing the risks and limitations of top AI models is difficult due to a lack of standardization regarding responsible AI benchmarks. At the same time, AI regulation has seen a significant increase. AI may enhance work productivity and accelerates scientific discovery – a spectacular example is Demis Hassabis and John Jumper's breakthrough AI model AlphaFold which allows to predict the structure of virtually all 200 million proteins that researchers have identified, recognized by the 2024 Noble Prize in Chemistry[2]. At the same time, an increasing number of the world population is cognizant of the rising impact of AI on their lives and concerned about it. Many studies contemplate societal benefits and risks to society[3].

Universities have not yet found common ground in how to balance opportunities and risks in the adoption of AI. The 2024 Educause AI Landscape Study[4] sees some consensus regarding appropriate uses[5] versus inappropriate uses[6]. Opportunities are mostly seen in improving teaching, learning and student success; data analytics and access; and relieving administrative workload. Risks associated with the use of AI are mostly located in the areas of ethics (e.g. plagiarism, intellectual property, widening the digital divide, mis- and disinformation), privacy and security, lack of AI literacy, and the threat AI can pose to creativity, critical thinking and human engagement in learning.

[1] Stanford University (2024) The AI index report. https://aiindex.stanford.edu/report/

[2] https://www.nobelprize.org/uploads/2024/10/advanced-chemistryprize2024.pdf

[3] European Parliament (2020) https://www.europarl.europa.eu/topics/en/article/20200918STO87404/artificial-intelligence-threats-and-opportunities; Marr (2023) https://www.forbes.com/sites/bernardmarr/2023/06/02/the-15-biggest-risks-of-artificial-intelligence/?sh=2b6e146b2706.

[4] Robert (2024) 2024 EDUCAUSE AI Landscape Study, https://library.educause.edu/resources/2024/2/2024-educause-ai-landscape-study.

[5] Such as personalized student support; use of AI tool as teaching, research and administrative assistant; learning analytics; digital literacy education.

[6] Such as trusting generative AI outputs or making high-stakes decisions (e.g. student admissions) without human oversight; simulating human judgment (grading, peer review, writing recommendation letters), representing AI-generated work as one's own, not citing AI as a resource for generated content, conducting invasive data collection or surveillance, relying on AI tools in place of human thought and creativity, giving tools unauthorized access to sensitive data or intellectual property.

On an institutional level, the adoption of AI confronts universities with a range of questions that are fundamental to their identity: Does the educational role and the value proposition of degrees change with the adoption of AI? Do universities maintain authority over the education they deliver? How can universities make sure that there is fair and equal access to AI across faculties, programs and curricula? How can the institutional complexity of universities and their inertia be mitigated in an era of increasingly rapid technological change? Will we even witness a transformation towards news types of universities?

The present whitepaper attempts to chart this very territory. It is one of the main outcomes of the APRU project "Generative AI in Higher Education", conducted by the Association of Pacific Rim Universities (APRU) with the generous support of Microsoft. Following a survey of case studies demonstrating the current use of AI in APRU member universities, three workshops facilitated by Tandemic throughout 2024 – including an in-person workshop hosted by The Hong Kong University of Science and Technology in June 2024 – brought AI experts together to assess the case studies and to develop scenarios and paradigms of what AI-enhanced universities might look like in 2035.

We hope that this whitepaper will make an important contribution to the ongoing debate about the future place of AI in our universities, its promise, and potential. We trust the whitepaper will influence policies and support decision-making, thereby promoting a broader reimagination of universities as we enter the second quarter of the 21st century.

Let me conclude by extending our warmest gratitude to Microsoft for their most generous sponsorship that has made this project possible. Our special thanks go to Larry Nelson (Asia Regional Business Lead, Education, and General Manager), Madeline Shepherd (Asia Digital Safety Lead) and Lee Hickin (AI Technology and Policy Lead Asia).

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Thomas Schneider, APRU Chief Executive

Executive summary

The wide availability of generative AI represents a pivotal moment for higher education that goes far beyond merely accommodating another technological innovation. It fundamentally challenges our assumptions about teaching, learning, research, and the very purpose of universities. This whitepaper, emerging from collaboration across Pacific Rim universities, presents both a framework for action and a call for transformative change in how we prepare students, ourselves, and our institutions for an AI-enabled future.

Universities currently face unprecedented pressure to respond to generative AI while maintaining the integrity and value of higher education. Current approaches are typically piecemeal and reactive, focusing on immediate concerns like academic integrity rather than systematic integration of AI into educational practice in responsible and productive ways. Meanwhile, students – already questioning the value of traditional higher education – are embracing AI tools regardless of institutional readiness. Our sector must move swiftly from policing to possibilities, from panic to purpose.

Our work has identified five interdependent elements essential for successful generative AI integration, forming the ‘CRAFT’ framework – culture, rules, access, familiarity, and trust. Culture represents both the deepest challenge and greatest opportunity. Beyond regional and institutional differences in generative AI acceptance and adoption, we must address fundamental questions about the university's role in an AI-enabled world. Rules must move beyond restriction to enablement, with effective governance frameworks providing clear guidelines while encouraging experimentation and innovation. Assessment practices particularly require fundamental redesign to ensure both validity and relevance in an AI-enabled world.

Access remains a critical equity issue – without deliberate intervention, AI risks widening existing digital divides. Institutions must ensure equitable access not just to tools but to the infrastructure, support, and opportunities needed to leverage AI effectively. Familiarity requires systematic development across all stakeholders. Beyond basic digital literacy, we need deep understanding of AI capabilities, limitations, and ethical implications, demanding sustained investment in development and student support. Trust underpins all progress – whether between students and educators, institutions and vendors, universities and their communities, or other trust pairs – trust must be actively built and maintained through transparency, collaboration, and demonstrated value.

Individual institutional responses are insufficient for the scale of change required. We propose two key priorities for immediate sector-wide action. First, the formation of collaborative clusters where universities move beyond competition to cooperation in key areas including joint development of generative AI applications and pedagogical approaches, shared frameworks for assessment redesign, coordinated advocacy for equitable access, combined faculty development initiatives, and unified governance frameworks that respect local contexts. Second, the elevation of students as partners through peer-to-peer support networks, student AI ambassador programs, co-design of learning experiences, direct input into assessment redesign, and collaborative resource development.

The emergence of generative AI may be our best opportunity to reimagine higher education for the 21st century. Success requires us to move beyond incremental adaptation to fundamental transformation while preserving our core educational values. This whitepaper provides a suggested roadmap, but implementation demands immediate, coordinated action across the sector. We must develop comprehensive institutional AI strategies that address culture, rules, access, familiarity, and trust, working together to address shared challenges and leverage shared opportunities.

The choice we face is not whether to engage with AI but how to shape its integration to enhance rather than diminish the value and transformative power of higher education. The framework and recommendations in this whitepaper provide a foundation for action. The time to act is now.

Introduction

Motivation

Since ChatGPT was released in November 2022, the higher education sector, industry, and wider society have reacted in very different ways to the implications of generative AI for the present and future. For higher education an initial moral panic was fuelled by immediate concerns around academic integrity. Since then, there has been a gradual and growing acceptance that generative AI is 'here to stay' and we must adapt to its presence and ever-growing capabilities and the opportunities they present, whilst at the same time being cognizant of the challenges and limitations. After all, one of the key groups that higher education serves are its students, whom need to prepare for a world where AI is ubiquitous.

However, adaptation and adoption in the higher education sector has generally not been systematic. Artificial intelligence could be considered the newest 'general purpose technology', an advancement like the steam engine or electricity with impacts across society and the economy. Even though the underlying infrastructure needed (connectivity, software, and hardware) are already largely in place to accelerate adoption, as with other general-purpose technologies it will take time before its full impact is felt, often because workers and organizations need to learn the technology and adapt organizational processes and structures[7]. Unlike past general-purpose technologies, the capabilities are advancing rapidly making it more challenging to adapt to a fast-moving target.

Sector challenges

These have certainly compounded the lack of systematic engagement in higher education institutions with generative AI across their education, research, and operational functions. Many institutions lack personnel with necessary expertise to implement and manage AI effectively[8]. There are legitimate concerns around data protection, use and misuse of intellectual property, algorithmic bias, academic integrity, and the ethical and responsible use of AI by students and educators[9]. Regional differences in regulatory environments contribute to uneven access to AI tooling and applications[10]. Inequitable access and the risk of broadening the digital divide are important considerations, particularly in low- and middle-income countries[11]. Additionally, **an existential threat is felt** by higher education researchers and educators who may see their functions or parts of their roles being diminished or replaced by AI, may not know how to adapt from more traditional approaches, and are

[7] Crafts (2021) Artificial intelligence as a general-purpose technology: an historical perspective. https://doi.org/10.1093/oxrep/grab012
[8] Microsoft (2024) AI in Education: A Microsoft Special Report. http://aka.ms/AIinEDUReport
[9] UNESCO (2023) Guidance for generative AI in education and research. https://unesdoc.unesco.org/ark:/48223/pf0000386693
[10] For example, OpenAI Supported countries and territories : https://platform.openai.com/docs/supported-countries
[11] United Nations (2024) Mind the AI Divide. https://www.un.org/techenvoy/sites/www.un.org.techenvoy/files/MindtheAIDivide.pdf

already under significant workload pressures[12]. Early student perspectives suggest, however, that despite students being open to receiving assistance from AI, they still value the human elements of teacher-student relationships[13].

These challenges have led to the cautious and somewhat piecemeal approach to generative AI adoption by universities across institutions comprising the Association of Pacific Rim Universities (APRU). Like industry, where individual experimentation as opposed to strategic organizational engagement has been the prevailing response[14], **higher education is now at a stage where it needs to transition to a holistic, supported, and scaffolded approach to generative AI adoption**. The higher education sector has been quick to bring groups together to define and adopt high level principles that espouse humanity, ethics, integrity, amongst others[15], but a gulf exists between this and what university stakeholders like leaders, educators, and students need to effectively integrate generative AI into specific educational, research, and operational processes.

Where is the sector now, and where is it heading?

As a component of the project that this whitepaper was developed for, APRU first collated case studies on generative AI use across their member institutions. Supported by the social innovation agency Tandemic, APRU arranged a series of workshops throughout 2024, with input from APRU members and representatives from technology and publishing companies. These workshops sought to discover and share current practice and look to the future of higher education with generative AI in mind.

Sensemaking

A sensemaking workshop (March 2024) identified patterns and trends through case studies of AI use in universities, recognizing gaps and opportunities. [16]The main insights gained included: (i) the importance of transparency, trust, and culture in AI adoption; (ii) the need to adapt rapidly; (iii) ensuring equitable access to generative AI; (iv) how pedagogy needs to drive technological adoption; (v) that universities need to prepare learners for an AI-driven world and shift from a focus on knowledge to values and skills; and (vi) the centrality of human interaction and relationship in higher education.

[12] Lee et al. (2024) The impact of generative AI on higher education learning and teaching: A study of educators' perspectives. https://doi.org/10.1016/j.caeai.2024.100221
[13] Chan & Tsi (2024) Will generative AI replace teachers in higher education? A study of teacher and student perceptions. https://doi.org/10.1016/j.stueduc.2024.101395
[14] Relyea et al. (2024) Gen AI's next inflection point. https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/gen-ais-next-inflection-point-from-employee-experimentation-to-organizational-transformation
[15] Australian Government (2024) Study Buddy or Influencer. https://www.aph.gov.au/Parliamentary_Business/Committees/House/Employment_Education_and_Training/AIineducation/Report
[16] APRU (2024) The Future of Generative AI in Higher Education. https://www.apru.org/our-work/university-leadership/generative-ai-in-education/

Foresight

A foresight workshop (June 2024) explored emerging trends and considered their impact on higher education, culminating in the creation of models to imagine the future of universities. This workshop highlighted the unprecedented rate and range of disruptions facing the sector, including **shifts in perceptions around the value of higher education and employer sentiment**. Four models were proposed as provocations for the future: (i) 'research collaboratories' where students learn through an apprenticeship model and institutions tackle grand global challenges; (ii) the 'digital university consortia' where students learn through a network of experiences from multiple institutions, providing them with marketable skills; (iii) 'community learning universities' which focus on community development and social impact through a small-scale, human-first approach with a diminished role for AI; and (iv) 'entrenched universities' which only change from existing models incrementally and respond slowly to societal and employer expectations.

Prototypes

A creative sandbox workshop (August 2024) turned the models into tangible and testable forms, with the aim of identifying potential issues and opportunities. Five prototypes were developed to test different university models developed in the second workshop, such as the 'OneUni Alliance' where multiple institutions would collaborate to create a personalized learning experience for students who would take multiple courses spanning across different universities. These prototypes allowed the examination of existing policies and practices catalyzed by the disruptive force of generative AI. These included the agility of curriculum processes, encouraging student agency, enabling interdisciplinary learning, integrating learning on AI ethics, evolving roles of faculty, and rethinking institutional governance.

The urgency to act

The workshops provided a valuable opportunity to share current practice and imagine potential futures with a 10+ year horizon, uncovering key considerations that institutions need to grapple with right now to prepare for the future. This whitepaper connects some of the shared practices, imagined futures, and emerging considerations with the current Pacific Rim context and short- to medium-term actions that institutions should be taking.

- One key immediate challenge facing higher education is the **integrity of awarded qualifications**. With generative AI increasingly able to perform well in assessments[17], unsupervised assessments are no longer able to assure attainment of learning outcomes. This does not mean that every assessment must now be supervised; rather, it means that assessment redesign is needed so that there is a pedagogically beneficial mixture of 'secured' assessment *of* learning and 'open' assessment *for* learning.
- A more medium-term challenge is **the need to adequately prepare students for the workforce**. Organizations are adopting generative AI at an accelerating rate but lack employees with the necessary capabilities to maximize the impact of generative AI[18]. If we secure all assessments and lock out generative AI, we will fail to help students engage productively and responsibly with AI. Again, the pedagogically meaningful integration of generative AI into the curriculum, in service of learning disciplinary knowledge, skills, and dispositions, is key here. Through this, we have an opportunity to build our students' ability to engage with AI productively and responsibly.
- Another medium-term challenge is **reaffirming the role of the university**. Student engagement has been a growing issue, exacerbated by the COVID-19 pandemic, and the 'allostatic load' from a cumulation of stressors had made students question the purpose of higher education even before ChatGPT was released[19]. Since then, generative AI has become an alluring answer to activities which students may perceive as busywork[20], which again raises questions around what we are asking students to do in higher education. The foresight workshop brought this into sharp focus, through a recognition that the current models of university are being disrupted through internal and external forces[21].

How to use this whitepaper to inform action

This whitepaper aims to support institutions to move into the short- and medium-term future with generative AI by offering a set of practical elements that universities need to consider and put into action. As a point-in-time summary and direction-setting tool, the recommendations in this whitepaper will most likely need refreshing as higher education evolves alongside the capabilities of generative AI.

One underlying philosophy for this whitepaper is to **reframe the approach to generative AI from 'policing' to 'possibilities'.** With the increasing ubiquity of generative AI functionality in existing platforms, and availability of generative AI-

[17] For example, Scarfe et al. (2024) A real-world test of artificial intelligence infiltration of a university examinations system: A "Turing Test" case study, https://doi.org/10.1371/journal.pone.0305354 and Ibrahim et al. (2023) Perception, performance, and detectability of conversational artificial intelligence across 32 university courses, https://doi.org/10.1038/s41598-023-38964-3
[18] IDC (2024) The Business Opportunity of AI report. https://clouddamcdnprodep.azureedge.net/gdc/gdcflXNT6/original
[19] McMurtie (2022) A 'stunning' level of student disconnection. https://www.chronicle.com/article/a-stunning-level-of-student-disconnection
[20] McMurtie (2024) Cheating has become normal. https://www.chronicle.com/article/cheating-has-become-normal
[21] Joffres and Rey-Saturay (2024) The University at a Crossroads - Reimagining Higher Education in an Age of Disruption. https://www.apru.org/resources_report/generative-ai-in-higher-education-foresight-workshop/

specific tooling, and applications[22], it is not feasible nor desirable to restrict, limit, or ban generative AI, nor to be overly fearful of 'what is left' for humans. Rather, our approach is to consider 'what is now possible' because generative AI is here. However, we are mindful of disciplinary and other contexts that necessarily mean we should also not uncritically embrace AI.

To help universities approach this challenge head-on, this whitepaper identifies key phases of development and actions that can be taken by leaders, educators, researchers, and students within their contexts, considering their spheres of control, influence, and concern. These actions are presented in this whitepaper as rubrics which describe, for each of these stakeholder groups, suggested levels of maturity from emerging, to established, to evolved, to extending. As with all rubrics, an individual, group, or institution may not neatly sit within one of these four levels. Development may also not be linear in all cases. Rather, the rubrics are a suggested starting point to position where one is currently operating, and what actions may be useful to consider as next steps.

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The whitepaper has been informed by the virtual and in person workshops[23] that have been conducted as part of this APRU project, as well as many other conversations around the topics that the authors have had in collaboration and as part of their own roles. We acknowledge the insightful feedback and further resources provided for this whitepaper by a number of leading thinkers and 'doers' in generative AI in the context of higher education that this project brought together:

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- **Fun Siong Lim**, Head of the Centre for Applications of Teaching & Learning Analytics for Students, Nanyang Technological University, Singapore

[22] We take the definitions given in Microsoft's Generative AI Tech Stack as outlined in the *Australia's Opportunity in the new AI economy* report: 'foundation models' are the "large generative AI models trained on vast datasets"; 'tooling' refers to the framework and tools that go into generative AI applications, and 'applications' being the "software solutions" used by end users such as students and educators.
[23] APRU (2023) The Future of Generative AI in Higher Education. https://www.apru.org/our-work/university-leadership/generative-ai-in-education/

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- **Tim Fawns**, Associate Professor, Monash Education Academy, Monash University, Australia

For full transparency, generative AI applications were used in the development of this whitepaper in the following ways:

- NotebookLM assisted with source summarization and search.
- Claude assisted with proposing and critiquing descriptors for the CRAFT rubrics, summarizing and analyzing sources, and drafting the executive summary.
- Front cover and decorative images generated via openart.ai using Flux (dev) model.

Five areas for action

Immediate key areas of activity

There are three core areas of focus for universities to enable work towards the goal of productively and responsibly integrating generative AI into their education, research, and operational functions. A combination of and balance between (1) **rules**, (2) **access**, and (3) **familiarity** is needed to enable appropriate adoption. A lack, or misbalance, of one or more of these areas may lead to ethical, privacy, security, academic integrity, or other challenges.

These three areas are underpinned by a foundational layer of (4) **trust** between students, educators, leaders, vendors, partners (industry, government, and community), and AI itself. Rules, access, familiarity, and trust are then situated in, and influenced by, an institution's local, regional, and even global (5) **culture** that includes attitudes, philosophies, and perspectives of individuals and groups of society, academia (universities and subunits), and governments.

Together, these make the CRAFT framework (Figure 1) for generative AI adoption in higher education. We unpack each of these components, along with implications for different stakeholder groups along their generative AI journey.

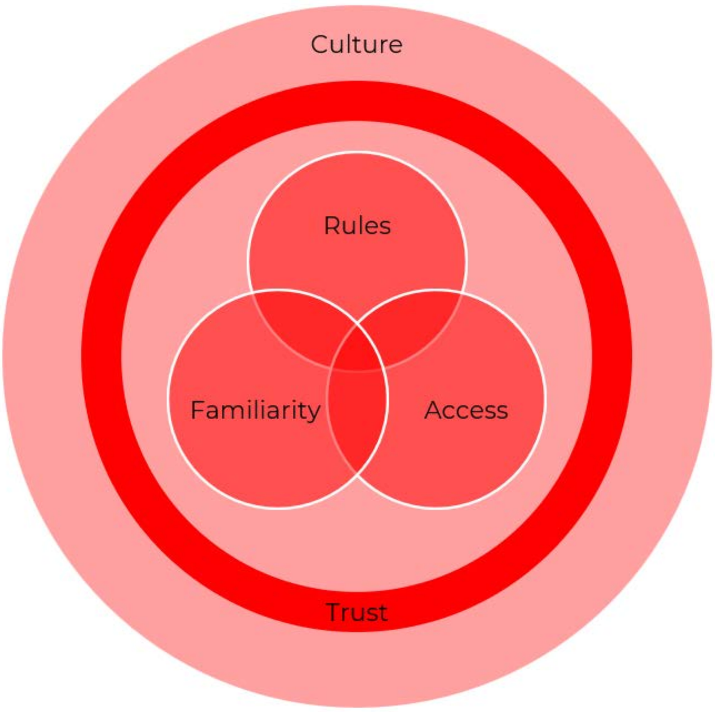

Figure 1. Interaction between the five core areas of activity needed to address generative AI in higher education.

Rules

Establishing meaningful rules is critical to establishing the responsible use of generative AI and helps to build trust. These rules include principles, policies, guardrails, and guidelines that govern how individuals within an institution engage with generative AI, as well as how the institution approaches the technology. At a high level, creation of principles and position statements is one way that many APRU institutions approached their initial response to the technology and its implications, establishing high level rules for engagement with generative AI.

Case studies

Philippines
Most higher education institutions in the Philippes quickly established rules around generative AI usage by faculty and students through acceptable use policies. The University of the Philippines released principles-based guidelines that balanced positive use with negative impacts, focusing on beneficence, human agency, fairness, safety, environmental sustainability, and more.

Australia
Australia's Tertiary Education Quality and Standards Agency, the federal regulator of Australian universities, has produced a document, *Assessment reform for the age of artificial intelligence*[24], which outlines two key principles:

1. Assessment and learning experiences equip students to participate ethically and actively in a society where AI is ubiquitous.
2. Forming trustworthy judgements about student learning in a time of AI requires multiple, inclusive and contextualized approaches to assessment

These principles encourage institutions to simultaneously engage in integrating generative AI into assessment and learning, whilst assuring that learning has occurred through trustworthy assessment positioned at meaningful points along a student's journey.

One of the most obvious and pressing reasons for having rules around generative AI centers on academic integrity and the veracity of higher education awards. That is, given generative AI can produce high quality student-like work[25], **how should assessments appropriately assure that learning has occurred**? In other words, the focus on assessment should be around validity; that is, are we measuring a student's actual capability[26]? This necessitates reconsideration of assessment regimes, because waiting, or perhaps hoping, for tools to detect writing authored by generative AI models with a sufficiently high degree of accuracy and reliability is not the answer. AI detection tools yield uncomfortable levels of

[24] Lodge et al. (2023) Assessment reform for the age of artificial intelligence. https://www.teqsa.gov.au/guides-resources/resources/corporate-publications/assessment-reform-age-artificial-intelligence
[25] For example, Scarfe et al. (2024) A real-world test of artificial intelligence infiltration of a university examinations system: A "Turing Test" case study, https://doi.org/10.1371/journal.pone.0305354, and Borges et al. (2024) Could ChatGPT get an engineering degree? Evaluating higher education vulnerability to AI assistants, https://doi.org/10.1073/pnas.2414955121.
[26] Dawson et al. (2024) Validity matters more than cheating. https://www.tandfonline.com/doi/full/10.1080/02602938.2024.2386662

false positives and false negatives and is also easily defeated with creative prompting or purpose-built AI 'humanizer' tools[27].

Between higher education institutions, this will look different depending on the academic context, but the program level will be the natural location to distribute assessments that can assure students have attained learning outcomes, as well as define how, when, and if generative AI can be used in support of learning. More broadly, **the values of academic integrity (including fairness, honesty, respect, and responsibility) are highly compatible with the legitimate use of generative AI for learning**. Having the right rules at an institutional level can therefore catalyze a productive engagement with generative AI, beyond the narrow perspective of seeing AI as just 'cheating'. This can help to reduce the worry that is currently pervasive around generative AI use[31].

> **Case study**
>
> **Tertiary Education Quality and Standards Agency (TEQSA), Australia**
> In mid-2024, 202 Australian higher education providers responded to a request for information from the country's higher education regulator, TEQSA, sharing institutional approaches to the risks posed by generative AI to the veracity of awards. TEQSA curated key emerging practices in a practical toolkit[28], focusing on process, people, and practice. In the toolkit, TEQSA highlighted key practices around assessment security and academic integrity, emphasizing the importance of assessing process, assessment validity, and a program-level approach to assessment.
>
> A key 'transformational practice' identified by TEQSA in mitigating assessment risk was the 'two-lane approach' to assessment redesign[29], where 'lane 1' supervised assessments were used for the assessment *of* learning, and 'lane 2' open assessments were used as assessment *for* learning. The use of AI is scaffolded and supported in lane 2, applying a 'menu' of typologies[30] of generative AI use. This was highlighted because a menu analogy emphasizes choice and suitability, as opposed to a traffic light or assessment scale approach which suggests that one can restrict or control AI use (one cannot), or that there is a linear gradation of AI use (there is not).

Another reason for establishing clear institutional rules revolves around data privacy, intellectual property, and security. There have been well-known cases where private or confidential information has been inadvertently provided to AI vendors, potentially for training future AI models, as part of unprotected conversations. This often occurs due to a lack of clear guidelines or insufficient awareness of rules around appropriate use. These rules would include the safe use of these applications, such as what data can be provided to them, which are safe to use,

[27] For example, Elkhatat et al. (2023) Evaluating the efficacy of AI content detection tools in differentiating between human and AI-generated text, https://edintegrity.biomedcentral.com/articles/10.1007/s40979-023-00140-5, and Weber-Wulff et al. (2023) Testing of detection tools for AI-generated text, https://doi.org/10.1007/s40979-023-00146-z
[28] TEQSA (2024) Gen AI strategies for Australian higher education: Emerging practice. https://www.teqsa.gov.au/guides-resources/resources/corporate-publications/gen-ai-strategies-australian-higher-education-emerging-practice
[29] Liu & Bridgeman (2024) Frequently asked questions about the two-lane approach to assessment in the age of AI. https://educational-innovation.sydney.edu.au/teaching@sydney/frequently-asked-questions-about-the-two-lane-approach-to-assessment-in-the-age-of-ai/
[30] Liu (2024) Menus, not traffic lights: A different way to think about AI and assessments. https://educational-innovation.sydney.edu.au/teaching@sydney/menus-not-traffic-lights-a-different-way-to-think-about-ai-and-assessments/
[31] Students perspectives on AI in higher education. https://aiinhe.org/wp-content/uploads/2024/10/aiinhe_surveyinsights.pdf

and the contexts and configurations of their use (e.g. what data goes back to the AI vendor to refine or optimize AI models). For example, unpublished research findings may be considered too sensitive to share with certain AI applications, including some hosted in the cloud. Cloud-based platforms potentially present risks from unauthorized access and exposing data to these services could compromise security and ownership of research data. From an education perspective, do educators have the right to upload student work to AI tools without informed consent for the purposes of generating feedback?

Establishing rules, considering the pace at which generative AI progresses, and in the face of its ubiquity and ease-of-access, brings certain challenges. **It is important for rules to be as forward-looking as possible and to be revisited regularly as the technology changes**[32], becomes more widespread and integrated into existing platforms[33], and as the culture around generative AI adapts. For example, implementing rules around 'AI-proofing' assessments is not forward-looking because AI capabilities will likely advance faster than educators can redesign assessment tasks. As generative AI impacts various disciplines in different ways, it is also important for rules to allow for disciplinary nuances and interpretation[34] while also considering and encouraging interdisciplinarity.

In many ways, the wide accessibility and use of generative AI-enabled applications amongst the university population has meant that rules have already fallen behind in many institutions, which makes it more difficult to take advantage of benefits and mitigate risks[35]. As the most avid (albeit not necessarily productive, sophisticated, or responsible) current users of AI[36], **students should be central to any discussions around rules**. This is an opportunity to engage students as partners and co-creators in defining and applying approaches: as a cohort group, they are engaged, eager for guidance, and generally aware of how important proficiency with generative AI is going to be as they move through and beyond their time at university. The extensive literature of students as partners as an approach for course design and evaluation offers practical guidance on how to approach this[37].

Looking to the future, it is critical that rules are designed for a future state where AI is increasingly capable and integrated in many digital tools and new, as-yet unknown, possibilities. Rule design also needs to help catalyze and guide a shift towards responsible human-AI collaboration. To this end, the following rubric (Table 1) can be used to help situate your institutional and local progress and consider key action areas for development.

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[32] Joffres and Rey-Saturay (2024) Generative AI in Higher Education Sensemaking Workshop Proceedings. https://www.apru.org/resources_report/generative-ai-in-higher-education-sensemaking-workshop/

[33] Justus & Janos (2024) Your AI Policy Is Already Obsolete. https://www.insidehighered.com/opinion/views/2024/10/22/your-ai-policy-already-obsolete-opinion

[34] Joffres and Rey-Saturay (2024) Generative AI in Higher Education Creative Sandbox Report: Prototype Concepts for Higher Education in the AI Future. https://www.apru.org/resources_report/generative-ai-in-higher-education-creative-sandbox/

[35] Australian Government (2024) Study Buddy or Influencer. https://www.aph.gov.au/Parliamentary_Business/Committees/House/Employment_Education_and_Training/AIineducation/Report

[36] Digital Education Council (2024) Global AI Student Survey. https://www.digitaleducationcouncil.com/post/digital-education-council-global-ai-student-survey-2024

[37] Healey et al. (2016) Students as partners: Reflections on a conceptual model. https://doi.org/10.20343/teachlearninqu.4.2.3

Rules: Self-positioning rubric

Table 1. Rubric for establishing rules around engaging with generative AI.

	Emerging	**Established**	**Evolved**	**Extending**
Leaders	Desire for / initial discussions leading to drafts of institution-wide principles and policies, such as privacy, security, ethics, and integrity. Formation of some governance structures.	Committees and working groups formed, leading to principles and policies around privacy, security, ethics, compliance, quality assurance, and academic integrity as relates to generative AI. AI governance structure with clear accountability. Clear guidance and resources provided and communicated to educators, researchers, and students. Impacts on diversity, equity, and inclusion are considered.	Collaboration internally and externally (other universities, industry, accrediting bodies) on standards and resources. Regular validation and review of rules. Comprehensive AI strategy, monitoring, and quality assurance mechanisms articulated and integrated into institutional plans. Diversity, equity, and inclusion are central to institutional approaches to AI.	Cross-sector partnerships (with industry, accrediting bodies, government, community) to define responsible AI use. Influencing wider policies such as industry practices and codes of conduct.
Educators	Uncertainty about permissible roles for AI in teaching, learning, and assessment. Ad hoc rules set by individual educators. Some acknowledgement of AI use (or not) in course documents. May be banning AI entirely in assessments.	Institutional rules about AI in teaching, learning, and assessment are clearly understood, consistently cascaded and appropriately applied in different disciplinary contexts. Responding to the need to assure learning outcomes and prepare students for the future.	Providing feedback on policy effectiveness for on-going enhancement. Aligning course-specific nuances of institutional rules to disciplinary needs. Securing assurance of learning outcomes at key points of students' journeys. Consideration and integration of AI in curriculum review processes.	Contributing to educator-led AI working groups to influence policy directions and wider practice.
Researchers	Ad hoc use with limited institutional guidance. May be unclear about data security requirements.	Developing discipline-specific guidelines and approach for responsible AI use in research. Safely using AI in research, maintaining data security. Involving research ethics boards in generative AI decisions.	Active contributions to refining institutional rules on AI for research. Contributing to AI research standards and developing best practices for specific domains.	Collaborating on AI-enabled research methodologies. Contributing to global AI research standards.
Students	Basic awareness of rules and policies around AI use, but some apprehension about application in different learning contexts.	Clear understanding of permissible AI use in learning and assessment and adherence to different guidelines across courses and programs.	Active engagement in discourse around AI. Student partnership in AI governance.	Student-led initiatives to ideate, refine and feed back on AI policies.

Access

Equitable availability of generative AI applications for students, educators, and leaders across the institution is essential. This may include licenses to discipline-specific applications within certain departments, general purpose AI platforms available across an institution, and ensuring presence of supporting infrastructure.

Inequitable access to such a critical technology as generative AI **risks exacerbating existing digital divides**, opening new rifts, and 'entrenching disadvantage across the system'[38]. Foundational to this is having access to enabling infrastructure such as internet connections and computing devices, which remains particularly challenging for marginalized and low- and middle-income communities and even countries[39].

The cost of accessing AI platforms and subscriptions can be prohibitive for many individuals, institutions, and whole jurisdictions, potentially creating a new form of digital inequity where access to advanced AI capabilities is determined by financial resources. For example, paid subscriptions to 'latest-model' generative AI applications usually cost between USD20-30 per month, per platform; paid access typically grants more reliable access to frontier models, improved functionality such as data analysis, and enhanced output quality. It is important that institutions, governments, and AI vendors work together to supply AI applications and tooling to ensure that essential AI functionalities are available free of charge to students, educators, and researchers[40]. This may involve institutional or governmental agreements with vendors, or the deployment and use of open-weights AI models.

Considerations of equitable access also include potential barriers relating to disability, culture, and language. AI vendors have a responsibility to ensure AI interfaces are designed with accessibility in mind, and that students with disabilities receive the support and accommodations they need in using AI effectively[41]. It must also be recognized that **generative AI may be a powerful assistive technology** for certain students, such as helping neurodivergent students to organize and reprocess material.

Case study

The Philippine government's Department of Science and Technology has partnered with the National University and Bicol University to make available an AI application that helps people engage with databases using natural language queries. The initiative is designed to encourage adoption of this AI in universities, colleges, local government, and by the general public. The government sees this as a way to make information more accessible to citizens, especially those who may not be familiar with English.

Another aspect of equity is related to the predominantly Western perspectives in training datasets that may perpetuate biases and limit the relevance of AI applications for learners from diverse backgrounds, or even limit the capabilities of AI models in

[38] NSW Parliament (2024) Artificial intelligence (AI) in New South Wales. https://www.parliament.nsw.gov.au/committees/inquiries/Pages/inquiry-details.aspx?pk=2968
[39] Australian Government (2024) Study Buddy or Influencer. https://www.aph.gov.au/Parliamentary_Business/Committees/House/Employment_Education_and_Training/AIineducation/Report
[40] For example, Microsoft enabling access to OpenAI's frontier models for education in Hong Kong.
[41] Davis (2024) Developing Institutional Level AI Policies and Practices: A Framework. https://wcet.wiche.edu/frontiers/2023/12/07/developing-institutional-level-ai-policies-and-practices-a-framework/

certain languages. Models trained on a corpus of material in a specific language other than English may emerge for specific geographies or purposes, such as to avoid neglecting certain cultures and languages[42].

Some stakeholders may also have valid and deeply held convictions about the ethics of generative AI systems and elect to limit their own access. For example, non-users of AI may hold concerns about the environmental impact of AI inference, and the ethical labor practices of AI companies in preparing models[43]. These factors should be considered when institutions are making decisions about generative AI applications and may lead to the selection of more ethical or sustainable options or giving individuals the agency to conscientiously object whilst providing equitable alternatives.

Another consideration relates to the **increasing ubiquity of generative AI functionality in existing platforms**. For example, some publishers are adding generative AI summaries to existing scholarly databases used by researchers and students. In these cases, access may be 'automatic', in which case institutions will need to invoke other elements of the CRAFT framework to appropriately respond, such as rules to ensure data protections are in place, and familiarity to ensure users are aware of the opportunities and limitations of generative AI.

Looking to the future, it is critical that institutions seek to provide access to state-of-the-art AI tooling and applications to ensure their students, educators, and leaders can learn how to use AI productively and responsibly. This may require more flexible licensing arrangements with vendors to permit responsiveness to new developments. The following rubric (Table 2) can be used to help situate your institutional and local progress and determine key action areas for development.

Case studies

Universities are leveraging Microsoft's Azure OpenAI services through custom-built platforms designed for a higher education context. These initiatives provide equitable access to state-of-the-art AI models for all stakeholders at an institution, as access to the underlying AI tooling is provisioned by the institution.

Tecnológico de Monterrey
Tecnológico de Monterrey have developed TECgpt, a generative AI ecosystem based on Microsoft's Azure OpenAI service. TECgpt makes available to the community number of different components, including ChatGPT-like functionality, and language processing capability on top of the institution's own knowledge bases. Students can ask TECbot tutors for help, approach it for administrative advice, and teachers can use it to create teaching material.

The University of Sydney
The University of Sydney has developed the Cogniti platform, to allow educators to create their own AI 'agents', with integration into the learning management system. Also built on Microsoft's Azure OpenAI service, educators can control the behaviour and knowledge base of their AI agents, understand how students interact with it, and share their agents with others.

[42] Biever (2024). China's ChatGPT: Why China is building its own AI chatbots. https://www.nature.com/articles/d41586-024-01495-6
[43] McDonald et al. (2024) Apostles, Agnostics and Atheists: Engagement with Generative AI by Australian University Staff. https://eprints.qut.edu.au/252079/

Access: Self-positioning rubric

Table 2. Rubric for providing equitable access to generative AI technologies.

	Emerging	**Established**	**Evolved**	**Extending**
Leaders	Identifying a need for different resources (technology, people) for investment. Initiating discussions with potential AI vendors and / or local development teams.	Budgets identified and allocated to AI resources. Alignment of procurement to established rules. Pilot projects are supported. Small-scale availability of key AI applications. Consideration of accessibility and inclusion issues in available AI platforms. Some evaluation of AI application efficacy.	Institution-wide financially sustainable availability of AI applications using frontier models. Discipline-specific applications widely and equitably available. New resources considered as part of annual planning. Consideration of ethical AI models and tooling. Inter-institutional collaboration to secure cost-effective, equitable access to AI tooling and applications. Systematic evaluation of AI application efficacy.	Collaboratively developing novel AI applications in partnership with other institutions and AI vendors, such as through innovation hubs. Creating AI innovation hubs in collaboration with community partners and stakeholders.
Educators	Limited and / or hesitant exploration of AI applications or functionality relevant to learning, teaching, and assessment. Free tools used.	A variety of AI applications are utilized, built into learning design for courses as appropriate. Encourages students to select and use AI applications. Working with IT to ensure classroom infrastructure supports AI use.	Discipline-specific AI applications are embraced in collaboration with leadership. Encourages students to leverage free access to relevant AI applications. Participating in decisions and evaluations about AI application availability and effectiveness.	Co-designing and building their own educational tools using self-serve AI applications. Leading inter-institutional collaborations on development of AI applications. Advising on AI use for specific applications.
Researchers	Use of free or commercially available AI applications with limited data protection.	Using institution-provided AI applications for research. Piloting other discipline-specific AI tooling or applications to accelerate research activities.	Involved in selection, deployment, evaluation, and cross-disciplinary sharing of research-enabling AI applications or tooling (e.g. data analysis, literature review, code generation).	Collaborating on building AI-enabled research applications and tooling. Integration of AI tooling with research infrastructure.
Students	Limited awareness and use of available AI tools. Reliance on free, mass-market AI applications.	Accessing institution-provided AI applications. May use other AI-enabled applications to support personal learning and research in curricular, co-curricular, or extra-curricular contexts.	Actively involved in requirements for, selection of and deployment of AI applications, possibly specific to the discipline. Have equitable access to infrastructure to leverage AI applications and tooling.	Co-designing AI applications and uses with educators. Access to advanced AI applications and tooling used for research and industry.

Familiarity

This represents how well students, faculty, and staff understand and are comfortable with the ways they may use generative AI for their day-to-day work related to the institution. We have purposely used the word 'familiarity' here instead of 'skill', as not all stakeholders will (or will need to) develop advanced skill with using generative AI. However, all stakeholders need to have foundational knowledge of the possibilities AI affords, where it could and should be used, and have the ability to apply AI to their everyday activities[44]. Familiarity also emphasizes an awareness of the broader context of generative AI parallel to its application, including ethics, privacy, and safety[45].

The imperative to develop familiarity with generative AI is rooted in universities needing to design and delivery coursework and research activities that prepare students for their future. However, recent reports suggest that **universities are not providing the necessary familiarity-building activities that students need**[46]. A large contributing factor is that educators, researchers, and leaders themselves are struggling to build their own familiarity, often because their institution lacks a generative AI strategy[47]. This is despite staff training and scope for experimentation being some of the most sought-after developments to help meet AI literacy needs[48]. However, building staff and student familiarity needs to be contextualized within the cultural environment of higher education, including perspectives on the place of AI within higher learning (see later section on culture). Further, keeping up to date with the rapid pace of generative AI developments

Case studies

Nanyang Technological University
Nanyang Technological University in Singapore is developing a university strategy for an ecosystem of responsible AI applications for teaching and learning, to address governance and responsible use of AI, promote AI literacy and enable experimentation through a local sandbox environment. This central institutional approach is promoting use of common language, common measures of impact and responsible use, and a common platform.

Asian Institute of Management
At the Asian Institute of Management (AIM) in the Philippines, generative AI is thoughtfully incorporated into teaching, learning, and assessment practices to enhance student outcomes while maintaining academic integrity. By allowing students to use AI for brainstorming, initial drafts, and study guide creation, AIM provides practical AI experience while ensuring that critical tasks like case analysis and reflections remain authentically student driven. This balanced approach not only familiarizes students and faculty with AI tools but also reinforces AIM's commitment to pedagogically meaningful use of GAI, supporting ethical and impactful learning experiences.

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[44] Brodnitz (2024) A New Framework for AI Upskilling Across Your Organization. https://www.linkedin.com/business/talent/blog/learning-and-development/new-framework-for-ai-upskilling
[45] World Economic Forum (2024) Shaping the Future of Learning: The Role of AI in Education 4.0. https://www3.weforum.org/docs/WEF_Shaping_the_Future_of_Learning_2024.pdf
[46] Digital Education Council (2024) Global AI Student Survey 2024. https://www.digitaleducationcouncil.com/post/digital-education-council-global-ai-student-survey-2024
[47] Microsoft (2024) AI in Education: A Microsoft Special Report. http://aka.ms/AIinEDUReport
[48] McDonald et al. (2024) Apostles, Agnostics and Atheists: Engagement with Generative AI by Australian University Staff. https://eprints.qut.edu.au/252079/

is increasingly difficult. Several universities in the Pacific Rim are starting to establish centers for AI that variably meet the practical and/or research needs of the institution. That said, familiarity-building initiatives for faculty are still generally nascent or piecemeal, even though these are emerging as a necessary precondition for wider adoption[49].

Familiarity with generative AI in higher education also necessarily includes **how it can be incorporated into teaching, learning, and assessment practices** and designs in pedagogically meaningful ways[50]. For example, it may be more effective to provide students with intentionally designed generative AI applications that are aware of common misconceptions, promote problem solving, and develop metacognitive skills[51] a, than to provide students with unguided, general-purpose generative AI that may help answer questions but turn out to be a 'crutch'[52] that can allow students to avoid important cognitive labor and on which they can become over-reliant – with potentially adverse long-term (and as-yet unknown) impacts. Overall, we need to take a "pedagogy first" approach to ensure that student learning needs and educators' pedagogical intent are foregrounded, along with the deeply relational nature of teaching and learning[53].

Case study

At the Hong Kong University of Science and Technology, the Centre for Education Innovation are trialing ChatGPT as a design assistant in educational course design. AI is used to help align course learning outcomes to assessment design, following Bloom's taxonomy. The AI speeds up processes such as mapping cognitive processes to knowledge dimensions, with the educator guiding this process. This allows educators to be more reflective and thorough, augmenting human capabilities.

From a student perspective, these tools are alluring. They can make the things a student needs to do to satisfy assessment requirements rapid and frictionless. A deliberately extreme example, which many could easily imagine when ChatGPT's capabilities first became known[54], is a student using the tool to write an entire essay or assignment. This would deprive the student of the desirable cognitive effort needed to learn from undertaking the assignment and building competencies that are important for the course or program of study. Writing is a process closely tied to thinking, which is not a process we want to see our students short-circuit entirely. **Students need to develop a nuanced view, supported by their educators, of not only how to use generative AI to support learning, but when not to rely on them**. Students also need to develop strong metacognitive processes such as self-regulated

[49] Joffres and Rey-Saturay (2024) Generative AI in Higher Education Sensemaking Workshop Proceedings. https://www.apru.org/resources_report/generative-ai-in-higher-education-sensemaking-workshop/
[50] Microsoft (2024) AI in Education: A Microsoft Special Report. http://aka.ms/AIinEDUReport
[51] For example, Lai et al. (2024) Leveraging Process-Action Epistemic Network Analysis to Illuminate Student Self-Regulated Learning with a Socratic Chatbot. https://doi.org/10.35542/osf.io/b9vq6
[52] Bastani et al. (2024) Generative AI Can Harm Learning. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4895486
[53] Joffres and Rey-Saturay (2024) Generative AI in Higher Education Sensemaking Workshop Proceedings. https://www.apru.org/resources_report/generative-ai-in-higher-education-sensemaking-workshop/
[54] See, for example, Marche (2022) The College Essay Is Dead. https://www.theatlantic.com/technology/archive/2022/12/chatgpt-ai-writing-college-student-essays/672371/.

learning that promote autonomy, adaptability, and reflexivity, which will also help them to critically engage with generative AI[55].

For all stakeholders, AI ethics is also a critical element of familiarity. The UNESCO AI competency frameworks for teachers[57] and students[58] highlight awareness of debates around the ethics of AI as a key aspect, including the impact of AI on equity, environment, social justice, and human rights. **A foundational familiarity with AI ethics will help inform how we use AI**, what we do with AI outputs, which AI models and applications we use, how to consider potential harms, and how we engage with vulnerable groups around AI. For example, awareness of the bias in training data and AI outputs may help students to be more careful about evaluating the perspectives or representations that AI presents. Awareness of the environmental impact of generative AI may lead researchers to choose simpler AI models for tasks like bulk summarization that do not require advanced reasoning capabilities. The UNESCO global AI ethics and governance observatory[59] is a key resource for further investigation into international approaches to AI ethics, including UNESCO's own principles which center on human rights and dignity, justice, diversity and inclusion, and environmental flourishing[60].

Case studies

Familiarity is an area where collaboration and open sharing and licensing of resources to facilitate reuse and adaption to local contexts is beneficial.

The University of British Columbia
Work undertaken at the University of British Columbia, Canada, done on behalf of BC Campus, a provincial organization that supports all post-secondary education institutions in British Columbia, Canada, has led to the creation of a free, openly licensed faculty development course on the design of assessments that invite student use of generative AI[56].

University of Southern California
By leveraging interdisciplinary collaboration between its Rossier School of Education and the Institute for Creative Technologies, the University of Southern California has created programs like the Generative AI Fellows, which empower students to explore and critically evaluate AI's potential and ethical implications in education. This has led instructors and students alike to explore generative AI technologies in a supportive environment.

The University of Sydney
Student partners at the University of Sydney have developed a public-available, Creative Commons-licensed resource site to help students and educators use AI productively and responsibly. The AI in Education site houses information on what generative AI is, the integrity and other ethical considerations of its use, and many real-world examples of AI prompts that students themselves find useful to support learning, assessment, and career growth.

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[55] Lodge et al. (2023) Learning with Generative Artificial Intelligence Within a Network of Co-Regulation. https://doi.org/10.53761/1.20.7.02
[56] FLO MicroCourse: Future Facing Assessments OER (2023) https://scope.bccampus.ca/course/view.php?id=619
[57] Miao & Cukurova (2024) AI competency framework for teachers. https://unesdoc.unesco.org/ark:/48223/pf0000391104
[58] Miao & Shiohira (2024) AI competency framework for students. https://unesdoc.unesco.org/ark:/48223/pf0000391105
[59] Global AI Ethics and Governance Observatory. https://www.unesco.org/ethics-ai/en
[60] Ethics of Artificial Intelligence. https://www.unesco.org/en/artificial-intelligence/recommendation-ethics

Wider contextual familiarity with how university partners are engaging with generative AI is also important. For example, the ways that industry are engaging with AI will impact on how AI is incorporated into higher education research and teaching practices. Conversely, university researchers and educators, as disciplinary experts, play a key role in influencing and leading how industry, government, and the community productively and responsibly engage with generative AI. Additionally, reactions of the community to generative AI, such as around ethics and safety, must inform how students and researchers build their AI literacies.

Looking to the future, there are many opportunities for building familiarity with various university stakeholders. Students-as-partners initiatives can play a powerful role in normalizing, sharing, and celebrating productive and responsible applications of generative AI. These may include **novel pedagogies which are afforded by these technologies**, such as the scaling of personalized simulation environments, or new forms of discussion and collaboration enabled by AI conversation partners. Some have called for the development of 'pedagogical intelligence' to engage with AI in education in new ways[61].

The interplay between university stakeholders also underscores that **familiarity is not just an individual feature but a collective, organizational one** – if an institution has members with varying but complementary levels of familiarity with generative AI, collectively the familiarity of the organization is established as long as there is alignment and collaboration. For example, if faculty members understand the disciplinary applications of AI, and instructional designers understand the affordances of AI in pedagogy, and educational technologists understand the capabilities of different AI applications, their combined AI familiarity can be powerfully applied. Many universities have set up internal communities of practice where educators and researchers can exchange ideas, learn about key updates, and build familiarity together.

Use the following rubric (Table 3) to help situate your institutional and local progress and determine key action areas for development.

[61] Díaz and Nussbaum (2024) Artificial intelligence for teaching and learning in schools: The need for pedagogical intelligence. https://doi.org/10.1016/j.compedu.2024.105071

Familiarity: Self-positioning rubric

Table 3. Rubric for building familiarity with generative AI across an institution.

	Emerging	Established	Evolved	Extending
Leaders	Growing awareness of AI and early development of AI literacies. Focus on risks and their mitigation. No or ad hoc resourcing around training. Limited personal experience with AI.	Well-informed and confident about AI capabilities and ethical considerations. Advocacy for integrating AI into some aspects of institutional work. Resourcing groups to train and work with people to use AI. Occasional or periodic users of AI. Establishing resource hubs or training modules to inform responsible and productive AI use.	Well-developed fluency with AI including opportunities and risks. Fostering a culture of experimentation, opportunity, and investment across the institution. Inspiring groups to explore and share openly. Implementing ethical approaches to AI use. Regular users of AI. Evaluating efficacy of training.	Anticipate and prepare the institution for future AI developments. Developing long-term strategies for AI integration in collaboration with other institutions and industry, government, and community.
Educators	Curiosity about AI and engaging with workshops or resources to build basic understanding. Permitting students to use AI for learning in some course contexts. Exploring basic AI ethics concepts. Limited integration with learning design of courses	Comfortable using AI in different ways in teaching and assessment. Utilizes resources to support student engagement with AI. Encourages students to use AI in learning and assessment. Integrating AI ethics considerations into courses. Appropriate integration into learning design of own courses	Deep familiarity with AI and continual engagement in updating knowledge. Actively and openly sharing with peers and students. Engaging with students as partners in learning about and using AI. Integrating tools into learning design within and possibly beyond own discipline. Engaging with professional bodies to become familiar with industry applications of AI to inform teaching.	Developing new pedagogical approaches that integrate AI into learning design and activities. Preparing curriculum to meet the needs of an AI-infused world. Leading and influencing other educators in applying AI creatively, productively, and responsibly.
Researchers	Initial experimentation with AI applications for research tasks. Attending workshops or sessions to build basic AI literacy.	Able to evaluate AI applications and tooling for research appropriateness. Peer discussions about AI use in research methods.	Developed expertise in AI applications within research domain. Leading discussions and mentoring on AI use in research. Actively contributing to AI methodology development. Developing approaches for ethical AI use in research.	Pioneering new AI applications in research. Leading cross-disciplinary initiatives in AI research uses.

	Emerging	Established	Evolved	Extending
Students	Basic or unsophisticated use of AI, in ways guided by educators, peers, or other influences. Use may be predominantly for providing answers/looking things up rather than scaffolding learning.	Routine, productive use of AI to support learning, not replace cognitive effort. Sound understanding of AI benefits and limitations, and critical evaluation of AI output. Appreciation of AI ethics.	Able to critically evaluate the application of AI across different domains, in the context of their own learning processes. Skilled at integrating AI across various aspects of academic life, starting to work in partnership with AI. Engaging in peer-to-peer learning about AI. Contributing to AI ethics debates.	Partnering with the institution to boost familiarity across the student body. Student-initiated projects around AI use in education that benefit community. Exploring AI's potential impact on future careers. Developing deeper collaborative ways of working with AI.

Trust

Trust is a key element in helping people adopt AI technologies. Users' trust can be conceptualized as between the user and the technology, and the user and the vendor, being influenced by cognitive, emotive, and behavioral dimensions[62]. However, the trust element in the CRAFT framework extends beyond the relationship between people, AI, and vendors. **There are many other trust pairs that are important to consider**, such as between students and educators, between educators and leaders, between universities and vendors, between researchers and the community, and more. There are negative consequences when trust is eroded between key trust pairs (Table 4).

Table 4. Some potential consequences when trust is eroded between selected trust pairs in the context of generative AI and universities.

Trusting party	Party being trusted	Consequence of trust erosion
Students	Educators	Feelings of hypocrisy and unfairness
Educators	Students	Suspicion, descension into adversarial mindsets, reliance on AI detection
Leaders	Educators	Managerialism, overbearing rules, removal of access, discouraging experimentation
Educators	Leaders	Fear of retribution, lack of experimentation
Students	AI	Fear and avoidance
Educators	AI	Fear, avoidance, and negative advocacy
Community	Researchers	Disbelief in research outcomes
University	Vendors	Overbearing procurement processes, lack of engagement and access
Community	University	Doubting the validity of awards, doubting the value of a university education to prepare graduates

One key trust pair exists between students and educators. Students are recognizing that AI is ubiquitous and would use it even if they are instructed not to in increasingly larger proportions[63]. When coupled with educators generally being behind their students in engaging with generative AI[64], and concerns around academic integrity and effects on learning, it is understandable that there is a rapidly widening trust gap between students and educators[65]. **Mistrust is further exacerbated through use of surveillance and detection technologies**[66] that ostensibly aim to establish whether students have completed their own work but can be invasive, inaccurate, and easily

[62] Yang and Wibowo (2022) User trust in artificial intelligence: A comprehensive conceptual framework. https://doi.org/10.1007/s12525-022-00592-6
[63] Tyton Partners (2024) Time for Class 2024. https://tytonpartners.com/time-for-class-2024/
[64] Ibid.
[65] Coldwell (2024) 'I received a first but it felt tainted and undeserved': inside the university AI cheating crisis. https://www.theguardian.com/technology/2024/dec/15/i-received-a-first-but-it-felt-tainted-and-undeserved-inside-the-university-ai-cheating-crisis
[66] Ross and McLeod (2018) Surveillance, (dis)trust and teaching with plagiarism detection technology. https://doi.org/10.54337/nlc.v11.8760

defeated[67]. If educators use AI to grade student work (for example, to save time), the trust relationship is further impacted through perceptions of hypocrisy, inaccuracy, and unfairness[68]. To start to address educator-student trust around AI, educators could model brave transparency around their own use of generative AI, and work with students to develop rules (in the form of local expectations through to institutional policies) and build familiarity together, as these opportunities for partnership are currently not being met[69].

An important contributing factor is educators' and researchers' **lack of trust in generative AI itself**. There are many valid reasons for this, including distrust in its accuracy and reliability, concerns around diminishing human value and creativity, lack of respect for data sovereignty, and feelings of intimidation around the unknown[70]. While some of this may be mitigated through building familiarity with and demystifying generative AI, there are some concerns around morality, professional ethics, and human exceptionalism are more deeply rooted (see later section on culture). Trust between educators and AI might be fostered by increasing the level of control and visibility of AI use by students – human control and agency are seen as key elements in enhancing trust in AI systems[71]. However, while having students' conversations with AI visible to their educators may help build educator trust, it may erode student trust and needs to be framed with student learning and care at the center. More generally in the population, there are prevailing concerns around data privacy and security, safety, and transparency[72].

Case study

The Chinese University of Hong Kong has developed the TellUs AI interview training platform that is designed to help students and recent graduates prepare for interviews. It provides a mock interview experience and has been specifically designed to help interviewees practice answer coherence and relevance, as well as speech patterns and body language. Having been designed with these educational goals in mind, students can trust the feedback provided by the platform and the platform itself.

Uptake of AI also differs significantly between institutions. Part of the reason relates to the risk maturity and appetites of different universities, which intersects with the trust relationship between educators/researchers and leaders. Engagement with a new general-purpose technology like AI benefits from experimentation and invention[73], and educators/researchers need an environment, built by leaders, within which to feel safe to pilot and fail. **Supporting safe experimentation, collegial sharing, and open dialogue are key actions that institutional leaders can undertake in establishing an environment of trust**. This is underpinned by a strong vision around productive and

[67] For example, Perkins et al. (2024) GenAI Detection Tools, Adversarial Techniques and Implications for Inclusivity in Higher Education. https://doi.org/10.48550/arXiv.2403.19148
[68] Digital Education Council (2024) Digital Education Council Global AI Student Survey 2024. https://www.digitaleducationcouncil.com/post/digital-education-council-global-ai-student-survey-2024
[69] Ibid.
[70] McDonald et al. (2024) Apostles, Agnostics and Atheists: Engagement with Generative AI by Australian University Staff. https://eprints.qut.edu.au/252079/
[71] Gillespie et al. (2023) Trust in Artificial Intelligence: Global Insights 2023. https://kpmg.com/au/en/home/insights/2023/02/trust-in-ai-global-insights-2023.html
[72] Ibid.
[73] Crafts (2021) Artificial intelligence as a general-purpose technology: an historical perspective. https://doi.org/10.1093/oxrep/grab012

responsible use of generative AI in all aspects of a university's work and buy-in fostered through co-design and shared decision-making.

AI vendors like Microsoft, OpenAI, Anthropic, and Google play a key role as well. The trust relationship between universities and AI vendors is crucial to foster responsible and ethical use of AI. Given the hunger for training data by AI companies, there are valid fears around the security and privacy of data provided to generative AI systems. Providing **commercial data protection arrangements** and mechanisms for users to opt out of data collection (or, better yet, have agency to opt in) are imperative to building this trust relationship, such as that afforded by Microsoft Copilot's enterprise data protection arrangement. Recent developments such as 'AI nutrition labels'[74] and concerns over use of copyright material for AI training have helped to raise awareness amongst AI users and provide necessary visibility and interpretability around AI privacy issues.

A 2023 analysis[75] suggested that trust is central to AI adoption and there are four pathways to building trust in AI generally in the working population: (i) regulations and laws to make AI safe; (ii) realizing benefits of AI, (iii) addressing concerns about AI risks, and (iv) increasing understanding of, and capability with, AI. Applied to the higher education context and within the CRAFT framework, these regulations correspond to rules, realizing benefits requires access and familiarity, while addressing concerns about risks and increasing understanding and capability correspond to familiarity. That is, trust can be built by having rules that establish responsible use of AI, and by ensuring that students, educators, researchers, and leaders are able to understand and benefit from AI by using it in productive and ethical ways. Consider the following rubric (Table 5) to help situate your institutional and local progress and determine key action areas for development.

[74] For example, https://nutrition-facts.ai/ or https://openethics.ai/label/
[75] Gillespie et al. (2023) Trust in Artificial Intelligence: Global Insights 2023. https://kpmg.com/au/en/home/insights/2023/02/trust-in-ai-global-insights-2023.html

Trust: Self-positioning rubric

Table 5. Rubric for building trust between key players around generative AI.

	Emerging	Established	Evolved	Extending
Leaders	Planning and initiating conversations on AI use and impacts. Preliminary engagement with AI vendors. Developing basic AI governance.	Clear principles, rules, and feedback mechanisms for AI use. Establishing basic data privacy and security measures. Regularly engage with educators on AI use. Some risk maturity to support AI experimentation. Establishing some oversight mechanisms.	Fostering an environment that supports safe and responsible AI experimentation and learning. Collaborates with educators and students on AI use. Comprehensive AI vendor engagement processes. Engages with some partners on AI use. Formal oversight and evaluation mechanisms with clear accountability lines.	Pioneering adaptive AI governance models. Influencing peer institutions and / or national conversations between key stakeholder groups. Actively engages with partners (industry, professional bodies, community, alumni, government) on AI use expectations.
Educators	Cautious exploration of AI use cases. Lacks transparency around own use of AI. Seeking clarity on policies.	Transparency about own use of AI. Openly discussing AI use with students and colleagues.	Actively partnering with students and peers to develop AI literacy. Modelling and promoting transparent and ethical AI use.	Co-creating AI rules, practices, and ecosystem with leaders, peers, and students. Bridging industry needs with curriculum.
Researchers	Cautious exploration of AI use cases. Lacks transparency around own use of AI. Seeking clarity on policies.	Clear documentation of AI's role in research methods. Sharing of AI experiences with research peers.	Actively contributing to institutional AI trust guidelines. Mentoring and modelling of transparent and ethical use of AI in research practices.	Pioneering methods for evaluating and validating AI use in research practices. Collaborating with industry and peers on AI trustworthiness in research.
Students	Initial guided use of AI applications. Tentative trust in institution-provided AI resources. Guarded about AI use.	Engaging in discussions around responsible AI use. Trusting institution-provided AI applications. Transparency about own use of AI with peers and educators. Developing mindful trust in AI outputs.	Critically evaluating AI's strengths and limitations, and impact on learning. Balancing AI assistance with personal skill development. Open encouragement of peers to use AI.	Co-designing AI-enhanced learning experiences with educators.

Culture

The final, and arguably the most complex, element of CRAFT lies in culture. This is multi-faceted and includes (i) regional, geographical, and societal responses to technology and automation, (ii) institutional or departmental cultures around innovation, collaboration, and risk, (iii) disciplinary reactions to generative AI, and (iv) a more wholesale consideration around the role of the university.

First, regionally and geographically across the Pacific Rim, there are differences in perceptions of risk and benefit of AI systems. For example, a recent report[76] suggests that people in China and Singapore appear to be most optimistic about AI and perceive that the benefits outweigh the risks, whereas people in the US, Canada, and Australia, and to an extent Japan and South Korea, are less positive – this tends to follow the level of AI use at work and perceptions of employer support for AI. The report authors also suggest that those from emerging economies may have a stronger cultural acceptance of technology as it may be perceived as a route towards economic progress and advancement.

There are also cultural differences in how teacher authority is perceived between Western and Eastern educational philosophies. It remains an open question whether AI may be seen to erode a traditional teacher-student dynamic in Confucian education cultures, or whether education cultures that promote more critical and independent thought and questioning of authority might respond differently to the effects of generative AI. For example, in Western education systems that typically prioritize student autonomy and creativity, would the use of generative AI tend more towards exploratory applications? Or, would Confucian systems prioritize the application of generative AI applications where the teacher maintains more control over AI, perhaps with AI deliberately designed to take the role of a Confucian teacher? These are areas that are worth exploring further when considering cultural intersections with generative AI.

Case study

The Singapore Government released[77] its National AI Strategy 2.0 in 2023, bringing together citizens, businesses, researchers, and the government to enhance national capability and infrastructure around AI. Since the first national AI strategy in 2019, significant investment has seen a rapid expansion of AI applications and enablement activity including research and start-ups. The new strategy focuses on building familiarity (seeing AI as a "must know"), forming global alliances and partnerships to contribute to AI development, and scaling out AI-enabled solutions across the economy.

Secondly, **across different institutions and departments there are variable appetites for risk, experimentation, and collaboration**. As already stated, collegial exploration is needed to discover productive and responsible ways to use generative AI in context. To support this culture of experimentation, the right rules, access, and (to an extent) foundational familiarity need to be established, providing staff and students with an

[76] Gillespie et al. (2023) Trust in Artificial Intelligence: Global Insights 2023. https://kpmg.com/au/en/home/insights/2023/02/trust-in-ai-global-insights-2023.html
[77] Singapore Government National AI Strategy. https://www.smartnation.gov.sg/nais/

environment for safe exploration without fear of unfair reprisal[78]. Even though risk maturities vary widely between institutions, there are many common elements on which universities can and should collaborate. For example, the Higher Education Community Vendor Assessment Toolkit is a shared framework for institutions to gauge vendor risk, since potential risk concerns are mostly common between institutions[79]. EDUCAUSE and other groups have established lively online communities where leaders, educators, and researchers can share resources, events, and experiences[80].

Similarly, risks and opportunities around AI use in education (such as in assessment) are also common, **so the sharing of approaches and policies across institutions will help the sector avoid repeating missteps**[81]. For example, the Australian Government's Tertiary Education Quality and Standards Agency has collaborated with assessment and AI experts to provide sector-wide guidance around assessment reform[82], and Australian university learning and teaching leaders have had regular national roundtables to share practices around generative AI[83].

Students are another obvious collaborative partner especially regarding AI and education. 'Students as partners' initiatives were already increasing in prevalence across the sector in recent years; this shift in culture and build-up of momentum needs to be leveraged so that students as seen as equal partners in responding to AI. A key risk is that a **prevailing culture of institutional competition and exceptionalism is likely to lead to 'reinventing the wheel'** many times over, such as already visible through multiple institutions across the regions building their own custom AI platforms and AI-driven avatar tools. More collaboration and partnerships across and within the higher education sector, and with community and industry, will benefit all institutions and their communities.

Case study

Technológico de Monterrey is shifting institutional culture by supporting a series of projects that leverage AI for teaching and learning, research and development, and operations. Taking a principles-based approach with values including respect for human dignity, equity, transparency, and autonomy, Tec is collaborating with researchers, educators, industry, and other organizations on applying AI for healthcare, student success, personalized learning, systems navigation, and developing AI literacies in graduates.

Different disciplinary and industry cultures will also react differently to the capabilities of generative AI. Early reflections suggest that while there are commonalities between disciplines (such as considerations of efficiency gains and technical limitations), there may be industry-by-industry nuances that impact how

[78] McDonald et al. (2024) Apostles, Agnostics and Atheists: Engagement with Generative AI by Australian University Staff. https://eprints.qut.edu.au/252079/
[79] EDUCAUSE (2024) Higher Education Community Vendor Assessment Toolkit. https://library.educause.edu/resources/2020/4/higher-education-community-vendor-assessment-toolkit
[80] For example, EDUCAUSE's AI Community Group (https://connect.educause.edu/community-home/digestviewer?CommunityKey=3e9c1d98-f63e-4ac4-9efd-0187b8b72c8a) and the AI in Education Google group (https://groups.google.com/u/1/g/ai-in-education)
[81] Robert and McCormack (2024) 2024 EDUCAUSE Action Plan: AI Policies and Guidelines. https://www.educause.edu/research/2024/2024-educause-action-plan-ai-policies-and-guidelines
[82] Lodge et al. (2023) Assessment reform for the age of artificial intelligence. https://www.teqsa.gov.au/guides-resources/resources/corporate-publications/assessment-reform-age-artificial-intelligence
[83] Liu et al. (2023) Working paper: Responding to Generative AI in Australian Higher Education. https://osf.io/preprints/edarxiv/9wa8p

(and how much) generative AI is accepted[84]. For example, financial and healthcare disciplines may be more concerned with accuracy and liability, compared with management and business that may raise more issues around automation and worker displacement. There may also be differences between functions within organizations (such as marketing vs sales vs human resources)[85].

Within academia, the textual nature of many generative AI outputs may be perceived as more of an affront to humanities disciplines, which may be reflected in how much AI is currently used by different disciplines (e.g. more in engineering and information technology compared to society and culture[86]). As we work to productively and responsibly engage with generative AI in higher education, **we need to be compassionately mindful of the fundamental knowledge, skills, and dispositions that different disciplines hold dear** and find hardest to 'concede'. As with other aspects of culture, further investigation is needed to consider intersections of academic disciplinary culture with perspectives and reactions to generative AI.

Finally, the generative AI conversation in higher education has shifted somewhat over the past two years from panic around academic integrity to a deeper reconsideration of purpose of higher education[87]. The prevailing culture around the role of universities has been a perception that our institutions are bastions of knowledge creation and dissemination. However, generative AI has further democratized the access to knowledge, explanations, and interpretations that the internet had already accelerated. Although renewed by generative AI, this conversational shift ventures beyond AI and into the 'polycrisis[88]' the sector is facing. Deeply held beliefs and concerns around the value of human expertise and the impersonal nature of AI-assisted learning are also powerful cultural factors to address[89]. Fundamentally, **there needs to be a forward-looking culture that allows consideration of a future for universities that may look uncomfortably different from today** – in terms of the role of AI, the value placed on university credentials by employers, and traditional models of curriculum and the credit-hour[90] that dictate the pace of advancement through programs.

A key question that is increasingly being asked is: **what is the role of universities, especially research-intensive universities that form the membership of APRU, and how should that evolve?** Does the cultural mainstay of knowledge still hold, or do universities need to refocus and rebalance towards what students can do, or who students become? In other words, and to alliterate, should universities focus on 'stuff' (content, knowledge), 'skills' (transferable skills), or 'soul' (values, dispositions, beliefs, characteristics) (Figure 2)? Do we have the right balance of these three elements in our

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[84] Dwivdei et al. (2023) Opinion Paper: "So what if ChatGPT wrote it?" Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. https://doi.org/10.1016/j.ijinfomgt.2023.102642
[85] IDC (2024) The Business Opportunity of AI report. https://clouddamcdnprodep.azureedge.net/gdc/gdcflXNT6/original
[86] McDonald et al. (2024) Apostles, Agnostics and Atheists: Engagement with Generative AI by Australian University Staff. https://eprints.qut.edu.au/252079/
[87] Joffres and Rey-Saturay (2024) The University at a Crossroads - Reimagining Higher Education in an Age of Disruption. https://www.apru.org/resources_report/generative-ai-in-higher-education-foresight-workshop/
[88] World Economic Forum (2023) We're on the brink of a 'polycrisis' – how worried should we be? https://www.weforum.org/stories/2023/01/polycrisis-global-risks-report-cost-of-living/
[89] Joffres and Rey-Saturay (2024) Generative AI in Higher Education Sensemaking Workshop Proceedings. https://www.apru.org/resources_report/generative-ai-in-higher-education-sensemaking-workshop/
[90] Joffres and Rey-Saturay (2024) The University at a Crossroads - Reimagining Higher Education in an Age of Disruption. https://www.apru.org/resources_report/generative-ai-in-higher-education-foresight-workshop/

courses and programs? What is the culture around what is valuable to gain from a higher education experience?

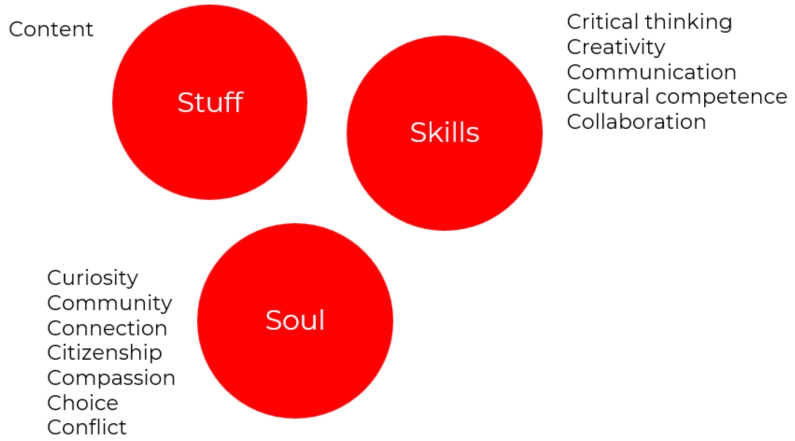

Figure 2. Elements of 'stuff', 'skills', and 'soul' when considering what students should be learning from their time at university.

As we look to the future, especially as we question the role of universities, an important additional aspect of culture to consider is whether universities are preparing for 'powerful AI' – agentic AI that is as capable or more capable than human intelligence[91] - or perhaps even direct neural integration between mind and machine. **Do we have a culture that looks far enough into the future so that we are preparing ourselves and our students for a radically transformed environment?** Consider the following rubric (Table 6) to help situate your institutional and local progress and determine key action areas for development.

[91] Amodei (2024) Machines of Loving Grace. https://darioamodei.com/machines-of-loving-grace

Culture: Self-positioning rubric

Table 6. Rubric for fostering productive and responsible cultures around generative AI engagement.

	Emerging	Established	Evolved	Extending
Leaders	Recognizing differing local / regional attitudes to technology. Acknowledging the digital divide in context. Identifying workforce AI needs.	Aligning AI strategy to local / regional educational philosophies. Implementing measures to address digital divides. Engaging with partners to understand AI skill needs. Identifying cultural misalignments between AI models and institutional contexts.	Fostering an institutional culture of safe experimentation and failure. Sets the tone for institutional activities and aspirations. Supporting communities of practice and/or mentoring to support bottom-up culture change. Explicitly considering cultural elements in institutional strategies for AI.	Pioneering culturally sensitive approaches to integrating AI. Leading in ethical AI adoption across diverse cultural contexts. Fostering a future-looking culture to prepare for powerful AI[92] including its implications for the purpose of university.
Educators	Exploring how AI fits within existing educational philosophies. Identifying discipline-specific challenges, barriers and stigma around AI.	Adapting teaching methods to include AI while respecting cultural norms and expectations. Addressing discipline-specific concerns around AI use. AI use is destigmatized. Recognizing the cultural values embedded in AI models.	Developing culturally appropriate AI pedagogies, and advocating use amongst peers. Working with industry to align desired AI skills with curriculum. Responding to differing cultural values in AI models. AI use is widely accepted.	Co-creating cross-institutional culturally sensitive AI education approaches. Pioneering new teaching approaches balancing AI and core disciplinary values. Preparing for the implications of powerful AI on teaching and learning.
Researchers	Identifying field-specific barriers to AI adoption. Acknowledging cultural implications of AI applications in research practices.	Adapting AI-enabled research practices to respect cultural norms. Developing culturally sensitive protocols for AI use in research.	Leading culturally informed AI-supported research practices. Fostering interactions between different research traditions and AI adoption.	Shaping institutional or cross-institutional practices for culturally sensitive AI integration in research. Preparing for the implications of powerful AI on research.
Students	Becoming aware of local, disciplinary or cultural variations in AI perception, comfort and use.	Engaging in culturally sensitive discussions on ethical AI use. Developing and embedding AI skills relevant to discipline. Encouraged to demonstrate their uses of AI. Awareness that AI models are shaped by their cultural origins.	Critically examining role of AI in their discipline and cultural context. Contributing to shaping institutional AI culture.	Co-leading initiatives to bridge cultural gaps in AI literacy while being culturally sensitive. Preparing for the implications of powerful AI on work and society.

[92] We use 'powerful AI' to mean AI that can operate at or beyond human levels of capability across a broad range of domains. In many contexts this has been referred to as 'artificial general intelligence'.

The importance of all five areas

The CRAFT framework has been designed with three intersecting core elements (rules, access, familiarity) surrounded by trust and culture as supportive structures. **The five components are interconnected and interacting**, for example:

- **Access and familiarity without rules** – this may lead to unsafe use of AI (such as inadvertently providing confidential information to AI vendors), or secret hidden use of AI, or challenges around the trustworthiness of higher education awards due to assessment practices where validity is not appropriately considered. These degrade trust (e.g. between people and AI, and between the community and universities) and set back development of a productive culture around AI.
- **Access and rules without familiarity** – this may lead to rigid and basic use of AI without being able to explore its potential, and people may use AI without understanding its ethical challenges leading to uncritical engagement with its outputs or poor pedagogical practices with AI. Similarly, these can degrade trust and may lead to a culture that is unable to look sufficiently forwards.
- **Rules and familiarity without access** – this may lead to a widening of the digital divide and exacerbation of inequity where only well-off students, educators, and researchers are able to access AI applications powered by frontier models. This has implications for academic integrity where some students will be able to use AI to achieve better outcomes and prevents the development of a collective culture around AI.
- **A lack of trust** – depending on which trust pairs are degraded, this can slow productive and responsible adoption of generative AI that then impacts culture. For example, over-focusing on academic integrity and taking a policing mindset erodes trust between students and educators and the institution. This can damage the development of a forward-looking culture that accepts and works with AI.
- **Not having the right culture** – this can degrade collaboration and context-sensitive engagement with AI, as well as impacting the ability of institutions to plan ahead. Over time, this can erode trust between people, and trust of AI, as well as reduce motivation to develop or maintain familiarity.

All five elements of the CRAFT framework are necessary to enable individuals and institutions to move ahead with generative AI. Whilst no framework is completely exhaustive, CRAFT encapsulates the essential elements needed to make practical progress.

Looking ahead

The CRAFT model synthesizes a practical and scaffolded way for institutions and the sector to respond to generative AI responsibly, systematically, and productively. It can assist institutions to move forward in a way that allows us to address the opportunities and risks of generative AI as the technology rapidly progresses, while maintaining the relational, human, and altruistic values that underpin higher education.

There is, to some extent, a general sense of overwhelm given the scope and scale of these challenges. In looking ahead, we offer closing thoughts of two key priorities APRU and its member institutions might explore and is well-positioned to do so as a network of institutions. The thread connecting both of these is one of collaboration: we need to work together to reimagine our future.

Form collaborative clusters

Collaboration within and between institutions will be a key to future success for the sector. This could be regional in scope or focused on particular issues of generative AI adoption and application. We provide a small selection of examples of focus areas here to act as a starting point for further exploration and discussion:

- **Oceania universities cluster**. Facing similar challenges around sustainability, geographical isolation, and a diverse domestic and international student population, these universities, together with governments, could collectively lobby vendors for early access to environmentally-friendly frontier AI models at a discounted rate to allow for equitable access and broader experimentation across a diverse population. Access to and familiarity of state-of-the-art AI, especially for traditionally marginalized and rural educational communities, could boost AI research efforts around biases and safety, meaningful pedagogical uses, and applications to environmental research.

- **Custom AI cluster**. Control and visibility of generative AI are important to foster trust amongst educators. Instead of institutions building their own custom AI platforms, a cluster of institutions could collaborate on a shared platform that could then build towards more use cases and functionality to suit a range of contexts. Shared lessons from these experiments could inspire more educators to create their own custom AIs and develop best practices around how custom AIs could be used to augment and supplement, not replace, good teaching and teachers.
- **Assessment redesign cluster**. The assessment landscape across universities in the Pacific Rim has significant similarities. Almost two years since the popularization of generative AI, educators and institutions are still struggling to establish rules and build familiarity with assessment design for the age of AI. Cross-sector sharing of approaches to assessment redesign, the designs themselves, and lessons learned from implementation would significantly reduce unnecessary reinvention and repeated mistakes. This would need curation to ensure the collection is coherent and aligned to reality and sector goals.
- **Access and equity cluster**. Reliable and consistent access to frontier AI models and tooling is mostly available to only paying customers. APRU institutions may consider forming a cluster that functions in an advocacy or lobbying capacity, to encourage and partner with industry and government to work towards promoting equitable access to generative AI, especially in low- and middle-income countries, or institutions serving low- and middle-income communities.
- **Faculty development cluster**. Building educator familiarity is a precursor to building productive and responsible student use of generative AI. However, many universities struggle to provide effective professional learning around generative AI, and struggle to engage staff and faculty in these offerings. Sharing training material, resources, and mishaps across the sector will help uplift the familiarity-building capacities of institutions, especially those that do not have a well-resourced faculty development team. Collaboration with industry, such as with LinkedIn Learning, may also expedite the development of resources and improve industry relevance of professional learning.
- **AI governance cluster**. Establishing future-proof rules around generative AI is essential to providing a safe environment for experimentation and failure. These settings would be similar across geographic clusters of APRU institutions, having similar cultural approaches to education and technology. Instead of re-inventing the foundational principles, policies, and procedures, these institutions could collaborate to share perspectives amongst leaders, educators, researchers, students, and their communities to develop regionally-relevant and future-looking governance around generative AI.

Elevate students as partners

As the key beneficiaries of higher education, students need to be citizens of their own learning. They have a critical role to play in supporting educators, their own peers, and the institution more broadly in developing familiarity, establishing rules, growing trust, and changing culture. We provide a small selection of examples here to act as a starting point for further exploration:

- **Students helping students**. Not all students are experimenting with generative AI nor are comfortable in its use. Finding ways of surfacing and sharing productive and responsible use of generative AI by students, as well as diverse student perspectives, will benefit both students and staff. This may be through reference resources such as curated websites[93], or through student-run or student-facilitated sessions where peer support and guidance is available to build familiarity and share concerns around using generative AI for learning. With support from the institution, more experienced peers could more effectively help other students navigate the rules and applications of generative AI from experience.
- **Student AI ambassadors who co-design AI-enabled learning and assessment experiences**. Educators can benefit significantly from student input, especially in emerging technologies. Appropriately trained student AI ambassadors could work directly with educators to provide new perspectives on teaching and assessment design in the context of generative AI. For example, the Students as Learners and Teachers program from Bryn Mawr college, started in 2007, has student consultants working closely with faculty partners, building trust and contributing to pedagogical improvements[94]. To stimulate action on much-needed assessment redesign, student groups could run white-hat 'assessment hackathons' where they used any available generative AI-enabled application to complete to assessments that educators proffer. Partnering with students will simultaneously help to build students' and educators' familiarity and reduce the stigma that exists around generative AI.

Conclusion

This whitepaper has provided a point-in-time snapshot of the current state of promising approaches and activity gaps across the generative AI in higher education landscape, together with a framework for generative AI adoption across and within institutions. It is our hope that this can support the ways our institutions individually and collaboratively, chart their pathways through this dynamic and evolving landscape, towards realizing the significant potential to support and enhance learning, whilst at the same time addressing and mitigating some of the attendant challenges.

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[93] For example, the AI in Education resource from the University of Sydney: https://bit.ly/students-ai

[94] Cook-Sather (2018) Developing "Students as Learners and Teachers": Lessons from Ten Years of Pedagogical Partnership that Strives to Foster Inclusive and Responsive Practice. https://www.journals.studentengagement.org.uk/index.php/studentchangeagents/article/view/746