

Innovation Through Disruption in Australasia



The 2024 Contextualising Horizon Report

Contextualising HORIZON

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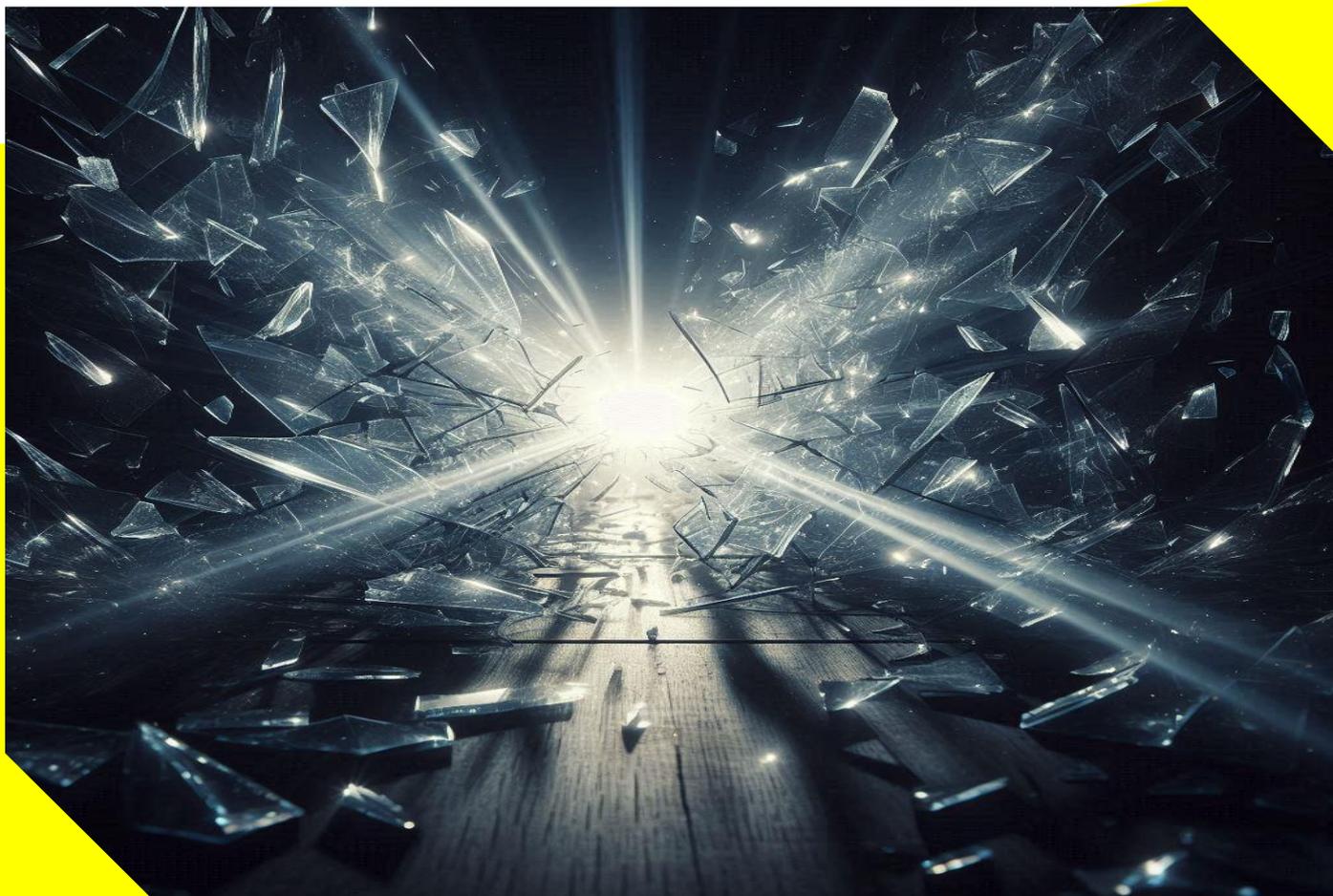
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Introduction

Disruption emerges as a recurring theme in this 2024 edition of the *Contextualising Horizon* report. In the first instance, disruption manifests as the interruptions to work and study that have become increasingly familiar across the Australasian region—economic challenges, pandemics, earthquakes and increasingly volatile weather events. In the second instance, disruption as a radical break from the status quo also underscores this year's themes. Increasingly, the perceptions of higher education and its value and role in society are shifting. Calls for work-ready graduates, skills-based education and new models and learning pathways are expected. In Australia, the Australian Universities Accord, a government initiative to reshape higher education promises to bring lasting change to the sector. At the same time, the continued proliferation of generative artificial intelligence (GenAI) is challenging the sector to envisage what education will look like now that individuals can with lightspeed outsource the human capacity to assimilate information and create artefacts that have historically been used to evidence individual understanding and ability. The conversations of GenAI in higher education are shifting from reactionary to more nuanced and diverse, as the realisation sets in that we have entered the age of AI.

We, likewise, see disruption reflected in the 2024 *Contextualising Horizon* educational technology and practice trends. Many of this year's trends and practices confront and counter the disruption facing the sector. Not surprisingly, several topics related to AI made this year's list. It was accompanied by trends, such as academic integrity and assurance of learning and interactive oral assessments, which are both responses to the challenges posed by AI, as well as enmeshed in calls for authentic learning experiences, skills-based learning and job-ready graduates. Technology-enhanced work-integrated learning (WIL) also made the list as a means to address job-readiness, and it, along with hybrid and flexible learning, provides the means to support learners in a future likely to see continued interruptions in study, whether by socio-economic or environmental conditions. Disruption can be perceived as a threat. However, as evidenced by the trends identified and the cases listed throughout the report, disruption is an opportunity to innovate, find new ways forward and to reshape the sector.



About ASCILITE

The Australasian Society for Computers in Learning in Tertiary Education (ASCILITE) is the pre-eminent organisation for technology-enhanced learning research and practice in the Australasian region. With more than 2200 members, ASCILITE contributes to the international progression of educational technologies and practices to enhance learning and teaching. ASCILITE is pleased to sponsor Contextualising Horizon and to support the aims of benchmarking and identifying those technologies and practices of strategic importance today and into the future. To find out more about ASCILITE, visit ascilite.org.



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STEEP trends

The STEEP (social, technological, economic, environmental and political) trends provide a frame through which to view the current Australasian higher education context. The defining theme of 2024's Contextualising Horizon STEEP trends is *disruption*, though different senses of the term apply.

Panellists identified challenges facing the sector likely to interrupt or impact learners' ability to study. Ongoing economic conditions, including inflation and rising cost of living, impact learner enrolment and progression through university and have been linked with significant mental health and wellbeing concerns. Furthermore, the pandemic, the increasing effects of climate change and other natural disasters also pose significant threats to educational continuity. In part, strategies such as skills portability, microcredentials, unique student identifiers and digitised qualifications frameworks emerged in the STEEP discussion as a response to these disruptions.

The theme of disruption also appears as a radical shift in the status quo. The ongoing proliferation of GenAI continues to challenge institutions, and the higher education sector continues to explore the ways in which it can retool to support learners in making the transition to a world where they work alongside AI, while still ensuring learner attainment and ability to apply knowledge. This comes at a time when public sentiment questions the value of higher education, and there is an increasing focus on skills and employability. For panellists from Australia, the Australian Universities Accord, a government initiative to reimagine the Australian higher education sector, signalled a further fracture for the status quo.

The sections that follow explore in depth each of the trends for each STEEP category, highlighting the critical issues in the current Australasian higher education context.



Puvaneswari P. Arumugam, Aseni Warnakula & Vanessa Todd

Change in the way higher education is viewed by society

Although Australia and New Zealand continue to see some of the strongest higher education participation rates in the Organisation for Economic Co-operation and Development's (2024a) Education GPS, these have softened over the last few years due to competition among providers and a strong labour market, combined with cost-of-living pressures and barriers to access.

In Australia, digital access continues to impact educational attainment, limiting student and staff members' ability to study and work remotely. Full coverage for regional and remote areas has been difficult to achieve due to cost (Infrastructure Australia, 2021), and more widely, employment and income continue to impact access to required study resources, which also impacts the development of skills for disadvantaged individuals (Australian Digital Inclusion Index, 2024).

The Australian Universities Accord aims to address many of these perceptions and challenges. Through a "step change to ... generate the knowledge, skills and research needed to prosper in the contemporary world" (Department of Education, 2024a, p. 7), the Accord sets ambitious targets for participation in postsecondary education, through strategies including ensuring preparedness for higher education via pathway preparation; funding for regional universities and provision of regional study hubs; and dedicated and impactful institutional support for equity groups.

Perceptions of study in Australia are also changing in some of the region's key student markets. In China, international higher education, previously a symbol of status (Zhai et al., 2019), has experienced a perceived drop in value, as over 1 million graduates return to China. Recent proposed caps on international student enrolments also potentially further negatively impact Australia as a study destination. A decline in international student numbers and softening domestic enrolments would lead to job losses for university staff, increased restructures and the merging of institutions.

Even though university degrees are still considered important, society is beginning to question the value of these qualifications as a key to securing a job.

Health and wellbeing—Rise of psychosocial risk across staff and students

The higher education sector faces significant risks to student and staff mental health and wellbeing owing to the volatile economic climate, inflation, the cost of higher education, other financial burdens and uncertainties about future employment prospects. Key findings in the Australian Universities Accord (Department of Education, 2024a) indicate that more than 60% of university staff are at high to very high risk on the psychosocial safety climate scale together with high levels of exhaustion attributed to significant work pressure and high to very high psychological distress with symptoms such as tiredness and nervousness. Mass casualisation and spiralling workloads have also led to staff burnout, thus increasing attrition rates (Estevez, 2023).

The Australian Universities Accord (Department of Education, 2024a) also indicates that learner stress and mental health issues in the Australian higher education sector have become increasingly prevalent. Throughout a typical 3- to 4-year degree, learners, particularly learners from First Nations and culturally and linguistically diverse backgrounds, exhibit significant levels of psychosocial distress. International learners face other transition issues, including cultural adjustments, isolation and high cost of living amplified by the lack of affordable housing. Furthermore, additional pressure is created within programs by poorly structured student workloads, technology disruptions and concerns over AI-generated content in submitted assessments.

Although there is a push for greater representation and retention of diverse learner cohorts in acquiring higher education qualifications, if institutions do not prepare adequately in terms of inclusive teaching and learning practices and policies, this could increase the risk of mental health and wellbeing issues for these learners. As such, there has been more recognition of the critical role of institutes in providing healthy and supportive environments and in developing whole-of-institution wellbeing policies (Ryan et al., 2023) for both staff and students. Efforts to do this include institutions in the region adopting trauma-informed teaching practices to help individuals prepare for change and, through reflection, determine internal readiness for change (Berke et al., 2022).

Skills-based focus added to curriculum—Authenticity to create relevance

Higher education institutions play a vital role in promoting societal transformation by reskilling and upskilling people to support socio-ecological and sustainability transitions. Even though university degrees are still considered important, society is beginning to question the value of these qualifications as a key to securing a job. An authoritative body for levelling the cost discrepancies would ensure learners can choose their preferred disciplines and be job ready.

By 2030, almost one third of the jobs globally will require additional or new skills (Kumar & George, 2020), and governments, employers and learners expect employability outcomes upon university completion. This highlights the potential corporate social responsibility of institutions to be purpose driven and to incorporate more WIL. According to Zegwaard and Pretti (2023), additional considerations should be given to ensure research-informed practices are used for implementing WIL and continuing quality assurance mechanisms to benchmark the standards.

Authentic assessments are used to prepare learners for the uncertain future (McArthur, 2023) by making learning relevant to real-world professions, and it helps to improve the learning experience and student employability skills. The “Australian Universities Accord Final Report” (Department of Education, 2024a) emphasises the need to acknowledge the full range of qualifications by introducing the National Skills Passport to promote all kinds of learning. As such, there is increased potential that learners may choose microcredential pathways over traditional university degrees to maintain competitive advantage in the job market. To restore public confidence, higher education institutions need to implement innovative strategic initiatives to be proactive contributors of societal progress with contingency plans.

Technological

Joan Sutherland, Mathew Hillier, James Birt & Helmi Norman

Recent waves of disruption have brought online learning and remote working into mainstream higher education practice. The rise of GenAI, heightened national security concerns and a widening digital divide between higher education and industry are impacting higher education. As these technological trends evolve, they pose challenges and opportunities for institutions, educators and learners.

AI

AI is expected to bring paradigm shifts in education, research, administration and governance from classrooms and labs to institutional management and national governments. Last year, the focus was on the impact of GenAI, ChatGPT, academic integrity and the need for AI literacy among staff and students. Although these issues remain, the emphasis has shifted to AI's broader implications and many potential applications across the higher education enterprise. Some progress has been made with national regulators and individual institutions beginning to respond to the challenge.

For example, Malaysia's Ministry of Higher Education has provided guidelines for using GenAI in higher education teaching and learning (Jabatan Pendidikan Tinggi, 2024). In Australia, the Tertiary Quality and Standards Agency (TEQSA) has provided preliminary guidance on maintaining qualification integrity (TEQSA, 2024; Lodge et al., 2023). Institutions will face the challenge of refining and implementing their strategies to manage AI's impact and leverage its benefits. This has already commenced with the University of Hong Kong, which has produced a set of resources and a policy for using GenAI in education (C. K. Y. Chan, 2023). In Australia, the University of Technology Sydney (2023) has produced a broader "Artificial Intelligence Operations Policy" that considers the acquisition and use of AI across learning, teaching, research, operations and administration functions.

Institutions will face the challenge of refining and implementing their strategies to manage AI's impact and leverage its benefits.

Increasing AI skills and knowledge for staff and students alike remains a critical issue and will likely be a key factor in graduate employability. Beyond mere usage, AI literacy includes engaging in ethical practice, critical evaluation, understanding limitations and leveraging AI tools to improve productivity and enhance learning outcomes. Institutions increasingly provide professional development for staff to cover the nuances, applications, pitfalls and ethical use of AI to better enable them to adapt and use GenAI and guide learners in its effective and appropriate use. The impact of AI technology on academic integrity will continue to evolve, with ongoing curriculum and assessment reform required to ensure learning in this new reality. This is exemplified by the Australian and New Zealand higher education sector exploring a range of issues and approaches to leveraging GenAI in higher education (Liu et al., 2024).

Cybersecurity

The increasing frequency and complexity of cybersecurity breaches, along with heightened concerns about national security concerns (Australian Signals Directorate, 2023), has led to a greater focus on cybersecurity within higher education institutions. The rise in hybrid study and work options has expanded technology adoption and data use beyond the campus, necessitating more sophisticated and specialised cybersecurity responses (Muscanell, 2023).

Higher education institutions must adopt a more holistic approach to cybersecurity, focused on human aspects to build more resilient organisations. Neglecting this may lead to severe damage from AI-powered social engineering attacks. Cybersecurity strategies must educate staff and students, to foster a positive security culture (Department of Education, 2024b). Partnerships between government, higher education institutions and industry may help address issues through collaborative projects and the development of resources to improve cybersecurity readiness (Department of Education, 2024b). Despite available resources, the rapid growth of disruptive technologies like GenAI poses rising threats. Establishing a robust data trust framework for data privacy and governance, along with stringent identity and access management controls through monitoring and governance, is essential (Koushandehfar et al., 2024).

There are visible signs that higher education institutions are proactively addressing cybersecurity. Examples include implementing multi-factor authentication and stricter controls on software used for institutional purposes. Similarly, information technology departments are revising procedures for information and communications technology

acquisition, and policies with increased security standards, limitations on data storage location and compliance to privacy requirements have been tightened. Some universities have also rolled out simulated threat training, such as at the University of Canberra and other universities who regularly send “honey pot” emails to staff to check their reactions to simulated phishing attacks.

The recent CrowdStrike outage in July 2024 demonstrates that infrastructure can be vulnerable where single-point failures exist. Vendor concentration is a potential vulnerability that could result in sector-wide disruption (Havergal, 2024). Similarly, with the wide scale adoption of GenAI, adapting infrastructure and policies to integrate these solutions may mitigate some risks, but it also raises the potential for data loss or security breaches if these organisations go bankrupt (Okemwa, 2024). The implications could include loss of data, increased vulnerability to cyberattacks and disruption of educational services. This means higher education institutions need to include strategies to build more resilient infrastructure that includes both technology choices and business arrangements.

Digital divide between industry and education

The digital divide remains a major challenge for higher education in the region, as highlighted in the Association of Southeast Asian Nations “Digital Masterplan 2025” (ASEAN, 2021) and in Australia’s digital inclusion index (Thomas et al., 2023), which reveals that nearly a quarter of people are digitally excluded, limiting their access to social, educational and economic benefits. This issue extends beyond technology access and includes digital confidence and capabilities. Higher education providers need to broadly consider how they can enable digital access, adjust curriculum and assessment and increase staff and student digital capabilities in new technology such as AI.

The digital divide challenge is changing due to AI advancements. ASEAN (2024) has produced guidelines for AI governance and ethics, while Australia has a policy for responsible use of AI in government (Digital Transformation Agency, n.d.). There is discussion that the rapid advancement of technology could either alleviate or worsen existing disparities (Bentley et al., 2024). This has led to calls for affordable AI solutions to ensure more equitable access. For example, the University of Sydney has provided Cogniti, an online service that enables staff to create custom, steerable AI bots (Liu, 2023), and in Hong Kong, higher education providers have launched internal portals for staff and students to use well-known GenAI tools. There have also been calls for the government to invest in open-source AI models or infrastructure to mitigate dependency on expensive commercial offerings (Chirgwin, 2024). In response to geopolitical risks, Hong Kong is developing a government-backed GenAI that is intended to become public (Leung, 2024).

Challenges from a higher education perspective include increased compliance and accountability along with constrained resources, which have led to an increase in delays and hurdles required to make changes to education programs in response to rapid advances in the technological environment.

Institutions must closely monitor the rapid changes in the technology landscape, especially AI. If not, the digital divide is set to widen with the transition from 3G to 5G, as industries that are more agile and responsive to technological advancements will gain the upper hand (Australian Mobile Telecommunications Association, 2024). In addition, AI is becoming more integrated into devices, such as Apple’s recent announcement to incorporate AI into iPhones, which will benefit 1.3 billion users (Apple, 2024). This rapid adoption of AI by industry leaders highlights the need for equitable access to technology, as those who can quickly adapt and have financial resources may dominate, leaving higher education further behind. Challenges from a higher education perspective include increased compliance and accountability along with constrained resources, which have led to an increase in delays and hurdles required to make changes to education programs in response to rapid advances in the technological environment. This risks a widening gap between the expectations of graduate capabilities and the ability of education providers to leverage new technologies and to suitably educate learners in a timely manner. Higher education institutions need to develop strategies to address the widening gap between how they operate and what they offer learners compared to the increasing use of AI by employers.

Hazel Jones & Audrea Warner

Learners, staff and universities across the globe continue to be negatively impacted by increased cost of living and housing, and this year's report focuses on the impacts on the choices learners are making because of these rising costs. Moving forward, Australasian universities will need to consider how to best attract, retain and support their learners and staff to help minimise these impacts.

Cost of living and cost of housing

Cost of living and cost of housing continue to negatively impact domestic and international learners' enrolment and progression through university. Globally, cost of living has been identified as the number one concern about studying in a different country. Interestingly, the level of concern is lowest in the Asia-Pacific region (65%) with Latin American learners having most concern (78%) (QS Quacquarelli Symonds Limited, 2024).

Cost of living. A recent global report has compared components of cost of living across countries to determine the best value countries for students (Sherlock, 2023). There are five countries from Australasia in the top 20. The data shows Thailand as the best country in the region, with Singapore rounding out the top 20. The report notes that the "third best value destination for students is Thailand, which pairs reasonable rent and tuition fees, with one of the lowest graduate unemployment levels in the world". Japan (rank six), New Zealand (rank 13) and Australia (rank 14) are the other countries in the top 20 (Sherlock, 2023).

The New Zealand government has implemented measures to make higher education more attractive to domestic and international tertiary learners by expanding working rights for international learners and their partners and increasing the weekly work hours for international learners from 20 to 24. There was a change for domestic learners in the 2024 New Zealand budget to the "Fees Free scheme from the first year to the last year of study, which is a much better way to incentivise students to complete their studies" (Simmonds, 2024). From 31 July 2024, the New Zealand government has also adjusted the personal income tax thresholds to support some tertiary learners with the cost-of-living crisis by increasing weekly learner allowances (Te Tai Ohanga The Treasury, 2024).

Cost of living and cost of housing continue to negatively impact domestic and international learners' enrolment and progression through university.

Other countries are implementing different strategies, such as the \$4,000 top-up to SkillsFuture Credit for all Singaporeans 40 and older, which aims to encourage upskilling and futureproofing of careers. Beginning in the academic year 2025, individuals will be eligible for subsidies and allowances to pursue a full-time diploma at approved tertiary institutions. Shafeeq (2024) notes that "Singapore has built its competitive strength over the decades on a commitment to human capital development through education".

Due to the high cost of living, an increasing number of learners from Malaysia, Singapore, Japan, Laos and Nepal are looking into receiving education from a foreign institution while staying in their home country. This is being achieved through international branch campuses, which are essentially offshore subsidiaries of universities (Healey, 2020). The benefits of studying at these campuses include reduced costs and strengthened connections with industry, which can result in growth of the local knowledge economy. Malaysia, for example, has 10 of them, three of which belong to Australian universities (EduSpiral Consultant Services, 2024). New Zealand universities are actively pursuing international partnerships allowing international learners to obtain a degree from a New Zealand university without having the costs of living abroad. Massey University, for example, has recently announced plans for a joint venture based in Singapore. Massey University also has formal agreements with five universities in China and the United Kingdom, offering double degrees wherein learners graduate with degrees from each university. This is an approach that Pacific universities could also consider.

Cost of housing. Some universities are now taking a proactive approach and building new learner accommodation in a bid to attract more learners to their campuses and to better support current learners. Three examples that highlight the rationale and benefits of this approach are:

1. Griffith University, Gold Coast campus (Australia)—Working with local providers in building purpose-built on-campus accommodation (O'Connor, 2023)

2. University of Canterbury (New Zealand)—Attracting learners away from other universities with cheap housing, one of only three universities in New Zealand to increase enrolments in 2023 (Boucher, 2024)
3. University of Newcastle (Australia)—Providing custom-built housing for learners that include retail outlets thus also benefiting the city's economy (Nicholson, 2024)

Universities across Australasia are recognising the impacts of high costs of living and housing on learner and staff mental health and wellbeing and are implementing structured strategies, support services and online resources. What will be important is that the availability of these resources is promoted widely, that staff are provided with training and information on how to direct learners to appropriate support and that communication is timely.

Staff impacts

The New Zealand government injected an extra \$128 million additional funding for 2024 and 2025 to help universities stay financially viable following protests by both staff and students around increased redundancies and withdrawal of courses and programs. Unfortunately, the subsidies were not enough, and up to 1000 redundancies, both voluntary and forced, have been reported across several universities, resulting in cancellation of some programs (Smith, 2024).

The picture for Australia is much more dire with Universities Australia recently reporting to an ongoing Senate inquiry that they expect up to 14,000 more positions will be lost in the higher education sector from 2025, due mainly to the government's plan to cap international learner visas. There has already been a reduction of 23% (approx. 60,000 students) in international learner visa approvals over the last year (Truu, 2024). Many Australian universities are also putting a hold on recruitment, meaning even fewer

opportunities for employment and advancement and some staff choosing to leave the sector for more stable employment opportunities. As working from home for part of the working week is still available to staff, many are choosing to live in more rural and regional areas and work on campus in the city on a part-time basis as they opt for cheaper housing available in the regions.

The universities that will thrive in the future are those that welcome students, rather than those that consider learners as a commodity.

Learner choices

Across Australasia, more students are needing to work full- or part-time due to cost-of-living concerns. This may impact negatively on learner experiences, outcomes and mental health and wellbeing, and overall retention and progression rates. The Universities Admissions Centre's "Student Lifestyle and Learning Report 2024" notes that 55% of students consider themselves to be financially independent. An increase in numbers of students choosing full-time study suggests there is a large cohort who are studying full time whilst also working. The most important factor in choosing where to study is the university's course offerings as learners choose their course based on their passions and work prospects post-graduation. Campus location (including online) and culture are also important considerations with 41% of respondents noting a preference for blended learning. The report also notes that 43% of students consider cost when choosing where to study, an increase of 11% from 2023. Significant factors in decision-making included course fees, accommodation costs, transportation and proximity to campus (Universities Admissions Centre, 2024).

The universities that will thrive in the future are those that welcome students, rather than those that consider learners as a commodity. Higher education institutions are encouraged to look beyond just financial aid or scholarships to provide greater levels of support for learners. Offering flexible or online learning options to reduce travel costs, providing affordable and custom amenities, including gyms and on-site support resources (e.g., counsellors) are just some of the initiatives that can be considered. The University of Auckland (2023) is introducing a program that aims to improve Māori and Pacific Islander outcomes by developing links with potential learners whilst still at secondary school with the aim of reducing the inequities of Indigenous learners. Improving staff salaries or benefits to attract and retain the best talent, providing more professional development in teaching and learning, cross-institutional collaborations and industry partnerships are all ways higher education institutions can better support their dwindling workforce.

Environmental

Filia Garivaldis & Michael Sankey

Education is recognised as the single best investment a country can make to create prosperous, healthy and equitable societies (United Nations, 2024). To fulfil this promise, higher education institutions have a critical role to play in preparing future generations to effectively respond to 21st century challenges (Holdsworth & Thomas, 2021), including climate change, global health crises, technological disruptions and political instability and upheaval. This involves preparing learners for “jobs that haven’t yet been created, to use technologies that don’t yet exist, and to solve problems that we still don’t know will arise” (Bastos et al., 2020, p. 57). In Australasia, we face a unique set of challenges around how institutions manage disruption and disasters and, consequently, prepare their learners for change.

Responding to major disaster situations

The recent worldwide outage of many internet services caused by the CrowdStrike software and Microsoft led to significant disruptions to many institutions (Havergal, 2024) and has given many a reason to pause to think. In 2022, in the South Pacific, Tonga was isolated from the rest of the world for weeks due to the undersea internet cable being damaged when the Hunga Ha’apai volcano erupted, and earthquakes in New Zealand left cities in ruins, causing major disruption to business and education (Holvikivi, 2024; Mutch, 2015). Pandemics, bushfires, tsunamis and wars all have the potential to disrupt learning and teaching for extended periods. Some institutions have business continuity plans, but a study involving educators in New Zealand found that support, community, leadership and planning were just as crucial in fostering resilience, with online and flexible learning providing key opportunities (Dohaney et al., 2020; Mutch, 2015). In contrast, developing countries from the Global South experience a range of constraints in the implementation of digitised solutions such as e-learning, due to concerns that “are multifaceted and include economical, technological, political, social, ethical and epistemological questions” (Holvikivi, 2024 p. 82).

Pandemics, bushfires, tsunamis and wars all have the potential to disrupt learning and teaching for extended periods.

Environmental disruptions take on other forms and seem to be becoming the norm for institutions. High attrition rates and declining enrolment, partly due to rising student debt, are now commonplace. Recent visa restrictions in Australia have caused many institutions (particularly those that are less research-intensive) to rethink their heavy reliance on international students (Bahr, 2024). All of this occurs against a backdrop of industries facing skills shortages, indicating a disconnect between education and job market needs. The transition to online learning, the rise of GenAI and disruptions in supply chains further exacerbate these issues. These disruptions collectively illustrate the new, turbulent reality of modern education.

Managing disruption and disruption as the norm

Building resilience as a means of managing disruption is crucial (Dohaney et al., 2020). Universities in Indonesia, for example, have been advised to implement fundamental changes, including shifting to agile systems, expanding information and computer technology-based programs, and adopting student-centred learning approaches (Kholis, 2020). Disruption management systems can help decision-makers respond to events in real time, minimising costs and generating savings (Hu et al., 2008). These systems and practices often make their way into the curriculum. For example, Charles Darwin University (as do other institutions in the tropics) conducts and continuously evolves yearly activities for both staff and students to prepare them for the cyclone season. Universities are also transforming their educational facility management to adapt to technological disruption, with institutions such as Duta Bangsa University in Surakarta implementing technology-based educational services and learning methods (Nugraha et al., 2021). These strategies aim to enhance universities' resilience, adaptability and competitiveness in the face of various disruptions.

Preparing learners to manage disruption in higher education requires a multifaceted approach that builds resilience, adaptability and practical skills. As institutions look to integrate flexible learning models to accommodate different circumstances, a refreshed emphasis is being placed on fostering digital fluency, including cybersecurity awareness, and ensuring learners are proficient with essential tools. Encouraging lifelong learning and adaptability, along with continuous education and skill development, helps learners stay relevant in changing environments.

Preparing learners for change

More than any time in the past, higher education institutions play a crucial role in preparing learners for a future of environmental upheaval. In addition to generating new knowledge and disciplinary expertise to address a range of global challenges, learners also need an ability to navigate the volatile, uncertain, complex and ambiguous nature of these challenges (Schick et al., 2017). Sustainability competencies, including systems thinking and future thinking, intrapersonal competence and the ability to create and implement change, are crucial (Brundiers et al., 2021).

A first step includes improving the capacity with which institutions deliver education and provide opportunities for their further development (Leal Filho et al., 2021). Microcredentials, which have increased in popularity recently, enable the upskilling of staff and can be developed and delivered with agility and efficiency (Desmarchelier & Cary, 2022). Partnerships and collaborations among educators, practitioners, industry experts and even other higher education institutions can also prepare staff and, ultimately, learners for impending global challenges (Rehling, 1998). Such partnerships allow for a sharing of expertise, creating curriculum that is cutting-edge, providing internships and opportunities for work readiness and offering feedback to improve graduate outcomes. Fostering this connection means inviting practitioners to be guest speakers or adjunct faculty and organising joint research projects to solve real environmental issues.

For example, Monash University is launching an interdisciplinary master's program in 2025, the Master of Behaviour and Systemic Change, delivered by the Monash Sustainable Development Institute (MSDI), in partnership with the Faculty of Science (Monash University, 2024). This program aims to equip learners with an integrated toolkit that includes the skills, methods and mindsets needed to create behavioural and systemic change, in recognition that both are necessary to address future global challenges. The curriculum is co-designed with behavioural change and social transitions experts and features case examples of impactful behaviour and systemic change projects that have been achieved through MSDI's strong links with industry.

Preparing learners to manage disruption in higher education requires a multifaceted approach that builds resilience, adaptability and practical skills.

Developing critical thinking and problem-solving skills through case studies and project-based learning is essential to foster deeper understanding, practical application and adaptability in solving environmental issues. Instilling a growth mindset through positive reinforcement and resilience training helps learners view challenges as opportunities for growth (Rögele et al., 2021). Lastly, preparing for industry changes by partnering with industries and offering internships provides hands-on experience and keeps curricula relevant (Rehling, 1998). With these strategies, educational institutions can equip learners to navigate and thrive amidst ongoing disruptions in higher education.

Political

Charmaine Logan-Fleming, Mahen Jayawardena & Penny Wheeler

In this section, we discuss three political trends across the Australasian sector: the Australian Universities Accord, material support for First Nations learners and portability of qualifications. Governments across Australasia are reforming tertiary education to ensure inclusion for all and to enhance industry alignment to prepare learners to meet evolving job market demands.

Australian Universities Accord: Systemic reforms for tertiary education

The Australian Universities Accord (Department of Education, 2024a) is an example of the government seeing the expansion of participation in tertiary education as a critical need. It lays out directions for significant reforms to bolster participation and graduation rates in both higher education and vocational education and training (VET).

Across the region, national governments are responding to skills shortages by considering how to ensure different groups of (potential) employees possess both technical expertise and the transferable skills sought by employers. For example, in its 2024 budget, Singapore is helping mid-career Singaporeans acquire new skills (Minister of Education Singapore, 2024) through the Institute for Adult Learning and the SkillsFuture Level-Up Programme. South Korea has developed initiatives for lifelong learning as one strategy to deal with a marked decline in school-leaver university entrants (Lem, 2023). This decline is also a pressing issue for Japan, which projects 100,000 fewer domestic learners in 2050 compared with 2022 levels (The Japan Times Editorial Board, 2024); Japan needs to adapt an education system designed for postwar economic growth to better align graduate skills with national requirements. Industries in New Zealand are facing significant skill shortages, suggesting misalignment in degree offerings; for example, engineering firms nationwide are grappling with challenges in recruiting both engineering graduates and skilled professionals (Association of Consulting and Engineering New Zealand, 2023). Universities Australia is developing a national strategy on WIL (Department of Education, 2024a, p. 87) as part of the National Skills Agreement and plans for regional study hubs to address the historically hard line between VET and higher education, thus “enabling infrastructure that will foster collaboration between providers (higher education and VET), industry and Jobs and Skills Councils”, including through TAFE Centres of Excellence.

Supporting the economic success and wellbeing of all learners continues to challenge governments across the region. Australia’s current education funding model has not grown enrolment sufficiently. The Australian Universities Accord proposes a new approach, overseen by an Australian Tertiary Education Commission, which includes needs-based funding and financial support for unpaid work placements (Department of Education, 2024a, Recommendation 30).

In Japan, where private universities receive less government funding than public institutions, recommendations for equity aim to expand the income-contingent student loan system (Organisation for Economic Co-operation and Development, 2018), to counteract rising poverty and to ensure wider access to education (Organisation for Economic Co-operation and Development, 2024b). Hong Kong aims to establish itself as a global higher education hub by doubling admission quotas for non-local learners, injecting HK\$1 billion into scholarship schemes (The Government of Hong Kong Special Administration Region, 2024) and supporting learners in high-demand disciplines through the Study Subsidy Scheme for Designated Professions/Sectors (The Government of the Hong Kong Special Administrative Region, 2023). New Zealand, driven by principles of social justice and equity, has moved its focus from participation or graduation rates to individual, social and economic impacts: “in a truly learner-centric system, learner outcomes should matter most” (McChesney & Locke, 2024, quoting the Tertiary Education Commission’s Chief Executive Officer Tim Fowler). Notably, New Zealand’s 2024 budget replaces the first-year Fees Free policy with a final-year Fees Free scheme, to incentivise completion (New Zealand Tertiary Education Commission, 2024) and build on the equity focus of New Zealand’s Tertiary Education Strategy (New Zealand Government Ministry of Education, 2020). For Fiji and other South Pacific nations, online modes of tertiary education have improved access for geographically remote learners. In its 2023–2024 national budget, the Fijian government allocated FJ\$148.3 million to make tertiary education free for learners who agree to a bond service (Narayan, 2023).

Governments across Australasia are reforming tertiary education to ensure inclusion for all and to enhance industry alignment to prepare learners to meet evolving job market demands.

Material support for First Nations learners

Improvements in educational funding models are vital for progress towards equity of access and achievement for historically disadvantaged or marginalised communities, particularly First Nations or First Peoples or Indigenous learners. Australasian governments are slowly moving beyond political rhetoric towards ensuring First Nations leadership and self-determination in higher education and avoiding overly centralised education and training provision (Brownie et al., 2024). New Zealand has improved tertiary education outcomes for Māori, its Tangata whenua (Indigenous people of the land) and Pasifika learners through culturally inclusive and supportive learning environments and policies, targeted support program, and tertiary educational strategies that emphasise improving outcomes. New Zealand has fostered a culture of inclusivity and respect for Indigenous knowledge that can serve as a benchmark for other countries looking to enhance educational outcomes for Indigenous populations.

Counteracting the lack of a government advisory mechanism, given the defeat of the October 2023 Australian referendum to establish an Indigenous voice in government, the Australian Universities Accord addresses the role of Indigenous leadership by proposing a First Nations Council to advise on related matters. It also raises the need for financial support, culturally appropriate supervision and dedicated PhD scholarships to support First Nations researchers. Starting in 2024, all Aboriginal and Torres Strait Islander learners will be guaranteed a Commonwealth-supported place, with a proposal for those who meet the entry requirements for a medical degree to be guaranteed a place, thus addressing both educational and healthcare disparities. The Australian government aims to increase the proportion of First Nations learners in higher education from 2.1% to 3.3% by 2035.

Portability of qualifications

The portability of qualification addresses both skills shortages and equity concerns. Portability enables learners to have their full range of qualifications, microcredentials, workplace experience and general capabilities recognised across the education and training system and in the employment market. Portability also permits them to access further study, to work in other regions or countries and/or to change jobs in response to labour markets. Since 2023, Australia's unique student identifier has been compulsory for national vocational training for Commonwealth-supported places and for higher education graduation (Office of the Student Identifiers Registrar, 2024). Like similar systems in New Zealand, the United States of America, the United Kingdom and Europe, it aims to streamline student records management, facilitate the transfer of academic credits and improve the overall efficiency of the education system, at least at the national or regional scale. As part of an employment white paper in September 2023, Australia is also consulting on a national skills passport (Department of Education, 2024c). Digitisation and qualification frameworks are also essential for the recognition, validation and accreditation of the technical and vocational competences that migrants and refugees have acquired outside higher education (UNESCO et al., 2023).

Microcredentials have been imagined as an ideally portable certification and have been adopted in many countries to meet industry demands, for example, by the National University of Singapore and Nanyang Technological University and by Japanese universities, particularly to address digital skills gaps; and, to a lesser extent, in Fiji and other smaller Australasian nations. Mana Tohu Mātauranga o Aotearoa, the New Zealand Qualifications Authority (n.d.), lists and regularly reviews quality-assured microcredentials under the New Zealand Qualifications and Credentials Framework. Australia's implementation of a microcredentials marketplace has been criticised (Independent Tertiary Education Council Australia, 2023) for excluding vocational education and industry credentials. This design, seemingly self-sabotaging, is in part a product of the government's decision to use microcredentials as a financial support to the universities during the COVID-19 pandemic instead of Job Seeker. Strong partnerships between vocational education and registered training organisations can help that sector meet demand, as outlined in Waugh's (2024) report, which critiques the Australian Universities Accord for neglect of people with a disability.

Educational technology and practice trends

The 2024 Contextualising Horizon educational technology and practice trends reflect the higher education sector's continued response to disruption. GenAI continues to emerge as both a key technology and a disruptive force in the sector. Discussion of AI featured heavily in this year's Contextualising Horizon workshops. However, the discourse around AI in the sector has shifted toward maturation, with a splintering off into more nuanced and specialised areas. As a result, we present the diversification of topics in AI as a mega-trend for 2024 with expanded coverage to enable more in-depth exploration of the various sub-topics identified.

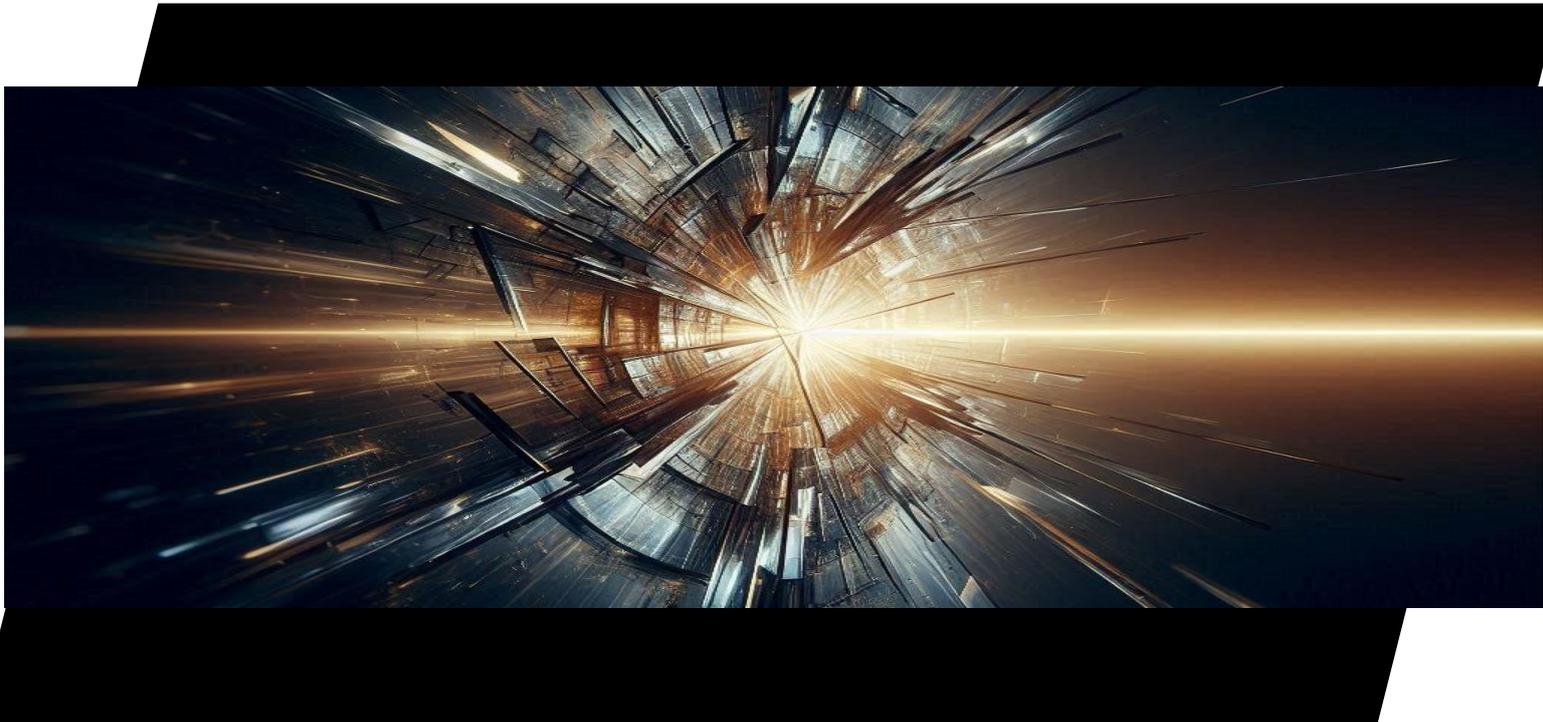
We present the 2024 Contextualising Horizon educational technology and practice trends:

1. Academic integrity and assurance of learning
2. Diversification of topics in AI
3. Enhanced oral assessments and vivas
4. Technology-enhanced WIL
5. Changing nature of flexible/hybrid delivery.

Along with GenAI's introduction and persistence, higher education institutions face challenges in reconceptualizing the ways in which they assess and assure student learning. Academic integrity and assurance of learning, thus, tops the list of practices highlighted in this year's report. Furthermore, preparing learners for a future workforce in which the demand for individuals possessing skills not readily replaced by AI, such as critical thinking, communications and interpersonal skills, means that institutions need to shift to assessment strategies that facilitate learner development. Thus, practices such as interactive oral assessments, vivas and technology-enhanced WIL practices are accounted for in this year's list of trends.

Hybrid and flexible models of learning continue to take a top spot on the list of trends. From pandemics, natural disasters and international conflicts to individual circumstances, including socio-economic and physical and mental hardships, the path to higher education attainment may not be straightforward or continuous. Furthermore, it may not have a definitive endpoint, either. As individual circumstances change and individuals need to maintain skills to keep pace with changing workforce requirements, flexible models to enable learners to obtain skills and knowledge remain critical. Technology continues to enable opportunities that are flexible and have multiple pathways for engagement and attainment.

The following sections highlight each of these educational technology and practice trends, their implications for higher education institutions and exemplars of practice.



Academic integrity and assurance of learning

Mathew Hillier, Chris Campbell & Seb Dianati

Academic integrity has seen a renewed focus in part due to recent waves of system-level disruptions, such as the pandemic and the rise of GenAI. Consequently, there is a need to re-examine curriculum and assessment to see if they still provide fit-for-purpose assurance of learning. The increased focus on integrity and assurance is expected to continue over the forecast period. A strong indicator for this trend is the Australian higher education regulator TEQSA's request for information from higher education providers in Australia regarding how they intend to assure learning in light of the potential impacts of GenAI on academic integrity. On a regional level, there has been renewed interest and rapid membership growth among academic and professional staff practitioners in the Australasian Academic Integrity Network (Australian Academic Integrity Network, n.d.).

The sector is seeing a shift towards the realisation that upholding academic integrity is a wicked problem that requires a whole-of-system approach. Bretag et al. (2018) have argued that upholding academic integrity requires a multi-faceted strategy, including the education of students, educators and administration about integrity; a planned and managed integrity detection and enforcement program; and the need to re-examine if assessment designs are fit for purpose in a changed world. This complexity is recognised by Rundle et al. (2020, p. 111) who apply the “Swiss cheese” model to integrity with multiple levels of guardians (labelled as environment, engineering, education and enforcement) and by Ellis and Murdoch's (2024) pyramid approach to addressing integrity breaches in the higher education sector.

As AI technologies continue to advance, the academic landscape in the short to medium term is set to see changes in policy, prevention monitoring and governance (De Maio, 2024). These changes will require increased staff professional development in academic integrity strategies and in the renewal of curriculum and assessment. At the same time, many higher education providers are increasingly engaging with learners, with attention likely to turn to matters of integrity in connection with the ethical use of new technologies and with surveillance-based discourses that are emerging from student and social groups (Henry & Oliver, 2022; Selwyn et al., 2023).

...upholding academic integrity and assuring learning in the age of GenAI will require a well-rounded program of assessment...

Accrediting bodies will further tighten their assessments and assurances of assessment, asking for more rigorous evidence of learning. For instance, CPA Australia, the accrediting body for certified practising accountants, suggests that 50% of assessments should be verifiable and invigilated (Hancock et al., 2023). We will also see a rise in identity-verified assessments that may extend beyond just invigilated exams, especially where critical skills and knowledge will need to be assured, such as for accredited programs.

One strategy proposed to support assurance of learning in the age of GenAI is taking a programmatic approach to curriculum and assessment design (Lodge et al., 2023) with this trend expected to grow. The concept of programmatic assessment is to create a student-centred program of assessment within an integrated program design, where multiple elements of evidence are used to build a rich picture of student performance throughout their learning journey, across all desired program learning outcomes.

There are acknowledged challenges in making reforms along programmatic lines, including developing a deep understanding of the shift in paradigm from measurement to a constructivist focus (Khanna & Velan, 2024) and working through legacy structures, such as casualisation of the workforce, administrative structures and funding models. Although a limited number of programs, particularly in medicine, already use a programmatic approach, a wider deployment of programmatic structures institution-wide is likely to take a number of years to complete. It is evident that institutions in the higher education sector pursuing a broader programmatic strategy will need to work to understand and develop models that suit their unique contexts. For example, a University of New South Wales working group on programmatic assessment is developing a model to extend the programmatic approach beyond its roots in the medical discipline. Implementing a programmatic or systemic approach to assessment was covered in a 2024 webinar (P. Dawson et al., 2024) that featured institution-wide plans at Edith Cowan University to reform degree programs along systemic lines. The shift to a holistic assessment of student capabilities may also see growth in transdisciplinary and interdisciplinary courses that emphasise soft and critical skills to solve complex problems, with examples at the University Technology Sydney and the Australian National University (Bammer et al., 2023). Peer assessments that focus on early feedback and provide insight into student progress may evolve to support a more student-centric focus. In line with the growth of programmatic assessment, we may also see a rise in the use of hurdle

and non-graded assessments. Third-party providers, such as FeedbackFruits, that focus on formative peer assessments may expand into the summative assessment space due to evolving stakeholder needs.

It has been argued (Lodge et al., 2023) that assessment in the age of GenAI needs to include the surfacing of student learning processes as part of the evaluation of attainment, such that assessors no longer rely on piecemeal task output artefacts alone. Over the forecast period, higher education institutions are set to explore how the learning process can be better evidenced. Techniques such as interactive oral assessments that are short, focused conversations with learners and that are centred on an authentic scenario can provide a secure and scalable method of surfacing learner internalisation of the desired learning outcomes. Similarly, using complex, multi-phase project work; workplace-integrated or workplace-adjacent assessment tasks; or project audits (Australian National University, n.d.) can create multiple touchpoints for evaluation between assessors and students. This provides insight into each learner's developing competence across multiple learning outcomes.

In Medicine, the concept of an Entrustable Professional Activity (ten Cate & Schumacher, 2022) is commonly used as part of the assessment regime. Direct observation of students undertaking practical tasks is another approach to capturing student capabilities, where students are asked to address problems representative of those from the discipline. Utilising a design studio teaching approach can allow educators to observe students addressing complex problems over an extended period.

An emphasis on authentic, experiential, low-risk early assessments may also become more common (Gregory & Hryciw, 2023). To facilitate the gathering of longitudinal evidence of student development and gain insight into learning processes, we may see an increase in the use of e-portfolios that facilitate recording, observing and reflecting upon competence development across a program (Huber et al., 2022). Greater systems integration will continue. For example, linking learning management systems with student and curriculum management systems can provide a more holistic picture of the student profile across the program (Hicks et al., 2021). Data analytics may further grow to both support student learning (Caspari-Sadeghi, 2023) and in helping to detect cheating (Trezise et al., 2019) with the development of tools, such as Wiroo by Lehmann and Murdoch (2024) who refer to the latter as “non-learning analytics”.

In summary, upholding academic integrity and assuring learning in the age of GenAI will require a well-rounded program of assessment, including the use of sound principles such as constructive alignment as well as the approaches outlined above, along with multiple academic integrity strategies and strategic use of assessment security measures across a program of study.

Assessment reform in the age of AI

TEQSA, the Australian national regulator, has set a potential direction in support of academic integrity and assurance of learning in the form of five “propositions” laid out in its white paper “[Assessment reform for the age of artificial intelligence](#)”.

Non-learning analytics: Detecting contract cheating at scale

Integrity tools and techniques continue to emerge that can enable institutions to better support academic integrity. One example is [Wiroo](#), developed at Macquarie University. The tool utilises data analysis techniques on indicators of large-scale contract cheating and collusion within and across units and programs. Find out more by viewing the 2024 webinar recording “[The shape of cheating to come](#)”.

Pragmatic, programmatic design

Edith Cowan University has been exploring institution-wide models to design degree programs using systemic principles, similar to programmatic assessment. The recent 2024 webinar “[Assessment beyond the individual unit/module](#)” showcased their approach.

Diversification of topics in AI

Lynn Gribble, Tim Gander, James Tsatsaronis & James Birt

The release of OpenAI's ChatGPT on 30 November 2022 has led to significant discussion and concern surrounding AI, especially within higher education. AI's evolution from a conceptual novelty in the 1950s to a ubiquitous technology today is marked by significant milestones. Historically, AI has evolved through cycles of hype and disillusionment, often referred to as AI summers and winters. However, the advent of machine learning, deep learning and, more recently, GenAI has cemented AI's place in contemporary society.

This year's themes are disparate and occur most likely because AI is ubiquitous and because of a heightened awareness of when and if it is in use. Consideration of issues, such as what AI means for teachers and learners, ethics, sustainability and privacy concerns, are all being discussed in the higher education sector. Meanwhile, the sector continues to wrestle with being able to recognise if an academic or learner wrote the research paper or assignment or if the paper was fully developed using AI and how we can legitimately assess individual capability. Nonetheless, GenAI as a tool is here to stay, and these issues and concerns will persist; they are not specific to this region.

AI's persistence

Across Australasia, academics are grappling with what AI means for assessment and teaching (Gribble & Wardrop, 2024a). Discussions with industry suggest organisations are still in catch-up mode, figuring out what it means for their operations and clients. No industry or discipline has been left untouched; AI has become ubiquitous. Discussions in higher education are now progressing to acknowledge AI use, similar to any other tool, such as SPSS for statistical analysis or peer support or assistance in developing work. Importantly, as organisations evolve to use and integrate AI, higher education must ensure graduates are job-ready to use, integrate and lead the way in applying AI. This problem and the challenges it presents are likely to persist in the near term until GenAI is so integrated in education, that it is both expected and accepted.

Higher education bodies must ensure that a learner can do the work institutions "certify they can do" (Gribble & Wardrop, 2024b). Already the higher education sector is noting that AI-powered tools have potential to support teaching and learning, provide personalised learning experiences (at scale) and adapt to the needs and progress of individual learners. When used, it assists in creating dynamic educational content, from generating problem sets and quizzes to offering real-time feedback and tutoring and reducing the load on already notably overworked academics. Further, predictive analytics can help institutions identify at-risk learners and tailor interventions to improve retention and success rates. From all perspectives, it is no longer a question of what AI can do, but a question of how to best use it. Therefore, education will require reimagining content delivery, assessment, and everything in between. There are also concerns related to trust with regard to how the work was undertaken and if that work is accurate and appropriate. Although the latter concern is likely to remain, the issue of trust will change as GenAI use becomes more normalised in both industry and education.

GenAI literacy in education

Despite 2 years of broad use, there are still questions regarding AI literacy. Key elements of AI literacy to inform a framework outlining four progressive levels have been proposed in New Zealand (MacCallum et al., 2023). This framework ranges from basic knowledge and understanding of AI to becoming an expert. Covering AI concepts, application of AI and technical skills, and issues, challenges and opportunities, the framework provides a form of measurement and benchmarking to occur. It is also a roadmap for developing well-rounded AI literacy, which is crucial as AI technologies become increasingly integrated into educational settings. However, without wide adoption of such models, what constitutes an expert versus a novice may not be well understood. As is noted with any technology innovation, the early adopters versus the laggards (Rogers, 2003) will impact how AI is integrated, adopted and adapted. With many in higher education faculty in tenured positions, there is neither a carrot nor stick to support the late majority and laggards to reimagine higher education offerings in an AI-enabled world.

To foster comprehensive AI literacy, institutions must integrate AI topics across curricula, not only introducing dedicated AI courses but also embedding AI-related content within various disciplines (C. K. Y. Chan & Colloton, 2024). For instance, business learners should learn about AI applications in marketing and finance, while medical learners should understand AI's role in diagnostics and patient care, ensuring that graduates possess a holistic understanding of AI's potential and limitations within their fields. Developing AI literacy requires hands-on experience with AI tools and technologies. This can be achieved through project-based learning, internship, and collaborations

with industry partners providing learners with practical skills and insights and an ability to apply theoretical knowledge (C. K. Y. Chan & Colloton, 2024). To do this, professional development for educators is required. Academics need to be well versed in AI concepts and applications to effectively teach and guide their learners. This requires consideration of workloads and the need to move beyond the panic-gogy of updating library pages to include support and guidelines for learners and faculty on how to use and apply GenAI in teaching and learning. Both educator and learner input and buy into this process will be essential; providing resources alone is insufficient, as noted in the Australian enquiry into AI use in education (Parliament of Australia, 2023).

Fostering AI literacy extends to the wider community as well. Public outreach programs, workshops, and seminars can help demystify AI and address common misconceptions. By engaging with the community, educational institutions can build a broader understanding and acceptance of AI technologies in an ethical and sustainable manner.

Ethics, privacy and policy lags

Broad concerns regarding ethical use and privacy underpin much of the discussion of AI use. This extends to privacy matters and the need for AI frameworks, policy and laws to support understanding and action in the deployment process (D. Dawson et al., 2019). Although publishing houses, including Elsevier (2024), responded quickly to GenAI capabilities, others continue to adjust their view of use, stating that AI should not be used in any manner. The Committee on Publication Ethics (2023) is clear on acknowledgement of use, stating that researchers must be transparent about their use of AI, including disclosing its use and the methods applied in their methodologies. More recently, higher education institutions have adopted mandatory statements of what AI use is permitted in assessments, albeit some 2 years after widespread and free use has been available.

Beyond using AI to produce outputs, there continues to be a concern of the inputs and data sets being biased and discriminatory. Additionally, locations of the servers and the data privacy of materials being input to such systems also need consideration as little is drawn from or housed in Australasia. AI systems necessitate vast amounts of data to function effectively, often involving the collection of personal information or commercial intellectual property. Hence, consent and transparency of data collection and use must be considered, as traditional methods of obtaining consent may not suffice, given individuals might not fully understand how their data will be used by AI systems in the future. This is important as AI's ability to process and analyse data far beyond its initial collection purpose challenges the principle of purpose limitation. For example, data collected for academic performance analysis might later be used for behavioural predictions without the explicit consent of the data subjects.

Both educators and the general public will need to consider what they trust and when and to develop critical thinking skills to reduce a trend towards “blind trust” as AI tools continue to proliferate.

The significant challenges for compliance with privacy laws require clarity and the ability to contest decisions. Several legislative frameworks address the privacy implications of AI, though they vary globally. In Australia, the *Privacy Act 1988* (Office of the Australian Information Commissioner, n.d.) regulates the handling of personal information, ensuring individuals' privacy is protected; it also has an AI ethics framework, which provides guidelines for the responsible development and use of AI, emphasising the importance of fairness, transparency and accountability. The House Standing Committee on Employment, Education and Training conducted a parliamentary enquiry into the use of AI in education with submissions sought in 2023. The final appearances were made in late January 2024. As yet, no policy or legislation has been forthcoming. Countries, such as Singapore, have introduced the model AI framework for guidance. It expressly advocates for organizational leadership and boards to sponsor, support and participate in AI governance and to focus on four key areas—internal governance structures and measures, AI decision-making models, operations management, and stakeholder interaction and communication (Kin et al, 2024). It should also be noted that, as with any legislation or policy, the law is the floor, and while it intends to ensure minimum compliance, laws often lag behind societal needs, which evolve often rapidly.

Additionally, the lack of any one legal framework that crosses borders and governments is problematic. For example, for European Union residents studying in Australasia, the European Union privacy legislation must be upheld. Frameworks, no matter how robust, must continually evolve to address the unique challenges that AI technologies pose. To navigate the privacy and legal landscape of AI, higher education institutions must implement robust data governance. This involves developing clear policies for data collection, usage and retention that comply with relevant privacy laws within their own jurisdiction as well as those of their learner cohorts. Transparency in AI data practices and obtaining informed consent from all stakeholders are crucial but very difficult to enact. These concerns extend to the appropriation of Indigenous knowledge within the training of large language models. Dr Karaitiana Taiuru, a Māori

data and emerging technology ethicist and Kaupapa Māori researcher, asserts that all Indigenous Peoples, including Māori, risk renewed colonisation through AI technologies. Taiuru advocates for the involvement of Indigenous populations serving as beta testers and co-developers throughout the entire lifecycle of GenAI, from inception to deployment and subsequent monitoring (University of Auckland, 2023). Waikato University's Associate Professor of Computer Science Te Taka Keegan has questioned the data sources used by AI models, positing that they may have been obtained from social media platforms. Keegan warns that although the proficiency of ChatGPT in te reo Māori is commendable, it poses a threat to the traditional form of the language, potentially leading to a version influenced by AI, thus eroding Māori sovereignty over their linguistic heritage (Kirkby-McLeod, 2023).

Despite these challenges, experts recognise the potential benefits of AI, provided it is isolated, trained and controlled by Māori at the whānau and marae level, where the dialect and the reo are spoken and revived. This approach would enable the retention of data sovereignty and the utilisation of AI as a beneficial tool (Yogarajan et al., 2024). Achieving such involvement could facilitate significant contributions to revitalising the Māori language while ensuring that AI technologies respect and uphold Indigenous communities' values and knowledge systems.

When considering the higher education sector, AI's impact on admissions processes, grading and learner support services may limit learner opportunities and experiences, as AI systems can inadvertently perpetuate existing biases present in the training data and lead to discriminatory outcomes. This is particularly concerning for those groups already marginalised or less represented. Transparency is needed to ensure fairness and accountability.

Institutional size should also be considered. The higher education sector consists of large and small institutions. Although the implementation of a comprehensive GenAI policy is crucial for maintaining academic integrity and enhancing the educational experience across institutions of varying scale and size, establishing such a policy can be complex given institutional resources. However, in Southeast Asia, educational technology firms such as MaivenPoint have been using AI proctoring tools to support the accreditation process for organisations, particularly those situated in remote areas (Tech Collective, 2023).

Educational institutions have a role to play in preparing learners for the evolving job market by equipping them with the skills needed to thrive in an AI-driven economy.

Returning to the issue of trust, no longer can we believe what we see. Although the human eye quickly finds the "uncanny valley" (Tinwell et al., 2011) to notice when something is close to but not quite human, even people such as Gladwell (2007) have shown that experts often struggle to disconfirm something against certain evidence. Both educators and the general public will need to consider what they trust and when and to develop critical thinking skills to reduce a trend towards "blind trust" as AI tools continue to proliferate.

Sustainability

The use of AI technologies demands substantial computational power, leading to increased energy consumption and carbon emissions, and there is a concerning lack of engagement from Australian organisations about the growing level of carbon emissions caused by information technology and data centres (Noble et al., 2023). This issue is not at the forefront of discussions from organisations leading the AI charge, leaving much of the sustainability responsibility on educational institutions themselves. This is of particular concern given our region and the impacts this may have.

However, it is not all bad news. Urban planning has demonstrated how AI can be leveraged for sustainability. Yarwood (2024) highlights the potential of AI-driven irrigation systems to optimise water usage in cities. Similarly, a conscious effort to develop and implement energy-efficient AI solutions, coupled with responsible hardware lifecycle management, is crucial for mitigating the environmental footprint of AI in education. Educating learners and faculty about the environmental implications of AI is also important. For example, business schools who are signatories to the Principles for Responsible Management Education must also embed the United Nations Sustainable Development Goals (SDGS) into their course teaching. This could potentially increase learner awareness of and promote responsible AI usage. Likewise, encouraging learners to combine AI and sustainability in projects and research could potentially lead to the development of innovative solutions that balance technological advancement with environmental responsibility.

Educational institutions have a role to play in preparing learners for the evolving job market by equipping them with the skills needed to thrive in an AI-driven economy. This includes not only technical skills but also critical thinking, adaptability and an understanding of the ethical and societal implications of AI. This is particularly important given some of the discussions surrounding the societal and economic implications of AI adoption, including jobs lost to automation, highlighting the need for concerns about social equity and economic stability.

As AI adoption grows, so does the demand for computational resources, driving up operational costs for educational institutions and enterprises. Balancing the AI's benefits with its associated costs requires careful consideration and strategic planning, which, in turn, requires a concerted effort from educational institutions, technology providers and policymakers alike. With the United Nations SDGs at the front of mind, GenAI has put SDG 10 (Gender Equity), SDG 11 (Sustainable Cities) and SDG 12 (Responsible Consumption), at risk of being even further out of reach. It is every higher education institution's responsibility to continue to push towards the goals of the United Nations SDGs.

Revitalisation of educational technology

Much attention has been given to the initial wave of GenAI tools, such as ChatGPT, which primarily generate text outputs. However, the educational impacts of multimodal GenAI capable of producing text, code, images, speech, audio, video and spatial outputs, in response to diverse inputs, are likely to be more profound. For example, learners may use it as a form of "playable media", where the format of learning content can be easily transformed from one medium to another and collaboratively interacted with (Hogson, 2023). For example, a history lesson could morph from text to an interactive 3D scene, then to a dialogue with historical figures, all guided by learner input. This highly personalised form of learning may include a curriculum that is generated in real time in response to learner input.

Despite years of predicted growth, the creation of applications and content for spatial environments, often explored through virtual reality devices, has lagged behind expectations. However, the current wave of GenAI tools may accelerate the development of content and interactive elements within these environments. New AI technologies for generating 3D scenes based on 2D images or video greatly streamline the process of creating 3D environments without the use of specialised equipment. The continued development of AI systems capable of recognising facial expressions and body language poses opportunities as assistive technologies, and challenges for privacy, data protection and bias in educational settings.

Current AI tools generally operate under human direction, but this may not always be the case. Agentic AI systems that communicate and interact with other applications and autonomously execute functions are on the horizon. Higher education could see agentic AI used as part of learner operations or teaching contexts for monitoring learner records and more (Bijani, 2024). The increased autonomy means more robust safety and ethical guidelines are needed.

Considering the above, higher education will need to create the time and space to reimagine its offerings and how it assesses. They must also join and lead the discussions about ethics and sustainability, ensuring the public has access to good general knowledge and education. Consideration must be given to ensure that those who are disadvantaged are not left further behind as digital poverty widens the gap and this needs to commence at school and continue throughout the higher education sector and into all organisations, both large and small.

Data sovereignty and Indigenous data protection

Ownership of the data used to create large language models is one of the ethical considerations. The sovereignty of data and the Māori language is just one example of this debate. [The University of Otago's Generative AI: For Aotearoa](#) provides perspectives on Indigenous data sovereignty and considerations for practice.

GenAI policy

[Bond University's GenAI Policy](#) aims to support academic integrity and prepare the university community for responsible AI use through clear guidelines, mandatory education, ethical promotion, robust support resources and compliance monitoring.

AI to support student communications

[Western Sydney University's Contact Centre Project](#) is currently leveraging AI to drive improved satisfaction and productivity and decrease voice abandonment across 12 call centres through personalised communications.

Enhanced oral assessments and vivas

Popi Sotiriadou, Henk Huijser, Audrea Warner & Danielle Logan-Fleming

Across the higher education sector, UNESCO emphasises spoken communication as a key skill for navigating the 21st century's challenges and opportunities (UNESCO, n.d.). According to the McKinsey Global Institute's report (Dondi et al., 2021), the rise of automation, AI and robotics is reshaping the labour market, increasing the demand for skills that exceed what machines can offer. Among the 56 foundational skills identified, communication stands out as a key cognitive ability. This growing emphasis is reflected in the trend towards oral assessments in Australasia and is driven by two key factors:

1. discipline-based learning objectives related to employability, which in turn leads to a focus on authentic assessment; and
2. the emergence and impact of GenAI tools, which have created a need to rethink assessment in a more general sense.

Oral assessment might take various forms such as an objective structured clinical examination (S. C. C. Chan et al., 2023), viva voce (Aricò, 2021; Gupta, 2021) and interactive oral assessments (Lim & Lim, 2023; Sotiriadou et al., 2020). Objective structured clinical examinations are structured clinical exams used primarily in medical and health-related fields to assess learners' clinical skills through a series of stations. Viva voce involves a formal, face-to-face oral examination where learners answer questions posed by examiners, whilst interactive oral assessments are industry-aligned, scenario-based, unscripted conversations between assessors or industry representatives and learners. Interactive oral assessments offer opportunities to develop adaptability, problem-solving skills, industry-specific knowledge, active listening and communication skills (Sotiriadou et al., 2020). Interactive oral assessments have been shown to enhance employability skills (Colvin & Gaffey, 2023) and foster critical thinking, communication and collaboration skills (Tan et al., 2022).

To that end, Skills Highway, funded by the New Zealand Tertiary Education Commission (n.d.), focuses on enhancing workplace communication skills alongside literacy and numeracy. The "Australian Universities Accord Final Report" (Department of Education, 2024a) emphasises that 75% of employers value communication, teamwork and initiative as much as technical skills. For educational institutions, the implications of these trends are significant and should be considered for several reasons. By focusing on authentic assessments like oral exams, institutions can better prepare learners for the demands of the modern workforce. Importantly, the emergence of GenAI has raised concerns about academic integrity and the validity of assessments. Institutions need to ensure that their assessment methods can effectively evaluate individuals' learning without being compromised by AI tools (Thomson et al., 2023). One immediate impulse has been to revert to examinations (including oral examinations) as a way of assuring assessment of learning (Liu & Bridgeman, 2023). As AI continues to evolve, another impulse has been to redesign assessment by making it more authentic and/or more personalised and contextual. The latter approach can be seen as an attempt to outdesign or outrun AI, and Liu and Bridgeman's (2023) two-lane approach to assessment has had considerable impact as part of this discussion. Some of the Lane 1 (assured assessment of learning) examples can be seen as authentic, including viva voces or other interactive oral assessments, and live simulation-based assessments. Lane 2 (human-AI collaboration in assessment as learning) examples can potentially also be seen as authentic, but in a more dynamic sense, as authentic discipline-based (and interdisciplinary) practice is undergoing rapid transformation while incorporating GenAI. This, in turn, means that assessment, including oral assessment, needs to be redesigned to remain both relevant and authentic.

The University of Western Sydney's Raj provides an example for how GenAI may be incorporated into oral assessments. In nursing, Raj, an AI agent or meta-human, helps learners to develop their skills in screening, diagnosing and treating patients from a variety of different backgrounds. Learners work on building rapport and educating the patient about treatment and practice communication skills that can be assessed orally.

Sector wide, frameworks and conceptualisations around the impact of GenAI are rapidly developing, and the need to rethink (and redesign) assessment on a continuous basis has been identified as a significant trend. More recently, for example, Steel (2024) has expanded the two-lane approach to six lanes, with varying degrees of integrated AI in assessment. Perkins et al.'s (2024) Artificial Intelligence Assessment Scale serves a similar function. These frameworks can be used to reflect on the way we currently conduct oral assessment (or indeed any assessment) and identify how it can be more reliable, relevant and authentic. Educators at Bond University, Australia, in their Health Care Innovations program, established very clear guidelines on how learners can use GenAI as part of their assessment and learning. For example, learners can use GenAI to familiarise themselves with a topic, brainstorm and

generate ideas, improve language proficiency and assist with drafting and editing, and generate images, videos and audio recordings.

While not explicitly mentioning oral assessments, brainstorming and generating ideas may include communication with an AI agent, as can the development of voice recordings or videos. Although these are early examples, there is potential for effective GenAI use that is directly relevant to oral assessments.

The University of Wollongong's Introduction to Oceanography course uses a viva voce exam to assess learners' foundational knowledge and their ability to connect it to modern environmental issues. Learners choose a case study on either ocean acidification, marine microplastics or marine invasive species for which they create concept maps. During the viva, they may bring additional notes, and they display their concept maps. Marking is completed in the moment via an online rubric. Learners demonstrate the development of their critical thinking skills, which is essential in science but is often difficult to assess. The viva enables learners to express themselves freely and to showcase their learning. The combination of the concept maps and the oral exams switches learners from chasing marks to participating as engaged, skilled and self-motivated participants. Learners even comment on how engaged they are in the preparation for the viva exam. Although the viva exam was intended to reduce the likelihood of cheating, it has resulted in a far richer learning experience.

Despite potentially addressing academic integrity concerns among other additional benefits, oral assessments may also have some drawbacks, including concerns about equity and stress. They may heighten stress and anxiety, particularly in high-stakes scenarios like viva voce exams (Singh et al., 2012). To mitigate these effects, institutions should adopt strategies that create supportive environments, catering to diverse learner needs, including those with disabilities. This includes providing ample opportunities for practice, aligning classroom activities with the expectations of oral assessments, so learners are better prepared for the types of tasks they will encounter. Clear and well-communicated learning outcomes and assessment criteria also help reduce anxiety by ensuring learners understand exactly what is expected of them.

Looking to the future, enhanced oral assessments and vivas show promising benefits, especially in the context of GenAI. However, to scale oral assessments effectively, institutions may need to invest in critical infrastructure and technology, including robust systems for delivering both online and onsite assessments. Integrated AI tools can assist in assessment and feedback collection, enhancing both the efficiency and quality of the process. Additionally, institutions must prioritise staff development, offering comprehensive training for both assessors and support staff to build their technical and pedagogical skills. Another initiative that institutions could consider is to support colleagues to join an interactive oral assessment community of practice to share and access ideas, task designs and rubrics (Ward et al., 2023). Preparing learners for the future is equally important, with communication skills and oral assessment practice embedded into curricula to ensure that learners are well equipped for success.

Interactive AI avatars

Western Sydney University has developed [AI-powered meta-humans](#) to create dynamic learning experiences for lifelong learners as they develop and apply industry-relevant skills in authentic workplace settings. Their AI-powered meta-humans use game-engine technologies and AI to respond with emotions and a dynamic personality, creating immersive experiences for learners to jump into practice mode and receive adaptive feedback from an AI-powered educator, or jump into expert mode.

Viva Voce Capstone Assessment

The University of Wollongong uses the [Environmental Issues in Marine Sciences viva voce exam](#), a capstone assessment in the Introduction to Oceanography second-year subject (Bachelor of Marine Science). The viva is centred on real-world ocean issues identified in the United Nations Sustainable Development Goals.

Technology-enhanced WIL

Camille Dickson-Deane, Keith Heggart & Charmaine Logan-Fleming

Work-integrated learning, which is known by other synonyms across the higher education landscape (e.g., WIL, co-ops, work study program) encompasses various activities, including traditional workplace placements (internships, clinical placements, fieldwork, practicums), industry-partnered projects (hackathons, incubators/start-ups) and simulated work environments with industry consultation (Barbeau, 1973; Dickson-Deane et al., 2023). As such, WIL is viewed by some as an umbrella term for an approach where curriculum integrates academic and workplace knowledge (Dollinger & Brown, 2019). This strategy occurs in different contexts, can be paid or unpaid and, from a delivery standpoint, can now include a digital component so that scalability can be achieved (Kay et al., 2019; Universities Australia, 2019). These offerings aim to provide learners with professional practice opportunities within the classroom to address skills shortages and rapidly evolving industry skills—skills that create domain-specific transferable pathways which are key for employment (Jackson, 2024).

What WIL means in this context

Addressing employability needs through the curriculum has always been a challenge for higher education institutions. One way to address employability needs is to offer technology-enhanced WIL placements. Technology-enhanced WIL reflects an ongoing understanding of the current educational environment, in which occurrences, such as pandemics, weather events and socio-economic pressures, can hinder learners to take part in non-compulsory placements. The ability to provide WIL through increasingly ubiquitous technologies requires institutions to increase their investment in a wider array of technology-enhanced WIL placements outside standard mandatory requirements (e.g., placements in nursing and teacher education) (Kay et al., 2020). Institutions taking the lead include Swinburne University, which announced that from 2021, all undergraduate learners will undertake a placement to enable them to take advantage of WIL opportunities (Zegwaard et al., 2023). Similarly, Singapore's SP Jain School of Global Management actively integrates WIL into its curriculum (SP Jain School of Global Management, 2023). These examples engage technology as a catalyst towards increased accessibility and inclusivity for learners who might have previously been unable to undertake WIL.

Building WIL opportunities and experiences is the bridge that many learners need to prepare for the real world.

The how and where of implementing WIL

By diversifying how and where technology is used to implement WIL in disciplines, the influence towards clear and direct professional practice is satisfied. Where implementation can be challenging is not only in the want for personalised experiences but also in disciplines where placements are not a requirement. Placements can be difficult to implement within the constraints of timetables or semester structures and may involve increased institutional costs and additional resources to develop and embed training into classroom learning (Jackson & Collings, 2018). There are also other challenges which address the overlap between learner characteristics and their intentional needs for real-world experiences. Some examples of gaps in implementations are:

- WIL opportunities for international students who may want these experiences in their home countries or places where they plan to reside after graduation—cross-cultural pollination of opportunities;
- learners in low socio-economic spaces who would not even consider WIL from a financial access point of view; and
- non-lab research students (i.e., master's by research and PhD students) who can find it difficult to locate a relevant industry partner to work on research problems.

Technology-enhanced WIL can help to embed these real-world applications into the learning space context. Through this, the integration of new ways to increase access whilst reducing costs can emerge. A key example is in Japan, where a learning without borders program is offered by a variety of university campuses as a virtual campus linking cross-cultural discipline-specific experiences (Okubo, 2024). This example uses virtual technologies as tools to open doors to the entrepreneurial field, thus creating affordances for differently abled learners, non-traditional jobs and more.

Answering the call for WIL

As much as WIL has found itself well placed in many universities' strategies, implementing sustainable solutions still seems to be a hurdle. To proactively engage in using this method, governments, institutions and academics need to think outside the box to create new ways of offering sustainable opportunities. Using trusted models to create new ones and exploring how course designs and structures can couple, combine or embed opportunities for WIL is one way forward. The education ecosystem currently is embracing numerous experiential learning opportunities via microcredentials, competency-based learning and case-based learning strategies. Expanding WIL opportunities for all students aligns with many government strategies (Commonwealth of Learning, 2024; New Zealand Tertiary Education Commission, 2023). Building WIL opportunities and experiences is the bridge that many learners need to prepare for the real world.

Virtual Clinical Placements in Exercise Science

[University of Technology Sydney's Sports and Exercise Science Telepractice Clinic](#) uses Zoom with their third-year learners to have them develop skills as exercise scientists and exercise physiologists. The learners are all supervised by qualified and experienced professionals, and they work with real clients to create and execute an exercise program.

International Education from Home

[JV-Campus](#) is an online Japanese higher education portal that enables international learners to begin learning about Japan without actually being in Japan. The Education Ministry uses this platform to engage learners in a variety of topics, including Buddhist art and agriculture.

Changing nature of flexible/hybrid delivery

Annette Dowd & Kerry Russo

In the post-pandemic era, higher education has experienced an accelerated pace of change further intensified by the environmental challenges of climate change with floods, bushfires and major weather events disrupting campuses. Additionally, broader economic, social and political issues are driving demand for flexible learning opportunities. Global financial instability has left many learners facing financial hardships and traditional on-campus education less viable. New approaches to teaching, learning and assessing have come to the fore, highlighting a shift in educational practice. We have passed the inflection point of teaching in digital learning environments. Learners demand options, flexibility and engagement but on their terms. The higher education sector is grappling with meeting these demands, with many universities seeking to embed hyflex and hybrid delivery changes in their educational practice (Aldosemani, 2023). These changes demand pedagogical retooling to embed rapidly evolving learning technologies. Building staff capacity in a constantly evolving digital learning environment needs more than professional development sessions.

Hybrid delivery involves a combination of in-person and online learning activities, allowing learners to benefit from both face-to-face interactions and digital resources. Flexible delivery offers learners the choice of various modes of participation, including synchronous and asynchronous options, catering to different learning preferences and schedules. One of the primary advantages of hybrid and flexible delivery is accessibility, enabling learners from various backgrounds to access education regardless of geographic or socio-economic barriers. It also provides flexibility, allowing learners to learn at their own pace and convenience. The potential of these delivery methods lies in their ability to accommodate diverse learning preferences and enhance student engagement, promoting a more inclusive educational environment.

Many universities have recognised the need to provide support for the teaching, adaptation and planning of hybrid classrooms, offering resources aimed at enhancing the hybrid learning experience. Institutions such as Monash University, Queensland University of Technology, the University of New South Wales (UNSW) and Deakin University in Australia, Massey University in New Zealand and the Hong Kong University have taken steps to equip staff and students with a comprehensive range of resources specifically tailored for hybrid teaching and learning. These resources are designed to enhance the effectiveness and flexibility of teaching methodologies, ensuring that faculty and learners are well prepared to navigate the challenges and opportunities presented by hybrid learning environments. UNSW hybrid learning student resources highlight the need to build student capacity in flexible learning models. The Hong Kong University has adopted the three key principles of flat, flexible and interactive to reimagine and redesign learning spaces for synchronous hybrid learning. The University of Queensland's staff resources acknowledge the limitations of hybrid teaching and the need to create a sense of fairness between cohorts.

Despite the advancements, several challenges remain in providing an equitable learning experience for online learners. Issues of equitable learning opportunities persist for learners who opt for, or rely on, online learning, as the quality of online learning experiences can still fall short compared to corresponding face-to-face experiences. Replicating the level of interaction and engagement found in in-person settings continues to be a significant challenge. Accessibility and technical barriers, such as digital literacy, digital poverty and reliable internet access, pose obstacles to effective use, particularly for learners lacking adequate technological resources, as this home-as-a-classroom model can exacerbate the digital divide.

Over the past 2 years, there has been a noticeable shift towards human-centred design, prioritising the experiences of both learners and instructors in the development and implementation of educational technologies (Grau & Rockett, 2022). Recent developments focus particularly on enhancing communication between learners, peers and instructors. These efforts generally fall into two main approaches: technology to create more immersive experiences and technology to facilitate meaningful feedback. Creating a more immersive learning experiences facilitates synchronous exchanges, deepening connections with peers and making the overall experience even more engaging. Smart classrooms equipped with video bars, ceiling microphones, auto-tracking 360-degree cameras and multiple wrap-around screens are becoming commonplace. These high-tech spaces connect learners studying at home and across multiple campuses, with in-person classrooms bringing online learners to the centre of group discussions.

Virtual reality technology in educational delivery has begun to expand across Australasia. Though still predominantly found in medical and health faculties, AI may make this technology more affordable and accessible. AI-generated interactive 3D charts and models could become commonplace in the student learning experience. These advanced learning technologies offer an integrated learning experience that bridges the gap between physical and virtual classrooms. Furthermore, innovations such as holograms and advanced camera software, enhance virtual presence

and interaction, making remote participation immersive and interactive. Already used in some Australian secondary schools, holograms provide a teacher presence not replicable with one-dimensional videoconferencing broadcasts. Holography's multidimensional capability enables connection and may build a sense of belongingness (Yoo et al., 2022). AI will see these hologram platforms continue to evolve and expand into the sector.

Facilitating continuous improvement and real-time assistance is essential for effective hybrid and flexible teaching. Analytics and AI play a significant role in providing personalised feedback and improving communication between learners and instructors. Additionally, automated systems enhance responsiveness and support, so learners receive timely individual assistance. For example, AI-powered feedback assistants or tutors can deliver real-time, personalised feedback to each student, creating individualised learning experiences (Grimus, 2020).

The evolving landscape of hybrid and flexible delivery requires a significant retooling of pedagogical approaches to integrate rapidly changing learning technologies. Instructor training is crucial for equipping educators with the necessary skills to use new technologies effectively, although building staff capacity in this constantly changing digital environment requires more than traditional professional development sessions. One solution is developing resilient pedagogical frameworks that remain effective as technology advances. Innovative education 4.0 pedagogies, which have flexibility and accessibility as core tenets, are especially appropriate for hybrid and flexible learning methods.

The sector also faces challenges in developing fair and responsive workload arrangements to support new demands on instructors. Rapidly changing technologies place unrealistic expectations on lecturers, who are now expected to monitor technology, respond to back-channel chats, work with AI-generated learning objects and build AI-powered chatbots to provide personalised learning experiences and individualised feedback.

The implications for institutions extend beyond the purchase and support of new educational technologies. They also involve significant changes in classroom infrastructure and the design of learning environments to facilitate easy interaction with both virtual and digital people and resources. This holistic approach is necessary to create a user-friendly and robust hybrid and flexible teaching ecosystem. Collaboration with the private sector could also help reduce the cost of technology for institutions and learners, which is particularly important for marginalised learners. Institutions must also address privacy and data security concerns as the increased use of digital platforms for learning can expose sensitive information to potential risks.

The sector faces significant challenges in building staff capacity and creating fair equitable workload arrangements. As the landscape of faculty skills continues to evolve, AI literacies have become essential, alongside digital fluency. Educators must develop in AI literacies, prompt engineering and the responsible and ethical use of GenAI. The sector needs to invest and develop faculty AI literacies through contextualised professional development, communities of practice, industry consultations and access to GenAI platforms. The journey has begun to reshape a future-ready educational environment.

Multipurpose learning environment

Flat, flexible and interactive learning spaces are widely used by many universities. However, [Hong Kong University's Learning Lab](#) distinguishes itself through its synchronous hybrid learning spaces. The space is designed to be adaptable to various pedagogical approaches and delivery methods, offering a multipurpose environment that meets diverse teaching needs.

Hybrid study by design

The [University of New South Wales Student Guide to Hybrid Study](#) targets the student experience in a hybrid environment. Although many universities provide hybrid learning support primarily for teaching staff, the university takes an inclusive approach by offering specific resources for both learners and staff.

Resources to support blended/hybrid teaching

The [Monash University Blended and Online Teaching resource](#) combines pedagogical principles with many practical suggestions to help teaching staff enhance the quality of their teaching in an informed way.

Methodology

Contextualising Horizon uses a combination of virtual person workshops and survey research to identify the core issues facing the Australasian higher education sector and the educational technology and practice trends likely to be important in the near future. For the 2024 iteration of the initiative, two workshop sessions took place on 21 and 23 February 2024. Through these workshops, participants identified STEEP trends impacting the higher education sector in the region. Following the workshops, participants electronically voted on the identified trends to identify the three top trends in each category. The resulting STEEP trends are identified in the table below.

2024 STEEP trends

Social	Technological	Environmental	Economic	Political
<ol style="list-style-type: none"> Public perception of higher education Health and wellbeing Skills-based focus in curricula 	<ol style="list-style-type: none"> AI literacy Cybersecurity Staff digital skills 	<ol style="list-style-type: none"> Managing disruption and disruption as the norm Preparing learners for change Major disaster situations 	<ol style="list-style-type: none"> Cost of living and housing Staff impacts Student choice 	<ol style="list-style-type: none"> Outcome of the Australian Universities Accord Material support for First Nations learners Portability of qualifications

A second set of workshops, held on 19 and 26 March 2024, invited participants to identify the educational technology and practices likely to be important in the higher education context defined by the STEEP trends. They identified 18 educational technologies and practices. Participants then voted for what they considered the top five trends during the period 1–8 May 2024. Votes were weighted according to relative rank. The final voting scores are summarised in the table below.

Ranking of 2024 educational technology and practice trends

Nominated educational technology or practice	Score
Academic integrity/assurance of learning	60
Generative AI literacy and fluency	60
AI ethics and privacy	47
Addressing the AI policy lag	44
Acknowledging AI's potential	29
Enhanced oral assessments and vivas	21
Changing nature of flexible/hybrid delivery	18
AI's revitalisation of educational technologies	18
Technology-enhanced WIL	16
Assessing process vs output	15
Enabling technologies, open educational resources and universal design for learning	12
AI in teaching and access and use of AI	11
International recognition of skills portability	11
Agile curriculum renewal	10
Expanding learning technology ecosystems	7
AR/XR/VR	5
Addressing app-smashing	4
University-agnostic study hubs	2

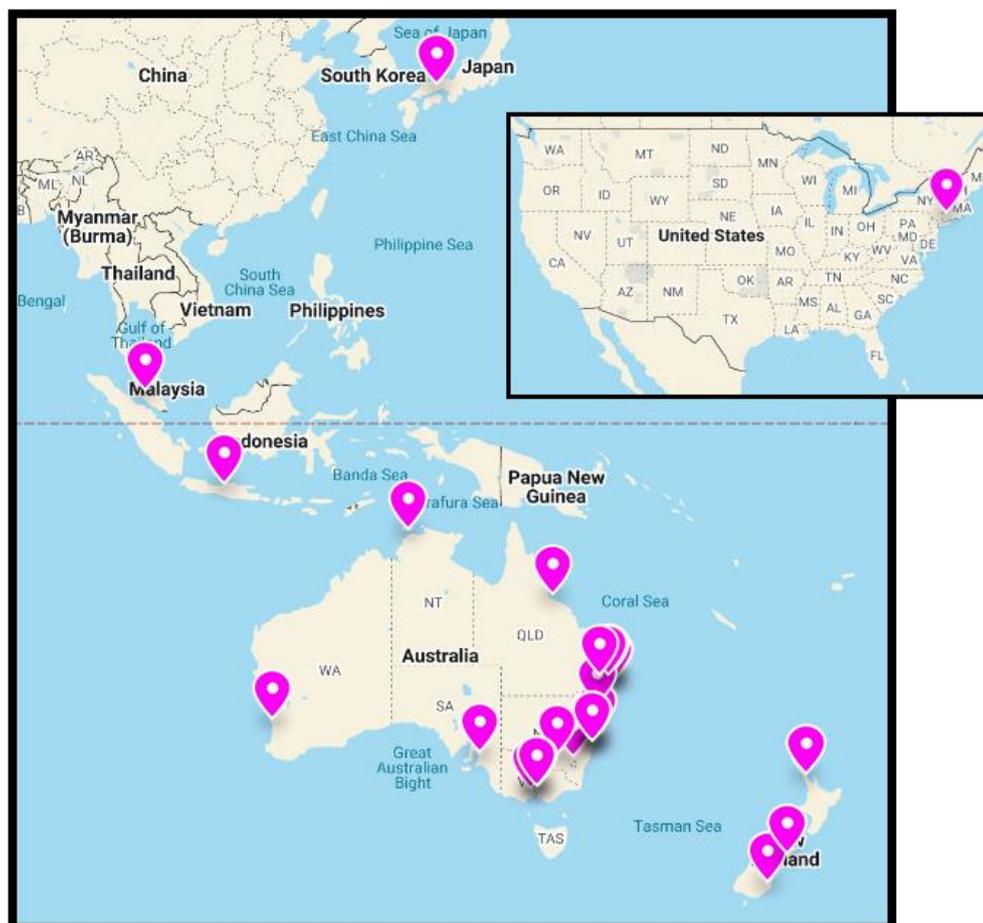
Given the prevalence of AI topics ranked among the top five trends, the research team elected to combine these topics into a single section to capture the diversification of topics in AI as a mega-trend demonstrating the maturation of AI in the context of educational technology and practice trends and to recognise the breadth of educational technology and practice trends beyond AI. This resulted in the final listing of educational technology and practice trends presented in the report:

1. Academic integrity and assurance of learning
2. Diversification of topics in AI
3. Enhanced oral assessments and vivas
4. Technology-enhanced WIL
5. Changing nature of flexible/hybrid delivery

Demographics

Contextualising Horizon continues to aspire to reflect observations and insights from the Australasian region. As such, participants voluntarily provide demographic information to demonstrate the regional representation involved in the identification of the annual trends and report. The map below indicates the representation for the 2024 Contextualising Horizon panel, including Australia, Indonesia, Japan, Malaysia, New Zealand and the United States of America.

2024 Contextualising Horizon participation



Limitations in 2024 and future directions

Contextualising Horizon continues to refine its processes through iterative design. For the first time, the research team conducted an information session at the 2023 ASCILITE conference in lieu of the conference-based STEEP sessions and instead held at a later date dedicated virtual workshops for both the STEEP and the educational technology and practice sessions. Conducting these sessions in February and March avoided competition with other conference sessions and enabled participants to focus on the workshops.

As with previous iterations of the report, Contextualising Horizon maintains strong representation from Australia and New Zealand, with some representation from other countries in the Australasian region. Future iterations of the project will continue to attempt to tap the broader region to capture a more comprehensive view of the potential trends emerging.

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