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BRIEF COMMUNICATION

Future Faculty Development in the Age of AI: University Teachers' Roles, Needs, and Institutional Support

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Abstract AI is reshaping higher education in ways that extend beyond the adoption of new tools, challenging established assumptions about assessment, curriculum, ethics, graduate preparation, and the work of university teachers. Drawing on insights from the Teacher Panel at the International Conference on GenAI and Pedagogical Innovations held in Hong Kong in May 2026, this commentary argues that faculty development in the AI era must move beyond generic technology training towards a more role-based, discipline-sensitive, future-oriented, and ecosystemic approach. The commentary identifies four key insights from the panel discussion: AI use is already widespread and assessment has become an immediate pressure point; AI literacy is necessary but insufficient without disciplinary, professional, ethical, and human-centred dimensions; universities must connect learning more explicitly with the authentic world beyond campus while renewing the role of the campus as a site of experimentation and futures literacy; and institutions need stronger capacity for evidence-informed, forward-looking AI governance. Building on these insights, the commentary proposes seven emerging roles for university teachers: human-centred educator; disciplinary and professional expert; learning architect and intellectual guide; assessment (re)designer; technically competent and critically informed professional; ethical steward; and educational experimenter and evidence-based practitioner. Corresponding faculty development needs are then discussed, including support for human-centred education, curriculum renewal, world-connected learning, assessment redesign, technical-pedagogical AI capability, ethical stewardship, AI policy literacy, and scholarship-informed educational improvement. The commentary concludes with a preliminary role-based framework for faculty development. It emphasises that these roles need not be performed by a single individual teacher. Rather, as educational design and delivery become more complex in the age of AI, university education should increasingly be understood as a collective endeavour involving academic staff, educational developers, technology specialists, professional staff, students, external partners, employers, and community organisations.

Keywords AI in higher education, faculty development, university teachers' roles, human-centred education, disciplinary and professional judgement, role-based faculty development framework

1 Introduction

Generative AI and wider forms of digital intelligence

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are reshaping higher education in ways that extend far beyond tool adoption. They are unsettling assumptions about assessment, curriculum, student learning, professional preparation, academic integrity, and the work of university teachers. Although AI is generating immediate pressures across university curricula and assessment systems, institutional approaches to faculty development often remain fragmented and disproportionately focused on basic tool literacy.

The authors of this commentary represent nine institutions across eight countries and four continents. All participated in the Teacher Panel at the International Conference on AI and Pedagogical Innovations, held in May 2026. Drawing on insights from that panel, this commentary argues that faculty development in the AI era must move beyond generic technology training.

Universities need a more future-oriented, role-based, discipline-sensitive, and ecosystemic approach to faculty development. Such an approach recognises that the future university teacher may not be a single all-encompassing figure but part of a collective and increasingly specialised educational enterprise involving academic staff, educational developers, technology specialists, learning technologists, learning analysts, professional staff, librarians, students, external partners, employers, and community organisations. We therefore propose a preliminary role-based framework for faculty development that connects emerging teacher roles with institutional support, professional learning activities, and broader educational renewal.

To develop these arguments, this article is structured in six parts. Section 2 identifies key pressure points around assessment, AI capability, authentic learning, and governance emerging from the GaPI Teacher Panel. Section 3 proposes a role-based approach, defining seven emerging roles for university teachers in AI-rich educational environments. Section 4 outlines the professional learning needs and activities required to support these roles. Section 5 integrates these elements into a preliminary institutional role-based framework. Section 6 concludes with strategic reflections on sustaining collective educational ecosystems.

2 Insights from the GaPI Teacher Panel Discussion

The GaPI Teacher Panel provided a timely opportunity to reflect on how university teachers are experiencing and interpreting the implications of AI for teaching, learning, assessment, and graduate preparation. While the discussion was necessarily situated within a particular institutional and regional context, the issues raised resonate strongly with international debates on AI in higher education (Bearman et al., 2023; Lodge et al., 2025; Miao & Holmes, 2023). Four broad insights are especially relevant for rethinking faculty development.

2.1 | AI Use Is Widespread, and Assessment Is the Immediate Pressure Point

First, AI use is already embedded in student learning practices and institutional life. Students are using AI tools to brainstorm ideas, summarise readings, translate text, draft assignments, debug code, generate images, prepare presentations, and receive feedback. In many disciplines and professions, AI-supported work is also becoming part of everyday practice. This widespread use makes it increasingly difficult to design and maintain assessment systems designed for a pre-AI environment.

Assessment has therefore become the most immediate site of pressure. Assessment signals to students what matters; it directs effort, shapes learning behaviour, and provides evidence of achievement (Boud & Molloy, 2013; Carless, 2015). Yet traditional assessment tasks, especially take-home essays, reports, summaries, problem sets, and generic written reflections, may no longer reliably reflect individual understanding, process, judgement, or capability. The problem is not simply that students may use AI in unauthorised ways. More fundamentally, AI challenges the evidentiary logic of assessment: What exactly does a polished artefact show when parts of it may have been generated, revised, translated, or enhanced by a machine?

This creates an urgent need to (re)design assessment so that learning, process, disciplinary reasoning, technology use, and evaluative judgement become more visible. Assessment needs to move from product-only evaluation towards richer evidence of learning: oral explanation, staged development, process documentation, critical commentary, reflective justification, in-class performance, workplace-based tasks, collaborative problem-solving, and the ability to critique and improve AI-generated outputs. Rubrics must also evolve so that students understand that transparency, judgement, process, and responsible technology use are part of the assessment.

The assessment challenge is also linked to a wider question: What kinds of learning outcomes remain meaningful when AI can perform or simulate many entry-level tasks? As some entry-level graduate jobs become vulnerable to automation or restructuring, universities must reconsider what capabilities graduates need in order to enter and adapt to changing professional worlds (Brynjolfsson et al., 2023; World Economic Forum, 2025).

2.2 | AI Literacy Is Necessary but Insufficient

A second insight is that AI literacy remains necessary but is insufficient if treated as generic technical awareness. Students and teachers need to understand what AI systems can and cannot do, how they generate outputs, what risks they carry, and how to use them responsibly. The panel agreed that it is time to move beyond generic AI literacy towards disciplinary, professional, interdisciplinary, and transdisciplinary forms of AI capability. AI affects knowledge-making differently across fields. AI systems can reshape design, affect diagnosis, empower analytics, and support strategy planning. Students therefore need to understand not only how AI tools work in general, but how AI affects evidence, standards, judgement, practice, and responsibility within particular knowledge communities.

At the same time, students need far more than technical capability. AI makes human capabilities more important, not less. In uncertain professional environments, students need resilience, adaptability, ethical judgement, communication, collaboration, analytical thinking, civic-mindedness, and the capacity to learn continuously. They need to know how to work with AI, but also when to question it, when to resist it, and how to remain accountable for decisions made with its assistance. The development of such capabilities cannot be outsourced to technology. It warrants purposeful educational re-design, especially given uncertainty around entry-level employment and changing graduate pathways.

2.3 | Universities Must Connect Learning with the Authentic World Beyond Campus, and Renew the Role of the Campus Itself

A third insight is that universities must connect learning more explicitly with life, work, society, and professional practice. This includes developing generic and profession-specific approaches through collaboration with employers, practitioners, alumni, community experts, public organisations, and industry partners. Short practical learning modules can be embedded early in undergraduate programmes to help students ground their skill development in real-life cases, current market needs, ethical dilemmas, and emerging professional practices. These modules may need to be regularly updated as technologies, industries, social expectations, and labour markets change.

Connecting learning with the authentic world, however, does not mean the campus no longer has value in the AI era. Rather, the campus needs to be a living laboratory: a space where students, teachers, researchers, professional staff, industry experts, community partners, and AI systems interact around complex problems. van der Wee et al. (2024) characterised university living labs as hybrid learning spaces that bridge education and society, where students and external stakeholders jointly tackle real-world sustainability challenges on campus, in the community, or across the two. Their analysis suggested that learning in these spaces can help students handle complexity and uncertainty, collaborate and communicate effectively, and act as change agents. In some living labs, students also engaged in re-imaginative learning by envisioning desirable futures and considering what would be required to bring them about.

This perspective is relevant to university education in the AI era. Students need opportunities not only to acquire existing knowledge, but also to explore uncertainty, imagine alternatives, deliberate about values, and co-create possible futures. Gáspár (2026) conceptualises futures literacy as a competence comprising three elements: different ways of using the future, the skills those uses require, and a habit of recognising the assumptions that shape them. The study also emphasises that learning about futures is not merely technical; it requires empathy and cooperation, as well as attention to other people's perspectives, values, interests, and motives. The campus can foster these capabilities through interdisciplinary and transdisciplinary encounters, scenario-based learning, and collaborative experimentation with emerging technologies. In this sense, it can serve not only as a bridge to contemporary professional practice but also as a site for developing futures literacy: the capacity to imagine and use possible futures to inform action in the present.

2.4 | Universities Should Develop Institutional Capacity for Informed and Forward-Looking Decision-Making

A fourth insight is that institutions cannot merely react to technological change but need capacity to make principled, evidence-informed, and future-oriented decisions. Facing rapid AI developments, universities require agile but thoughtful policies, ethical guidance, mechanisms for curriculum and assessment renewal, and structures that enable collaboration among academic staff, educational developers, technology specialists, learning technologists, learning analysts, professional staff, librarians, students, external partners, employers, and community organisations. For example, responsible AI use depends not only on teacher guidance but also on data governance, approved platforms, assessment regulations, thoughtful design, and student support (Miao & Holmes, 2023).

The university may increasingly need to act as a shapeshifting ecosystem: stable in its educational values but adaptive in its structures, partnerships, and

practices. Such an ecosystem does not abandon academic rigour, disciplinary depth, or humanistic values. Rather, it develops the capacity to reinterpret and enact them in changing technological and social conditions.

The capability of future universities will not be their ability to adopt AI technologies more quickly than their peers, but their capacity to govern continual technological uncertainty. Universities therefore require more than AI literacy, which focuses primarily on effective tool use. They require AI policy literacy (Wang, 2026), a kind of new institutional capacity to govern how AI systems reshape educational values, assess competing policy options, negotiate trade-offs between innovation and public accountability, and make informed governance decisions under conditions of persistent technological change.

3 Changing Roles of University Teachers

University teaching is no longer adequately defined as the transmission of disciplinary knowledge. In an environment saturated with machine-generated outputs, teachers are increasingly called to design meaningful learning, support students' intellectual and ethical development, cultivate human qualities, guide responsible AI use, connect learning with authentic contexts, and help students navigate uncertainty.

Recent faculty-development initiatives in higher education focus primarily on helping teachers acquire the knowledge and skills needed to use generative AI in immediate teaching contexts. Common areas include prompt design, evaluation of AI-generated outputs, preparation of learning resources, lesson and activity design, feedback, assessment redesign, academic integrity, bias, transparency and responsible use. Increasingly, programmes combine hands-on experimentation with disciplinary cases, peer discussion and opportunities to redesign authentic teaching materials rather than relying on isolated demonstrations of particular tools (Aftab et al., 2026; Al-Ali & Miles, 2025; Chen et al., 2025; Tan et al., 2025). This broader direction is consistent with *AI competency framework for teachers* (Miao & Cukurova, 2024), which integrates human-centred values, ethics, technical knowledge, AI pedagogy and continuing professional learning. The emerging evidence nevertheless indicates an uneven distribution of attention across these areas. Improvements tend to be greatest in technical knowledge, confidence and initial experimentation, whereas gains in pedagogical integration, ethical judgement, assessment policy and understanding of AI's limitations are less pronounced (Chen et al., 2025; Tan et al., 2025). Provision may also remain somewhat fragmented and technology-led, with comparatively limited attention to inclusion and ethics (Higueras-Rodríguez et al., 2026).

These uneven foci and the changes that emerging technology brings to education call for a more fundamental reconsideration of the needs of students and the responsibilities of teachers, and consequently a more holistic reconsideration of faculty development that connects teachers with the changing higher education landscape. The central question should therefore be not only *what teachers need to know about AI*, but also *what teachers are increasingly required to do and become in AI-rich educational environments*.

A role-based approach to faculty development offers a possible organising principle for this reconsideration. After considering how teachers' roles are changing in higher education, we have outlined seven roles below. They are ambitious, and we are not suggesting that every individual academic can or should embody all of them equally. Rather, these roles may be distributed across teaching teams, programme teams, educational developers, technology specialists, learning technologists, learning analysts, professional staff, librarians, students, external partners, employers, and community organisations. The future university teacher may increasingly occupy a meta-role: a conductor who coordinates different dimensions of the educational process, from disciplinary learning and assessment design to ethics, mentorship, student-AI interaction, and future readiness.

The seven roles are intended as a comprehensive account of the capacities that need to be present within AI-rich educational environments, rather than as a requirement that every teacher master every role simultaneously or to the same depth. Nevertheless, we posit that the first two roles remain as universal professional foundations for all university teachers: being human-centred educators and being disciplinary and professional experts. To avoid confusion with student-centred learning, we define human-centred education as an approach that places students at the centre of teaching while also emphasising the cultivation of distinctively human capacities, such as resilience, agility, and integrity, required in the age of AI. The remaining five of the seven roles need not be fulfilled by every individual teacher in equal measure. For example, in large courses, such as academic literacy or university English courses, where many lecturers are needed to teach a large number of classes that all do the same assessments, Roles 3 to 7 can be distributed across the teaching team according to members' expertise and responsibilities: one or two teachers can (re)design the assessment tasks and rubrics for the whole course, others may focus on learning architecture and intellectual guidance. Colleagues with stronger technical or ethical expertise can coordinate the evaluation and responsible use of AI tools, and more research-oriented

members may be interested in leading the systematic collection and analysis of evidence concerning student learning and the effectiveness of new practices. Although there is a lead teacher or two in charge of each role, all members of the teaching team should, as far as possible, retain baseline technical and ethical competence, and contribute to their collective implementation.

For resource-constrained institutions, implementation may proceed through a staged, context-sensitive model. A first stage should establish the universal foundations represented by Roles 1 and 2, together with minimum technical and ethical capabilities from Roles 5 and 6. A second stage would address immediate pedagogical priorities by developing team-level capacity in learning architecture, intellectual guidance and assessment redesign (Roles 3 and 4), supported by colleagues with stronger technical and ethical expertise. A third stage could build capacity for disciplined experimentation and evaluation (Role 7), enabling institutions to determine which practices should be adapted, scaled or discontinued. This is not a rigid linear progression. Institutions can sequence and prioritise the faculty development for particular roles in response to local needs and timelines, while progressively building collective capacity across the seven roles.

3.1 | Teachers as Human-Centred Educators

As AI becomes increasingly capable of producing text, images, code, solutions, and recommendations, the distinctive contribution of higher education lies partly in cultivating qualities in students that cannot be reduced to machine performance (Grove & Harrison, in press; Saha et al., 2026). These include resilience, agility, confidence, ethical judgement, curiosity, empathy, integrity, and the capacity to act responsibly amid ambiguity.

Teachers need to design learning experiences that build these qualities explicitly and purposefully. Resilience can be developed when students are supported to work through difficulty, and learn from uncertainty rather than avoid it. Agility can be cultivated through tasks that require students to adapt to changing information, compare alternative approaches, and transfer knowledge across contexts. Confidence grows when students are given structured opportunities to articulate their reasoning, test ideas, collaborate with others, and recognise their own progress. Ethical judgement develops when students are asked to consider consequences, stakeholders, values, fairness, and accountability, especially in situations where there is no single correct answer.

This human-quality development should not be treated as an optional supplement to disciplinary learning. It should be embedded in every course through classroom activities, assessment, and feedback. For example, students may be asked to justify how they used AI in completing a task, explain how they responded to conflicting evidence, reflect on the limitations of a proposed solution, or consider the social consequences of a professional decision. Such activities help students move beyond technical competence towards responsible agency.

The teacher's role is therefore both pedagogical and formative, grounded in the relational and ethical dimensions of education (Felten & Lambert, 2020). Teachers create learning environments in which students feel sufficiently supported to take intellectual risks, sufficiently challenged to move beyond superficial answers, and sufficiently guided to connect knowledge with values and action. In this sense, human-centred teaching in the AI era is about deliberately cultivating the human capabilities, dispositions, and relationships that enable students to navigate complexity and contribute meaningfully to society.

3.2 | Teachers as Disciplinary and Professional Experts

In the AI era, university teachers maintain the important role of being interpreters, critics, and renovators of disciplinary and professional expertise. Students need to understand how knowledge is produced, validated, contested, and applied in particular fields. They need to learn what counts as relevance, evidence, rigour, ethical practice, and professional judgement in their discipline or profession.

AI can produce fluent and plausible outputs, but it can also produce bias and generate claims that appear convincing but are unreliable (Bender et al., 2021; Ji et al., 2023). Teachers play a crucial role in helping students critique surface fluency, and showing how experts ask questions, evaluate evidence, conduct experiments, interpret uncertainty, and make responsible decisions.

At the same time, AI is reshaping many disciplines and professions from within. Teachers must help students understand how their fields are changing, what kinds of knowledge and judgement remain essential, what new capabilities may be required, and how disciplinary learning should prepare them for evolving professional and societal contexts.

3.3 | Teachers as Learning Architects and Intellectual Guides

As learning architects, teachers design experiences that help students engage deeply with concepts, contexts, problems, tools, evidence, and alternatives. In the AI

era, this includes designing purposeful interactions among students and teachers, between students and AI systems, and between students and wider professional or community contexts. Learning design must move beyond content delivery and product development to structured opportunities for inquiry, dialogue, experimentation, critique, reflection, and application.

Teachers are also intellectual guides. They help students ask better questions, interrogate assumptions, evaluate AI-generated outputs, compare alternatives, and develop independent judgement. This is particularly important because AI can encourage cognitive offloading and premature closure: students may accept AI outputs before they have developed sufficient understanding of the underlying issue or the matter in the first place (Brooks & Elwesmi, 2026; Lodge & Loble, 2026; OECD, 2026). Teachers can deliberately deepen the learning process by requiring students to explain their prompts, justify their choices, verify sources, identify limitations, and revise their thinking.

3.4 | Teachers as Assessment (Re)Designers

Teachers should expect students to use AI and therefore rethink assessment accordingly. The more important consideration is how assessment can provide credible evidence of learning when AI can generate polished outputs (O'Sullivan et al., 2025; Verhoeven, 2026).

Assessment (re)design may include authentic contexts, staged tasks, process documentation, oral examination, viva-style defence, iterative feedback, collaborative work with individual accountability, reflective judgement, in-class performance, workplace-based assessment, and tasks requiring students to explain, critique, adapt, and justify their work. Students may be asked to document how they used AI, compare AI-generated responses, identify errors, defend decisions, or explain how their thinking changed through interaction with tools, peers, teachers, and external sources.

Teachers also need to revise assessment rubrics. If assessment criteria reward only polished final products, students will naturally focus on producing polished products. If universities want students to demonstrate learning, judgement, transparency, ethical use, and disciplinary reasoning, these qualities must be made clear to students in assessment criteria and descriptors.

3.5 | Teachers as Technically Competent and Critically Informed Professionals

Faculty development can no longer focus simply on how to use AI tools. Teachers need sufficient technical-pedagogical fluency to understand their affordances, limitations, risks, and relevance to teaching and learning. They need to know how students may use these tools, how outputs vary, where risks arise, and how AI may support or undermine learning.

Technical competence must be pedagogically grounded and critically informed. The key question to ask is what educational purposes a certain tool serves, what assumptions it carries, and what it might displace, distort, or make possible. Teachers need to understand AI tools as part of pedagogy, assessment, student support, disciplinary practice, and wider educational change, and make informed pedagogical decisions about whether, when, and how AI tools should be used in their courses.

3.6 | Teachers as Ethical Stewards

Teachers help students and institutions navigate questions of academic integrity, authorship, transparency, data privacy, bias, intellectual property, fairness, environmental cost (Jachna, 2024), accessibility, equity, and accountability (Perkins, 2023). Ethical stewardship involves more than enforcing rules. It requires cultivating responsible judgement in students' use of AI and digital systems (European Commission, 2026; UNESCO, 2021).

Students need to understand that AI use is not value-neutral. For example, AI tools may not understand local contexts; they may reproduce social bias, privilege dominant languages, and create unfair advantage. Teachers need to help students connect technical choices with actual needs and ethical consequences.

3.7 | Teachers as Educational Experimenters and Evidence-Based Practitioners

The rapid pace of technological change requires teachers to experiment with, evaluate, and refine their educational practices. Innovation in the AI era cannot rely on novelty alone. New AI-supported activities, assessment designs, authentic learning tasks, and feedback practices need to be studied, improved, and shared. Teachers need capabilities associated with the Scholarship of Teaching and Learning (SoTL): asking educational questions, designing interventions, gathering evidence, analysing student learning, reflecting critically, and disseminating findings (Boyer, 1990; Felten, 2013).

Teachers can work with academic staff, educational developers, technology specialists, learning technologists, learning analysts, professional staff, librarians, students, external partners, employers, and community organisations to engage in well-designed,

systematic teaching interventions and examine whether their (re)designed assessments, AI-supported activities, or world-connected learning modules actually support learning. Evidence may include student work, feedback, learning analytics, reflective accounts, peer review, and programme-level outcomes. By sharing their successes and challenges, teachers also contribute to institutional learning and quality enhancement.

4 Future Faculty Development Needs and Activities

The changing roles of university teachers imply a corresponding transformation in faculty development. Faculty development should help teachers, teaching teams, programmes, departments, and institutions build the capacities needed for human-centred, discipline-sensitive, ethically responsible, and future-oriented education, and should be a "sustained and comprehensive institutional commitment" (Pearson & AWS, 2026). The seven areas below correspond to the seven roles discussed in Section 3, while recognising that these roles may be distributed across academic staff, educational developers, technology specialists, learning technologists, learning analysts, professional staff, librarians, students, external partners, employers, and community organisations.

4.1 | Development in Human-Centred Education

If teachers are to act as human-centred educators who cultivate distinctively human qualities in students, faculty development must help them design learning environments that deliberately cultivate students' resilience, agility, confidence, ethical judgement, empathy, integrity, and capacity to act responsibly amid ambiguity. These qualities should not be treated as generic 'soft skills' detached from academic learning. Teachers need support in embedding them explicitly and purposefully within courses, assessments, feedback practices, classroom interaction, and programme design.

Faculty development can help teachers translate these qualities into concrete learning activities. For example, resilience can be developed through iterative tasks involving feedback, revision, difficulty, and reflection; agility through scenarios where information changes or students must transfer knowledge across unfamiliar contexts; confidence through structured opportunities to articulate reasoning, defend decisions, and present work-in-progress; and ethical judgement through ambiguous cases requiring students to consider stakeholders, consequences, fairness, and accountability, including in relation to AI use.

Teachers also need support in engaging with broader technological, economic, environmental, social, and political changes. This includes analysis of the job market and employer expectations, graduate futures, and strategies for teaching students to navigate uncertainty and non-linearity. Teachers themselves also need agility and resilience as educational conditions change.

Faculty development activities may include workshops on designing for resilience, agency, ethical reasoning, and adaptive learning; communities of practice (CoP) where teachers share strategies for cultivating human qualities within disciplinary contexts; and action research in which teachers examine whether their new activities help students develop these much-needed human qualities, future-readiness communities (Sun et al., 2026), employer and alumni roundtables, community dialogues, and foresight workshops. Such development should also create space for teachers to reflect on their own resilience, agility, empathy, and ethical judgement as they navigate rapidly changing educational environments.

4.2 | Development in Disciplinary and Professional Expertise and Curriculum Renewal in an AI-Rich World

Faculty need opportunities to learn how AI and digital technologies are reshaping disciplinary knowledge, professional standards, evidence, judgement, practice, and graduate pathways. This includes discipline-specific discussion of how AI affects knowledge acquisition, professional responsibility, and what students need to learn in order to participate meaningfully in their fields.

In view of the changes AI is bringing to the wider world, including its impact on entry-level jobs and employer expectations, faculty development should support curriculum relevance and renewal. If curricula are to remain relevant, programme teams need opportunities to reconsider what students should learn, how disciplinary knowledge is changing, what forms of human judgement and professional capability remain essential, and how graduates can contribute meaningfully in AI-rich workplaces and societies (Hackl et al., 2026; Zheng, 2025).

Faculty development can involve programme teams identifying where curricula may become dated, where key skills and attributes should be embedded, how these can start earlier in the curriculum, and where students need stronger preparation for changing professional and societal contexts. Activities can include programme-level curriculum mapping and review, engagement with professional bodies, employer and alumni roundtables, external expert input, peer sharing, and collaboration with industry partners.

4.3 | Development in Learning Architecture, Intellectual Guidance, and World-Connected Learning

Teachers need support in designing learning experiences that go beyond content delivery and product development. As learning architects and intellectual guides, they need to create structured opportunities for inquiry, dialogue, experimentation, critique, reflection, application, and responsible interaction with AI systems. Faculty development can support teachers in designing purposeful interactions among students and teachers, between students and AI systems, and between students and wider professional or community contexts.

Faculty development should also support authentic world-connected learning. Activities can include inviting external experts to help design short industry- or profession-specific modules that they can co-teach, community-engaged projects, simulations, and real-world case-based learning to develop students' future-oriented capabilities. Such modules should be regularly reviewed and updated as technologies, labour markets, and social conditions change.

Many AI-related challenges transcend disciplinary, institutional, cultural, and national boundaries; consequently, an increasing number of universities are planning inter/transdisciplinary programmes and courses. Teachers need support in designing such learning experiences, including helping students work on complex problems that require multiple forms of knowledge.

Faculty development may include learning design studios, inquiry-based learning workshops, prompt and critique activities, peer review of learning tasks, transdisciplinary curriculum design workshops, cross-disciplinary teaching labs, peer sharing, systems thinking, stakeholder mapping, scenario analysis, and collaborative online international learning. These activities can help teachers design learning experiences in which students engage complex problems that cross disciplinary, institutional, cultural, and national boundaries.

4.4 | Development in Assessment (Re)Design

Teachers need practical support to (re)design assessment so that it remains meaningful and credible in an AI-rich environment. This includes designing thoughtful tasks that make students' learning processes, disciplinary reasoning, judgement, and responsible AI use visible (Yan & Gašević, 2026). Assessment may include staged submissions, process documentation, oral defence, in-class performance, reflective commentaries, authentic tasks, workplace-based assessment, and collaborative projects with individual accountability.

Faculty development activities can include assessment (re)design clinics, experience-sharing workshops, banks of (re)designed assessments, peer review of assessment tasks, AI-aware rubric development, and consultant feedback on (re)designed tasks and rubrics. Teachers also need a clear institutional policy and guidance on how to communicate their revised expectations to students, including when AI use is permitted, required, restricted, or inappropriate.

4.5 | Development in Technical-Pedagogical and Critically Informed AI Capability

Faculty need opportunities to learn how to use AI and digital technologies competently, critically, and pedagogically. This includes tool familiarisation, prompt practices, AI-supported feedback, AI-assisted content development, learning analytics, local or institutional AI models, and the limits of automation. Teachers need sufficient fluency with AI tools to understand their affordances, limitations, risks, and relevance to teaching and learning (UNESCO Institute for Lifelong Learning & Shanghai Open University, 2025).

Faculty development activities may include AI workshops, tool familiarisation sessions, prompt practice, AI-supported feedback design, AI-assisted content development, learning analytics support, training on local or institutional AI models, peer demonstrations, teaching showcases, tool evaluation, and collaboration with educational developers, technology specialists, learning technologists, learning analysts, and professional staff.

An important point to note is that faculty development should include critical evaluation of the use of technology in pedagogy. Teachers need to ask when AI enhances learning, when it reduces productive struggle, when it creates dependency, and when it reproduces inequity. The aim is not simply technological adoption but beneficial technology-pedagogy integration.

4.6 | Development in Ethical Stewardship, Responsible AI Use, and AI Policy Literacy

Whether in designing assessment, curriculum, or inter/transdisciplinary learning, teachers need support in understanding responsible AI use and helping their students enact such responsibility. Related topics that they need to consider include academic integrity, transparency, authorship, bias, privacy, data governance,

intellectual property, accessibility, equity, environmental cost, and accountability.

Faculty development may include scenario-based workshops, ethical case discussions, policy interpretation sessions, and discipline-specific guidelines for responsible AI use. Training sessions should also help teachers interpret institutional frameworks and translate them into meaningful guidance for students.

The development of AI policy literacy also requires teachers to exercise agency beyond the classroom by participating in institutional AI governance. As AI technologies evolve rapidly, policymaking has become more iterative, distributed, and responsive to emerging educational practice. Institutional AI policies may no longer rely solely on top-down decision-making, but require input from educators whose day-to-day experiences reveal opportunities and unintended consequences of AI adoption.

Teachers should therefore move beyond implementing AI policies to helping shape them into cohesive strategies (Valentini & Blancas, 2025). Through faculty committees, institutional forums, and professional communities, educators can contribute disciplinary expertise to policy discussions, influence institutional directions, and advocate for governance that better reflects educational realities. AI policy literacy is therefore not only the ability to understand AI policies, but also the capacity to participate in creating more agile, evidence-informed, and collectively owned AI governance.

4.7 | Development in Educational Experimentation, SoTL, and Evidence-Based Improvement

Teachers need to be supported as educational experimenters and evidence-based practitioners. In the AI era, new AI-supported activities, assessments, and curriculum designs should be evaluated, refined, and shared. Faculty development can focus on building capacity in the SoTL, including educational research design, evaluation methods, reflective inquiry, and dissemination.

Activities may include SoTL workshops, educational research mentoring, micro-grants, student partnership projects, learning analytics support, and teaching innovation sharing forums. Such support can help teachers move from ad hoc experimentation to systematic quality enhancement, generating evidence about what works, for whom, in what contexts, and why.

If future teaching becomes more collective and differentiated, faculty development also has to support distributed expertise. Some academics may specialise in one or more of the following: learning design, mentoring, assessment, disciplinary AI integration, programme leadership, external engagement, or educational research. Educational developers, technology specialists, learning technologists, learning analysts, professional staff, librarians, students, external partners, employers, and community organisations may also play important roles.

Faculty development should therefore include team-based models and role-specific pathways, not only individual workshops. Role-mapping exercises and leadership development can help institutions build coherent educational ecosystems and see where the gaps may lie and where diverse expertise is needed.

5 A Role-Based Framework for Faculty Development

This commentary proposes a preliminary role-based framework for faculty development in the AI era. The framework is skeletal rather than fully elaborated. Its purpose is to conceptualise emerging roles of the future university teacher and to identify the capabilities that teaching teams, programmes, departments, and institutions may need to cultivate.

While the first two roles in Table 1—namely, human-centred educator and disciplinary and professional expert, should arguably remain universal among university teachers, some other roles may be held more strongly by particular academics or distributed across teams. Academic staff, educational developers, technology specialists, learning technologists, learning analysts, professional staff, librarians, students, external partners, employers, and community organisations may all contribute to the wider teaching ecosystem.

This framework is not intended as a checklist for individual academic performance. Its value lies in helping universities ask strategic questions, such as: Which roles are essential for our educational mission? Which roles should all teachers develop? Which roles can be distributed across teams? What institutional structures are needed to support teachers? The framework is also intended for educational development units in universities to use as a tool for planning more coherent, role-sensitive, and future-oriented faculty development through identifying priority areas and aligning faculty development with broader institutional strategies for teaching and learning in the AI era.

6 Conclusions

The advent of AI and digital intelligence is pushing universities to reconsider the purposes, methods, and values of higher education. Assessment (re)design, curriculum reform, ethical governance, and graduate

Table 1 A preliminary role-based faculty development framework

Domain	Emerging teacher role	Faculty development focus	Possible activities and support	Illustrative vignette
Human-centred education	Human-centred educator	Cultivating resilience, agility, confidence, empathy, integrity, ethical judgement, responsible action, and future readiness	Workshops on human quality development; CoP; action research; reflective practice; future-readiness activities; employer and alumni roundtables; community dialogues; foresight workshops	• A new CoP focuses on helping teachers cultivate students' human qualities to prepare them for an AI- and robot-saturated future • In the CoP, faculty share research results on employer expectations, and discuss designing in-class learning tasks that add friction to learning and deliberately include challenges to cultivate resilience and adaptability
Disciplinary and professional expertise and curriculum renewal	Disciplinary and professional expert	Understanding how AI reshapes disciplinary knowledge, professional standards, evidence, judgement, curriculum relevance, graduate pathways, and employer expectations	Programme mapping; curriculum review; professional body engagement; employer and alumni roundtables; external expert input; peer sharing; collaboration with professional bodies, employers, industry experts, and external experts	• Programme teams engage in curriculum renewal workshops in which faculty examine how AI is changing knowledge, professional practice, entry-level work, and expectations within their discipline • They can map existing learning outcomes against emerging professional requirements and identify where disciplinary judgement, human expertise, and AI-related capabilities need to be strengthened • Employers, alumni, and professional experts contribute cases illustrating how AI is changing authentic workplace practices and graduate roles • Faculty adopt practice-oriented approaches to course design that shift the focus from tool demonstration towards industry-relevant cases • Real business cases from industry partners, including those where AI tools are part of the work, are built into courses • This also keeps course content current as professional practice changes
Learning design and intellectual guidance	Learning architect and intellectual guide	Designing inquiry-based, authentic, interdisciplinary and transdisciplinary, transnational, and world-connected learning, while guiding students' questioning, critique, and judgement	Learning design studios; inquiry-based learning workshops; world-connected modules; community projects; simulations; real-world cases; cross-disciplinary teaching labs; systems thinking; stakeholder mapping; scenario analysis; COIL	• Faculty participate in learning design studios in which they redesign an existing course around an authentic, complex problem that cannot be addressed adequately through AI-generated answers alone • Teachers develop activities requiring students to question assumptions, compare AI-generated and human-generated approaches, verify evidence, and defend their decisions • The resulting learning design combines disciplinary knowledge, AI interaction, dialogue, critique and collective reflection
Assessment	Assessment (re)designer	Making learning processes, disciplinary reasoning, judgement, responsible AI use, and individual accountability visible	Assessment clinics; experience-sharing; assessment banks; peer review; oral defence (viva) designs; process documentation; AI-aware rubrics; policy guidance	• Faculty attend experience-sharing sessions where peers demonstrate how they have transformed single-submission writing tasks into multi-staged processes to require students to document their learning trajectory, and how they have revised the assessment rubrics to prioritise critical reflection over final output • Faculty also participate in workshops on designing oral defence questions that probe students' decision-making process underlying the submitted work
AI capability	Technically competent and critically informed professional	Developing technical-pedagogical fluency in AI and digital technologies, understanding tool affordances, limitations, risks, and educational purposes	AI workshops; tool familiarisation; prompt practice; AI-supported feedback; AI-assisted content development; learning analytics; institutional AI model training; tool evaluation; peer demonstrations; teaching showcases	• Faculty take part in hands-on AI teaching labs where they experiment with a range of AI tools using authentic tasks from their own courses • They compare AI-generated outputs, examine limitations and errors, test different prompting strategies, and consider when AI enhances learning and when it may encourage cognitive offloading • Each participant then redesigns one teaching activity or resource to incorporate AI for a clearly defined pedagogical purpose • Faculty are supported through a series of webinars and short courses on designing and assessing students' work, organising individual and group work in the context of AI applications • The central question for such activities is where AI can assist students (gathering data, drafting, generating research questions), and where it would affect the disciplinary thinking that the task is meant to develop

(continued)

Domain	Emerging teacher role	Faculty development focus	Possible activities and support	Illustrative vignette
Responsible technology and governance	Ethical steward	Supporting responsible AI use, academic integrity, privacy, equity, accessibility, environmental responsibility, accountability, and participation in AI governance	Scenario workshops; ethical case discussions; policy interpretation; governance forums; discipline-specific guidelines; student guidance	● Faculty work through a series of discipline-specific scenarios involving academic integrity, authorship, privacy, bias, intellectual property, accessibility, and responsible AI use ● They analyse the scenarios against institutional policies and national legislation (if any). They discuss how different decisions might affect students and other stakeholders ● Faculty then contribute their disciplinary perspectives to an institutional forum to develop practical guidance for responsible AI use and identify policy issues requiring further institutional attention
Educational improvement	Educational experimenter and evidence-based practitioner	Evaluating and sharing AI-supported teaching, assessment, curriculum innovation, distributed expertise, and role-specialised educational practice	SoTL workshops; research mentoring; micro-grants; student partnerships; learning analytics support; sharing fora; role-mapping; team-based development; role-specific pathways; leadership development	● A teaching team across disciplines receives a small SoTL grant to investigate whether a newly redesigned AI-supported assessment improves students' learning and judgement ● The team defines evaluation questions, collects evidence from student work, learning analytics, student feedback, and teacher reflections, and reviews the findings with students and colleagues ● The team uses the evidence to refine the assessment, shares the results through an institutional teaching forum, and identifies which practices should be adapted, scaled, or discontinued

Notes. COIL: collaborative online international learning; CoP: communities of practice; SoTL: Scholarship of Teaching and Learning.

preparation are fundamental to the rethinking of education in the age of AI, and faculty development connects them all. Faculty development creates spaces where teachers' experiences, concerns, experiments, and professional judgement inform institutional strategy and shape how universities respond to AI. It is also through faculty development that institutional aspirations and directions are translated into grounded practices of teaching, learning, assessment, curriculum design, and student support.

Teachers need strategic and context-sensitive support to (re)design assessment, renew curricula, cultivate human qualities in their students, and prepare students to engage responsibly with AI and navigate uncertain futures. Future faculty development should empower teachers to guide the human development that technological change demands. This includes strengthening human-centred education, disciplinary judgement, ethical responsibility, authentic assessment, world-connected curriculum, and future readiness. Such faculty development should operate at both the individual and team levels as the emerging educational landscape points towards more collective and ecosystemic forms of teaching practice.

The unique contribution of this commentary lies in the role-based framework proposed in Section 5, which provides a structured approach to addressing the systemic pressure points identified in Section 2. Rather than relying on fragmented, tool-centric training, the framework operationalises responses to the key challenges identified by the GaPI panel. The assessment (re)designer addresses the emerging evidentiary crisis in assessment; the disciplinary and professional expert extends basic tool literacy towards meaningful, field-specific AI capability; and the learning architect translates the demand for authentic, world-connected learning into structured educational practice. In parallel, the roles of ethical steward and educational experimenter position teachers as active contributors to institutional dialogue, fostering the bottom-up AI policy literacy needed to navigate continuing technological uncertainty. By connecting institutional aspirations with classroom realities, the framework reframes faculty development from a reactive operational function into a proactive driver of educational renewal.

Although this commentary refers to the 'university teacher', the roles discussed here need not be, and are increasingly not, performed by a single individual. As educational design and delivery become more complex in the age of AI, higher education must be understood more explicitly as a collective endeavour involving people with different forms of expertise. Academic staff, educational developers, technology specialists, learning technologists, learning analysts, professional staff, librarians, students, external partners, employers, and community organisations all have important roles to play in sustaining high-quality education.

Ultimately, universities should not focus merely on technological adaptation in the AI era, but should confront the far deeper challenge of clarifying what remains educationally and socially worth cultivating

when digital systems can increasingly generate content, automate tasks, and simulate expertise. Faculty development has a central role to play in this endeavour. Universities that invest in this central role will be positioned to build teaching cultures that are experimental but principled, technologically informed yet human-centred, and future-oriented while remaining grounded in enduring educational values.

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