

INTELLIGENT TECHNOLOGIES IN EDUCATION

AI Power Up: Prioritising Student Learning

Julie Lindsay^a, Katrina Cutcliffe^a, Lachlan Mears^a

^aUniversity of Southern Queensland, Australia

Abstract

This paper presents a design-based research (DBR) case study examining how a community-of-practice-driven process can operationalise UNESCO's AI Competency Framework for Students (Miao & Shiohira, 2024) through the development of an institution-wide AI literacy resource in a predominantly online learning context. Drawing on socio-cultural learning theory, experiential learning, and critical digital pedagogy, the case study saw the researchers position AI literacy not as a technical skill set but as a socially situated, reflective, and ethically mediated practice. The case under discussion is the collaborative generation of the resource, AI Power Up: Supercharge Your Learning, by the Artificial Intelligence Pedagogy Project (AIPP) at the University of Southern Queensland, which brought together academics, learning designers, librarians, and professional staff to address student confusion and anxiety around AI use in academic contexts. Informed by Universal Design for Learning (UDL) principles and structured across four modules (AI Foundations, AI for Learning, AI for Academic Writing, and AI for Assessment), the resource integrates video, interactive H5P activities, and reflective prompts to develop both AI awareness and AI literacy across disciplines. Early implementation data indicate positive engagement, with 2,596 views by 582 users in the first trimester of deployment. This paper reflects critically on the design process, implementation challenges, and the limitations of early-stage evidence, while identifying transferable principles for institutions seeking to support ethical, inclusive, and pedagogically grounded student engagement with AI in higher education.

Keywords

Artificial Intelligence, Universal Design for Learning, Generative AI, Higher Education, AI Literacy Frameworks, Generative AI Ethics, UNESCO AI Competency Framework

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36

37 Introduction

38 The rapid integration of generative artificial intelligence (GenAI) into higher education (HE) has intensified
39 long-standing questions about how students learn, how knowledge is constructed, and how agency is
40 exercised within digitally mediated environments. Since the introduction of user-friendly interfaces such as
41 ChatGPT, HE institutions worldwide have been required to respond quickly to both the perceived
42 opportunities and risks associated with AI-enhanced learning. While AI technologies offer considerable
43 potential to personalise learning, support student engagement, and enhance productivity, they also raise
44 significant concerns related to academic integrity, ethical use, cognitive offloading, and the erosion of
45 critical and creative thinking skills (Bozkurt et al., 2024; Chen et al., 2025; Francis et al., 2025). These
46 tensions underscore the need for pedagogical approaches that move beyond instrumental or deficit framings
47 of AI and instead foreground learning as a reflective, socially situated, and ethically mediated process.

48 Within HE, GenAI is increasingly positioned as both a support mechanism and a source of disruption.
49 Students are engaging with AI tools for a wide range of academic purposes, including ideation, drafting,
50 summarisation, and research support, often with limited formal guidance (Attewell, 2025; Jisc, 2023). At
51 the same time, educators report uncertainty regarding appropriate pedagogical responses, inconsistent
52 institutional messaging, and a lack of shared understanding about ethical and effective AI use in learning
53 and assessment (Robert et al., 2025; UNESCO, 2025). In this context, students may receive mixed or
54 contradictory signals about whether AI is permissible, beneficial, or risky, contributing to confusion,
55 anxiety, and uneven learning opportunities (Attewell, 2025; Chen et al., 2025; UNESCO, 2025). Rather
56 than viewing AI solely as a threat to academic integrity or a productivity tool, there is growing recognition
57 that students require structured, explicit support to develop informed judgment about when, why, and how
58 AI should be used to support learning (Bozkurt et al., 2024; Chen et al., 2025; Robert et al., 2025).

59 Within this dichotomy of mixed benefits and challenges, frameworks for AI literacy and competency are
60 emerging. This paper focuses on the UNESCO *AI Competency Framework for Students* (Miao & Shiohira,
61 2024) and its influence and role in artefact development to support student AI use. It is the first-ever global
62 framework of its kind that aims to articulate a vision of students as conscious, ethical, and creative decision-
63 makers in relation to AI systems. In addition to helping educators integrate AI into their teaching, it aims
64 to equip students with the values, knowledge, and skills necessary to examine and understand AI critically
65 from a holistic perspective, including its ethical, social, and technical dimensions. While such frameworks
66 provide essential policy and aspirational guidance, they do not prescribe how students develop these
67 competencies through lived learning experiences, nor how institutions might operationalise ethical AI
68 literacy within everyday teaching and learning practices.

69 This paper addresses that gap by focusing on the design and implementation of a student-facing AI literacy
70 resource, *AI Power Up: Supercharge Your Learning*, developed at the University of Southern Queensland
71 (UniSQ), a regional Australian university with a predominantly online student cohort. In online and
72 distributed learning contexts, where students often rely on asynchronous resources and self-directed study,
73 the need for clear, consistent, and pedagogically grounded guidance on AI use is particularly acute. The AI

74 Power Up resource was developed through a cross-institutional community of practice (CoP) called the
75 Artificial Intelligence Pedagogy Project (AIPP) bringing together academics, learning designers, librarians,
76 and professional staff to respond collaboratively to emerging challenges around student AI use.

77 Rather than positioning AI as a technical skill set to be mastered or a risk to be mitigated, the development
78 of *AI Power Up* was informed by socio-cultural learning theory, experiential learning, and critical digital
79 pedagogy. From this perspective, AI is understood as a mediating artefact within a broader learning
80 ecosystem, shaping and shaped by social interaction, institutional norms, and ethical considerations. The
81 project was created to reimagine traditional approaches to education, improve student outcomes, and foster
82 innovation in teaching and assessment methods. In 2024, as AI awareness and use escalated, it became
83 obvious to staff connecting in the AIPP that students were confused, and mixed messages were being given
84 about what AI to use and how to use it, especially in terms of critical and ethical use, and particularly for
85 assessment.

86 This paper presents a design-based research (DBR) case study of the conception, development, and early
87 implementation of the AI Power Up resource, drawing on established DBR methodological frameworks
88 (Design-Based Research Collective, 2003; Anderson & Shattuck, 2012). It contributes to the growing body
89 of scholarship on AI in higher education by demonstrating how AI literacy can be operationalised as a
90 socially situated, practice-based, and ethically informed learning process. The paper first reviews relevant
91 theoretical and empirical literature on learning with AI, before outlining the design-based research
92 methodology underpinning the project. It then describes the resource design and implementation, followed
93 by reflections on its early uptake and implications for supporting student learning with AI in higher
94 education.

95

96 **Literature review**

97 **Theoretical perspectives on learning with AI in higher education**

98 To deepen theoretical engagement, this study draws on three complementary learning traditions: socio-
99 cultural learning theory, experiential learning, and critical digital pedagogy. Together, these perspectives
100 position learning with artificial intelligence not as an individual or purely technical activity, but as a socially
101 situated, practice-based, and ethically mediated process that foregrounds learner agency and institutional
102 responsibility.

103 From a socio-cultural perspective, learning is understood as occurring through interaction with others and
104 through engagement with mediating artefacts within specific cultural and institutional settings (Vygotsky,
105 1978; Lave & Wenger, 1991; Wenger, 1998). In this view, AI functions as a cultural tool that mediates
106 thinking, meaning making, and participation rather than acting as a neutral or autonomous tutor. Learning
107 emerges through participation in communities of practice where knowledge, norms, and values are
108 negotiated collectively. This framing aligns with the present study's emphasis on a whole-institutional CoP
109 and the design of AI Power Up as a shared mediating resource that supports consistent, human-centred
110 engagement with AI across disciplines. It is particularly relevant in AI-mediated contexts, where learning
111 is shaped not only by human interaction but by the affordances, constraints, and values embedded within
112 AI systems themselves.

113 Experiential learning theory further illuminates how students develop AI literacy through cycles of action,
 114 reflection, and adaptation (Kolb, 1984; Schön, 1983). As students interact with AI tools, reflect on ethical
 115 implications, and apply insights to academic tasks, learning occurs through iterative experimentation rather
 116 than passive consumption. This perspective foregrounds reflective judgment, metacognition, and the
 117 development of learner agency. These qualities are increasingly essential in AI-mediated educational
 118 environments. Within AI Power Up, experiential learning is enacted through scenario-based activities,
 119 interactive elements, and reflective prompts that encourage learners to test AI use, evaluate outcomes, and
 120 refine their practices.

121 While competency frameworks provide important guidance for AI integration, critical digital pedagogy
 122 (Stommel et al., 2020; Watters, 2021) prompts deeper questions about power, agency, and justice in AI-
 123 enhanced learning environments. Drawing on Freire's (1970) notion of education as consciousness-raising
 124 rather than mere skill transfer, critical digital pedagogy emphasises students' capacity to question dominant
 125 technological narratives, recognise embedded biases, and make informed decisions about when and how
 126 AI should be used within and beyond formal assessment contexts. This orientation aligns with UNESCO's
 127 framework that provides aspirational direction for this work. Positioning AI competency as encompassing
 128 not just technical skills but human-centred mindsets, ethical reasoning, and the capacity to contribute to just
 129 and inclusive AI societies (Miao & Shiohira, 2024; UNESCO, 2025).

130 Taken together, socio-cultural learning theory, experiential learning, and critical digital pedagogy provide
 131 a coherent theoretical foundation for examining AI-enhanced learning as a socially situated, practice-based,
 132 and ethically charged process. These perspectives inform the design of AI Power Up as a mediating artefact
 133 that supports student agency, reflective judgment, and participation within a broader learning ecosystem.
 134 Table 1 summarises how these theoretical perspectives directly informed the pedagogical design decisions
 135 underpinning AI Power Up.

136

137 **Table 1.** Theoretical perspectives informing the design of AI Power Up

Theoretical perspective	Core learning assumptions	Design implications in AI Power Up
Socio-cultural learning	Learning is socially situated and mediated by cultural tools	AI Power Up as a shared institutional artefact; community-of-practice design; consistent cross-disciplinary messaging
Experiential learning	Learning occurs through cycles of action and reflection	Interactive H5P activities; scenario-based ethics; reflective prompts on AI use
Critical digital pedagogy	Learning involves questioning power, ethics, and agency	Emphasis on human-centred AI; ethical decision-making; rejection of deficit and surveillance narratives

138

139 **Generative AI in higher education: Opportunities and challenges**

140 The advent of AI, particularly GenAI, has rapidly transformed the educational landscape, presenting both
 141 profound opportunities and significant challenges for learning and teaching practices within HE (Chen et

142 al., 2025; Bozkurt et al., 2024; Georgieva & Stuart, 2025). At its core, AI offers the potential for highly
143 personalised and adaptive learning experiences, tailoring instruction to individual student needs,
144 preferences, and learning paces (Airaj, 2024; Ajani et al., 2024; Francis et al., 2025). AI can enhance
145 educator efficiency by freeing them to focus on more impactful, higher-order pedagogical tasks and student
146 engagement (Ajani et al., 2024; Attewell, 2025; Francis et al., 2025; Cukurova & Miao, 2024). However,
147 this transformative potential is balanced against substantial risks. Major concerns include the erosion of
148 academic integrity, with GenAI facilitating cheating and plagiarism due to its ability to produce
149 sophisticated, human-like content that is difficult to detect (Francis et al., 2025; Liu & Bridgeman, 2025).
150 Over-reliance on AI also threatens the development of critical thinking, problem-solving, and creativity,
151 potentially leading to superficial learning, cognitive offloading, and a reduction in meaningful intellectual
152 growth (Chen et al., 2025; Francis et al., 2025; Robert et al., 2025). These challenges demand that education
153 systems proactively adapt to ensure AI augments human capabilities rather than replacing them (Bozkurt
154 et al., 2024; Robert et al., 2025; Cukurova & Miao, 2024).

155

156 **AI literacy, readiness, and the student–educator divide**

157 To effectively cope with and integrate AI, both educators and students require support, including a multi-
158 faceted approach centred on AI literacy, clear ethical frameworks, and pedagogical redesign. A definition
159 of AI literacy is the ability to be aware of, and comprehend, AI technology in practical applications; to
160 apply and exploit it for tasks proficiently; and to analyse, select, and critically evaluate AI-provided data
161 and information while fostering personal responsibilities and respecting rights and obligations (Chen et al.,
162 2025).

163 Educator readiness to use AI with students is currently significantly less advanced than student engagement
164 and is often characterised by a lack of clear institutional policies and sufficient support (Robert et al., 2025;
165 Francis et al., 2025). Educators' responses to GenAI have varied widely, from enthusiastic adoption to
166 outright bans, often leaving individuals to navigate these complex issues without clear guidance (Chen et
167 al., 2025; UNESCO, 2025). While some educators are early adopters, leveraging AI for tasks such as lesson
168 planning, quiz development, and drafting syllabi (Chen et al, 2025; Jisc, 2023), many face substantial
169 complexities in adapting to new digital tools and lack adequate AI literacy themselves (Francis et al., 2025).
170 Challenges include increased workloads, insufficient training and support, and concerns that over-reliance
171 on AI may depersonalise education, devalue human expertise, and lead to superficial learning outcomes
172 (Bozkurt et al., 2024; Robert et al., 2025; UNESCO, 2025).

173 Student readiness and understanding of AI reflect a complex picture of proactive, self-driven engagement
174 alongside significant needs for formal guidance and structured development. A substantial portion of
175 university students have already engaged with GenAI tools for various academic tasks, including idea
176 generation, writing assistance (proofreading, paragraph generation), information condensing,
177 summarisation, outlining, and research (Abassi et al., 2025; Attewell, 2025; Jisc, 2023). Students often
178 perceive AI as a "24/7 free assistant" that enhances efficiency and creativity (Chen et al., 2025; Francis et
179 al., 2025; Jisc, 2023). However, according to Chen et al. (2025), students are not fully prepared, exhibiting
180 limited prior knowledge, experience, or confidence in using GenAI effectively. A notable gap exists in their
181 understanding of academic integrity, with many students not perceiving AI use in coursework as a breach,
182 considering it akin to brainstorming or tutoring services, while simultaneously acknowledging it could be
183 cheating (Attewell, 2025). Interestingly, Chen et al. (2025) and Attewell (2025) found that students without

184 direct experience of AI tools are less interested in learning about them, which could disadvantage them in
185 an AI-driven job market. To address the need to understand ethical and appropriate use of GenAI for
186 learning, students universally request explicit guidance from instructors in course syllabi and university
187 policies (Chen et al, 2025; Schwartzkoff, 2024; Attewell, 2025). They emphasise the need for practical
188 support, clear policies, consistent guidance, and training in how to use AI responsibly, including skills like
189 prompt writing and fact-checking.

190 **Institutional responses and AI literacy frameworks in higher education**

191 HE institutions are responding with various strategies and AI literacy frameworks to improve student and
192 staff readiness. Each of these is a response to contextual needs acknowledging the culture of learning at the
193 institution and challenges of AI integration into learning. At the University of Sydney, for instance, a co-
194 designed "AI in Education" guide provides clear ethical guidelines (for example, check what is allowed,
195 acknowledge AI, be cautious/critical, develop skills, do not enter sensitive information, be creative)
196 demonstrating AI's potential to boost learning (Liu & Bridgeman, 2025; Schwartzkoff, 2024). Similarly,
197 the University of Florida's "AI Across the Curriculum Initiative" aims to create an "AI-ready workforce"
198 through pedagogical and curricular development (Chen et al., 2025). Institutions are also working to provide
199 access to core AI tools, such as Microsoft Copilot and Google Gemini, to prevent widening digital divides
200 and enhance learning experiences.

201 A combination of curriculum innovation, training, ethical guidance, and technology access helps prepare
202 students to understand, use, and critically engage with AI responsibly in their studies and future careers
203 (Attewell, 2025; Robert et al., 2025). Wang et al. (2023) propose models such as the technological-
204 cognitive-ethical and the KSAVE (knowledge, skills, attitudes, values, and ethics) for AI literacy,
205 emphasising practical application and critical evaluation alongside personal responsibilities. Andreas Horn
206 (UNESCO, 2025) outlines three key pillars for AI literacy: conceptual understanding of AI systems, critical
207 questioning of their behaviour and biases, and creative application in practice. Another approach taken at
208 Harvard is shared by Acar (2023) that details five key skills for GenAI use that students require and a four-
209 step framework to learn these. The University of Groningen, Netherlands, has a publicly available online
210 module 'Introduction to the Critical AI Literacy' that uses AI-generated video to share concepts
211 (EduSupport, n.d.). As a final example (among many more), the "ETHICAL" GenAI Readiness Framework
212 by Luckin et al. (2022) offers a structured, seven-step approach to help educators achieve AI literacy,
213 progressing from initial engagement with AI possibilities to iterative refinement of its use.

214

215 **UNESCO's AI Competency Framework and implications for student learning**

216 UNESCO has taken a leadership role in AI literacy by developing "twin" AI competency frameworks for
217 both students and teachers, designed to prepare individuals to be responsible and creative citizens and
218 educators in an AI-driven world and to provide a global reference for national frameworks, teacher training,
219 and assessment parameters (Cukurova & Miao, 2024; Miao & Shiohira, 2024; UNESCO, 2025). The
220 UNESCO AI Competency Framework for Students is the first global framework of its kind, outlining 12
221 competencies across four dimensions: Human-centred mindset, Ethics of AI, AI techniques and
222 applications, and AI system design. These competencies span three progression levels: Understand, Apply,
223 and Create, with the goal of fostering critical judgment of AI solutions, awareness of civic responsibilities,
224 foundational AI knowledge, and inclusive, sustainable AI design. The framework is explicitly anchored in

225 principles of human rights, inclusion, and equity, aiming to empower students to make meaningful use of
226 AI, critically evaluate its implications, and contribute to ethical AI regulations (Miao & Shiohira, 2024;
227 UNESCO, 2025). The framework encourages students to understand AI as human-led and to critically
228 examine its presence in education and society, including risks like surveillance, bias, and the potential to
229 undermine human intellectual skills and privacy (Chen et al., 2025; Miao & Shiohira, 2024). Pedagogical
230 methodologies suggested within the framework emphasise problem-based and project-based learning, and
231 scenario-based practices, often with an emphasis on local relevance and social inclusion (Miao & Shiohira,
232 2024). This framework, therefore, provides clear guidance to educators on the aspirational qualities for
233 student competence in AI. As such, it provided clear direction to the design process for the student-facing
234 resource AI Power Up created by a CoP within the researcher's own context, UniSQ. These theoretical
235 perspectives informed both the pedagogical intent of the AI Power Up resource and the selection of a
236 design-based research methodology, which foregrounds learning as situated, iterative, and socially
237 negotiated.

238 What uniquely distinguishes the AI Power Up resource is its direct operationalisation of UNESCO's
239 holistic, rights-based competency framework translated through a localised Community of Practice (CoP)
240 at UniSQ. Unlike top-down institutional mandates or standalone asynchronous tool-training modules, AI
241 Power Up employs a design-based research methodology that distinctly foregrounds AI literacy as a
242 situated, iterative, and socially negotiated learning process. By synthesising UNESCO's aspirational global
243 competencies, such as critical judgment, civic responsibility, and inclusive design, with a deeply
244 contextualised CoP model, AI Power Up uniquely bridges the gap between high-level global ethical
245 frameworks and the socially negotiated, context-driven realities of student learning.

246

247 **Methodology**

248 This study focused on the conception, design, and deployment of the AI Power Up resource within UniSQ
249 during 2024–2025. The project brought together academics, learning designers, librarians, and professional
250 staff participating in the AIPP Community of Practice, each contributing their disciplinary knowledge and
251 lived experiences. When working with emerging educational technologies, methodological decisions must
252 acknowledge their complexity, rapid evolution, and the human experiences that shape their use (Creswell,
253 2014). In the context of AI in higher education, this includes students, academics, and professional staff
254 who interact with AI in varied and sometimes unpredictable ways.

255 The collaborative nature of DBR strengthens research by integrating theory with practice, adding rigour to
256 both the development process and the intended resource output (Anderson & Shattuck, 2012; Design-Based
257 Research Collective, 2003). In settings where variables and outcomes are unpredictable, the inherent
258 “messiness” of DBR enables authentic, contextually grounded solutions that collectively support university
259 members. Whether through building AI resources, discussing policy, or fostering ethical and informed
260 student practice. The collective design process empowers individuals to contribute meaningfully,
261 improving educational practice through DBR's pragmatic grounding and iterative cycles (Wang &
262 Hannafin, 2005). Data informing the DBR cycles consisted of community-of-practice discussions, meeting
263 artefacts, draft iterations, anecdotal student and staff feedback, and engagement metrics collected through
264 the learning management system. These inputs were reviewed collaboratively, allowing the research team
265 to surface shared themes, refine design decisions, and evaluate emerging insights.

266 DBR recognises the importance of contextual factors, particularly the regional and digital affordances of
267 one's university environment. This lens enabled the researchers to explore both internal and external
268 assumptions, knowledge, and understandings of AI, and to deepen relationships between learners,
269 educators, and AI systems. By foregrounding lived experiences, contextual nuances, and socio-technical
270 dynamics, DBR contrasts with positivist approaches that emphasise quantifiable outcomes. Instead, it
271 supports exploration of meaning-making, agency, ethics, and the evolving role of AI in higher education.
272 Domains where student behaviours and perceptions are deeply shaped by institutional expectations,
273 learning cultures, and technological capabilities.

274 Consistent with DBR principles, the study progressed through interconnected cycles of analysis, design,
275 implementation, and evaluation (McKenney & Reeves, 2013). The analysis stage identified institutional
276 challenges regarding staff and student readiness for AI through discussions, anecdotal insights, and
277 environmental scanning of global AI literacy frameworks. The design stage centred on collaborative
278 ideation within a cross-institutional CoP, with iterative brainstorming, drafting, and refinement.
279 Implementation involved embedding the resource across diverse higher education contexts, followed by
280 evaluative reflection informed by engagement metrics, user feedback, and practitioner insights.

281 Although DBR strengthens ecological validity and supports practitioner ownership, it does have limitations.
282 Its iterative nature relies on ongoing collaboration and can limit replicability due to contextual specificity
283 (Anderson & Shattuck, 2012). Despite this, DBR's grounding in authentic contexts makes it well-suited to
284 examining AI-enhanced learning innovations within rapidly changing digital landscapes. These cycles
285 continue to inform the ongoing development of the AI Power Up resource, which is being updated to
286 support emerging approaches to AI-enhanced learning, including guidance for building AI fluency and
287 deeper critical thinking. Ethical considerations reflected the collaborative and practitioner-focused nature
288 of the project, emphasising voluntary participation, respect for practitioner voice, and reflexive awareness
289 of the researchers' dual roles in supporting learning while promoting responsible and ethical AI use.

290

291 **Method & Design Process**

292 First defined by Jean Lave and Etienne Wenger in their 1991 work *Situated learning*, and later developed
293 by Wenger and others, the CoP approach is well substantiated. Put simply, a CoP is a group of people
294 working collaboratively toward a shared goal. The student resource AI Power Up was created by one such
295 CoP, the AIPP. AIPP is an initiative of a core team of staff within a regional Australian University, UniSQ.
296 This team, part of the Learning and Teaching Futures portfolio, has the broad remit of supporting digital
297 pedagogy within a university whose programs are delivered largely online.

298 At the start of 2023, when the impact of AI in HE was becoming apparent, the AIPP was formed. Eschewing
299 much of the deficit discourse that surrounded AI in HE at that time, the AIPP's focus was to harness the
300 power of AI to enhance the quality of learning and teaching experiences at UniSQ. By leveraging the
301 affordance of AI technologies, the project sought to reimagine traditional approaches to education, improve
302 student outcomes, and foster innovation in teaching and assessment methods. This CoP has, in the
303 intervening period, grown to over 150 members and is a true cross-institutional collaboration, drawing from
304 most Schools and Departments within the University.

305 While initial needs assessments within AIPP sessions identified staff knowledge and usage of AI as a key
306 challenge, this quickly turned to improving student understanding of AI. An AIPP project sub-group of 15

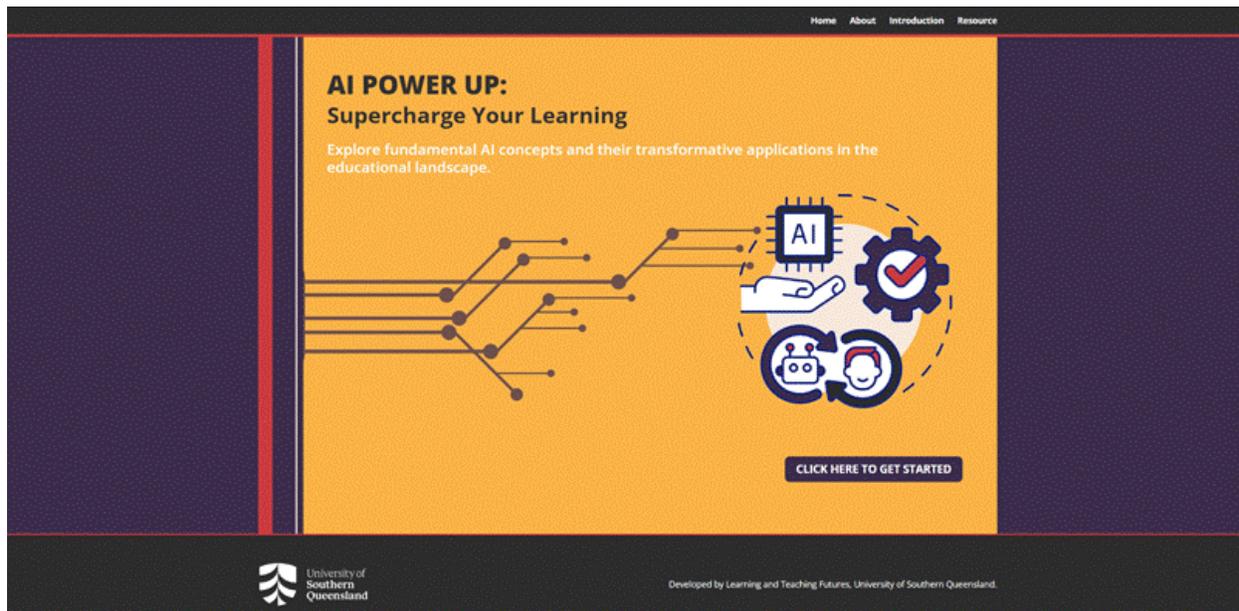
307 members, drawing from various university sections, formed in September 2024 to address this need. This
308 involved the sharing of practice and anecdotal evidence of student engagement with AI. Notably, far from
309 the headlines and inbuilt fears suggesting that AI would be used by students to cheat, the community
310 consistently reported that many students were afraid to use AI. Repeated conversations about AI and its
311 negative impact on academic integrity saw students fearful of its use and subsequently missing out on the
312 opportunity to enhance their own learning journey with AI. It was this fear that the community sought to
313 address. The AIPP goal was to create a student-facing resource that enhanced student understanding of the
314 advantages and responsibilities of using AI for learning in a way that supported academic integrity. Guided
315 by UNESCO's AI Competency Framework for Students (Miao & Shiohira, 2024), the AIPP's overarching
316 aim was the empowerment of all stakeholders.

317 Having identified this shared goal, the development of the resource subsequently followed an iterative
318 approach through collective brainstorming sessions at AIPP sub-group project meetings, interspersed with
319 asynchronous collaboration on Google Docs, consistent with McKenney and Reeves' (2013) model of
320 Design-Based Research. These sessions included discussions in three key stages: Analysis and exploration;
321 Design and construction; and Evaluation and reflection. The analysis and exploration stage involved
322 reflection within the CoP as participants shared their specific context and needs surrounding student use of
323 AI. The collective aspirations and enthusiasm of the large CoP soon saw the initial brainstorm of desired
324 inclusions in the student resource bloom into an almost unending and certainly unwieldy list, with elements
325 as diverse as 'using AI as a creative partner,' 'AI intellectual property,' and 'structuring prompts.' The most
326 complex and time-intensive stage of the process was the design and construction stage. Guided by the four
327 elements of UNESCO's AI Competency Framework for Students (Miao & Shiohira, 2024) and a shared
328 understanding of student needs, CoP members distilled an extensive brainstorm into four key sections: AI
329 Foundations, AI for Learning, AI for Academic Writing and Research, and AI for Assessment. Each section
330 maps to specific UNESCO competencies, from building conceptual AI knowledge and a human-centred
331 mindset, to developing the ethical reasoning needed to navigate AI principles and regulatory frameworks.
332 The final stage brought together academics, librarians, learning advisors, and educational technologists to
333 collaboratively write and design the resource. After this iterative development process, AIPP members,
334 having created the resource and been empowered by a sense of ownership, were the first to embed it within
335 their own courses. This sparked a final stage of reflection and evaluation, allowing for further development
336 of the resource. Given the pace of innovation in AI, it is expected AIPP participants will remain in this
337 stage for many years.

338

339 **The AI Power Up Resource**

340 Based on the collaborative efforts of the AIPP and informed by UNESCO's AI competency framework
341 (Miao & Shiohira, 2024), the AI Power Up resource was designed not only to raise awareness of artificial
342 intelligence but also to foster AI literacy through a student-centred, ethically grounded approach. The key
343 challenge in creating this resource was ensuring it was suitable for everyone, in any discipline, that it aligned
344 with the current UniSQ approach to the use of AI with assessment, and that it was generic enough for
345 sustainability throughout 2025. The resource had the following learning objectives: 1. Recognise
346 fundamental AI concepts and their applications in your learning; 2. Make informed decisions about ethical
347 AI use in academic contexts; 3. Apply AI tools appropriately within your discipline; 4. Identify the
348 limitations of AI and the importance of human oversight.



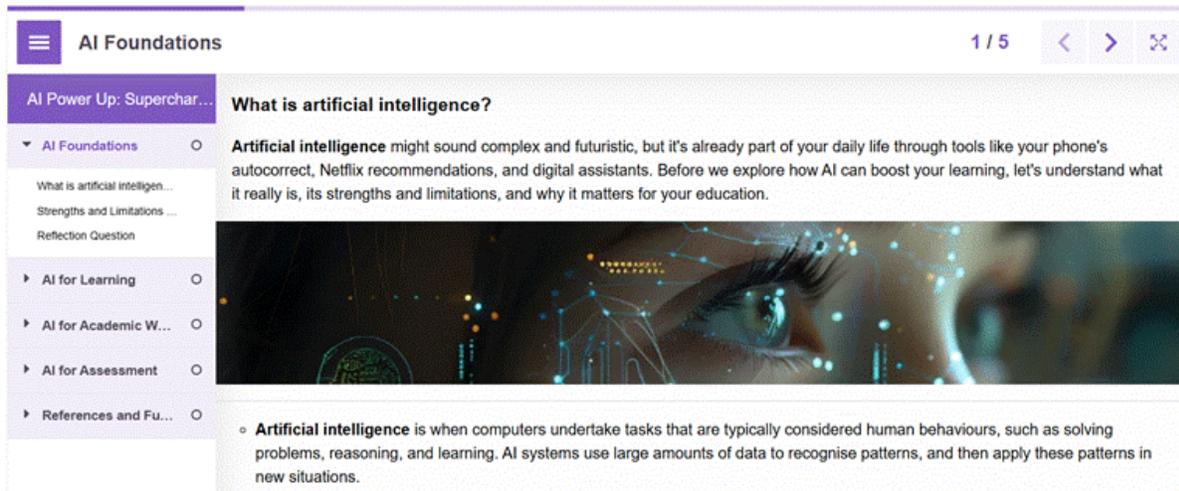
350

351 **Figure 1.** AI Power Up: Supercharge Your Learning Resource

352

353 AI Power Up was designed to develop two interrelated capacities: AI awareness, namely foundational
 354 understanding of what AI is, its capabilities, and its presence in everyday contexts; and AI literacy,
 355 encompassing the ethical judgment and accountability skills needed to determine when and how AI should
 356 be used. The resource was shaped by two complementary pedagogical frameworks: Universal Design for
 357 Learning (UDL) principles (CAST, 2018), ensuring flexibility, autonomy, and inclusivity through multiple
 358 means of representation, engagement, and action; and Miao and Shiohira's (2024) Progression Level 1
 359 design principles (Cultivate, Develop, Acquire, Identify, and Explore), which guided content sequencing
 360 from foundational awareness through to ethical and contextualised AI use. Together, these frameworks
 361 informed a modular structure of four non-sequential modules, each addressing a distinct dimension of AI
 362 in higher education. Module 1: AI Foundations builds conceptual understanding of AI definitions, strengths,
 363 and limitations, supporting UNESCO's AI techniques and applications competency through scaffolded,
 364 multimodal content. Module 2: AI for Learning cultivates a human-centred mindset and ethical awareness,
 365 aligned with UNESCO's first competency, through scenario-based reflection and branching activities.
 366 Module 3: AI for Academic Writing develops practical AI literacy through guided experimentation with
 367 tools such as grammar checkers and content generators, emphasising responsible and informed use. Module
 368 4: AI for Assessment explores ethical and transparent AI use in assessment contexts, supporting human-led
 369 decision-making and flexible engagement with multimodal resources.

370



371

372 **Figure 2.** The Four Modules Within the Resource

373

374 ***Interactive Learning with H5P***

375 To promote active, student-centred learning, the resource integrated two tools selected for their pedagogical
 376 strength and alignment with UDL principles: H5P interactive content and AI-assisted educational video.
 377 H5P (HTML 5 Package) was adopted for its well-evidenced capacity to support metacognitive skills of
 378 reflection and self-regulation (Ellis & Goodyear, 2013, as cited in Jacob & Centofanti, 2024; Mutawa et
 379 al., 2023), with its affordances deployed across flash cards for knowledge checks, hotspotted images to
 380 chunk technical content, and sequenced thematic chapters to support digestible, self-paced navigation.
 381 Mutawa et al. (2023) further demonstrate that H5P enhances learner motivation and equitable participation
 382 in asynchronous settings, which are qualities particularly important for UniSQ's predominantly online
 383 cohort.

384 ***Innovative Video Technologies***

385 Video was incorporated as a core asynchronous tool to support self-paced, on-demand learning (Al-Balas
 386 et al., 2020; Banihashem et al., 2022; Chu et al., 2019; Englund et al., 2016; Han et al., 2013). Drawing on
 387 Maddock's (2021) typology of educational video, a presentation-style format was adopted, with videos
 388 designed to be short-form (2–4 minutes) and thematically focused, consistent with evidence that segmented,
 389 concise video supports deeper engagement and content retention (Chu et al., 2019; Englund et al., 2016;
 390 Koumi, 2006). Each video was complemented by supporting text and curated links to validated sources,
 391 enabling learners to trace information provenance and develop critical evaluation skills. Production was
 392 facilitated through Synthesia (www.synthesia.io), an AI-assisted platform that enabled the creation of
 393 customisable, life-like avatars with control over voice, tone, and on-screen elements, thereby significantly
 394 streamlining the production process while maintaining high production quality.

395 *Designing for Sustainability*

396 Sustainability was embedded into AI Power Up from the outset, with the resource designed to be accessible,
397 equitable, and adaptable across UniSQ's diverse online cohort, whether accessed via Moodle, a public
398 website, or offline formats for incarcerated students (CAST, 2018). Its modular structure allows learners to
399 engage non-sequentially and enables educators to contextualise and embed components within their own
400 disciplinary settings, while ongoing alignment with UNESCO's AI competency framework (Miao &
401 Shiohira, 2024) ensures coherence across contexts.

402 Rather than a static product, AI Power Up functions as a dynamic, shareable resource intended to evolve
403 alongside developments in AI technology and pedagogy. Its open design invites modification and reuse
404 within and beyond UniSQ, offering a transferable model for institutions seeking to support AI literacy in
405 ways that are inclusive, ethically grounded, and responsive to change.

406

407 **Discussion**

408 This study examined the design and early implementation of AI Power Up through the lenses of socio-
409 cultural learning theory, experiential learning, and critical digital pedagogy. Viewed collectively, these
410 perspectives position AI-enhanced learning not as an individual or technical endeavour, but as a socially
411 situated, reflective, and ethically mediated practice. The findings from this design-based research case study
412 suggest that when AI literacy is framed as a shared institutional responsibility and is supported through a
413 mediating artefact and a CoP, students are better positioned to exercise informed judgment, agency, and
414 ethical awareness in their engagement with AI. In this sense, AI Power Up functions not merely as an
415 informational guide, but as a pedagogical intervention that scaffolds learning through participation,
416 reflection, and critical inquiry.

417

418 **Learning with AI as a socially situated and reflective practice**

419 The design and early uptake of AI Power Up reinforce socio-cultural accounts of learning in which
420 understanding develops through participation in shared practices and engagement with mediating artefacts
421 rather than through individual instruction alone. From this perspective, AI is not positioned as a stand-alone
422 tutor or productivity tool, but as a cultural and cognitive artefact whose meaning and use are shaped by
423 institutional norms, disciplinary expectations, and social interaction. The resource provided a common
424 reference point across courses and disciplines, supporting the development of shared language and
425 expectations around ethical and effective AI use. This aligns with socio-cultural learning theory, which
426 emphasises that learning is embedded within communities of practice and shaped by collective meaning-
427 making.

428 Experiential learning theory further illuminates how students may develop AI literacy through cycles of
429 action, reflection, and adaptation. The interactive elements and scenario-based prompts within AI Power
430 Up were intentionally designed to encourage learners to experiment with AI tools, reflect on outcomes and
431 ethical implications, and refine their practices over time. Rather than prescribing correct or incorrect uses
432 of AI, the resource emphasised reflective judgment, metacognition, and informed decision-making. These

433 qualities are increasingly important in AI-mediated learning environments, where students must navigate
434 uncertainty, ambiguity, and evolving technological capabilities.

435 Critical digital pedagogy provides an additional layer of interpretation by foregrounding questions of
436 agency, power, and responsibility. By challenging deficit narratives that frame AI primarily as a threat to
437 academic integrity, AI Power Up sought to reposition students as ethical actors capable of making context-
438 sensitive decisions about AI use. The resource's focus on transparency, human oversight, and ethical
439 reasoning reflects a pedagogical commitment to supporting students not only to use AI, but to critically
440 interrogate its role in knowledge production, assessment, and academic practice. Taken together, these
441 theoretical perspectives suggest that AI literacy is most effectively developed when learning is treated as a
442 socially situated, reflective process embedded within authentic academic contexts.

443

444 **Critical reflection on design choices and implementation**

445 While AI Power Up was intentionally designed to empower students and provide clarity around AI use,
446 several design choices and implementation factors warrant critical reflection. One key tension lay in
447 balancing the need for consistent institutional guidance with the risk of over-prescription. Although the
448 resource aimed to support student agency, its positioning as a university-wide guide could be interpreted as
449 normative or compliance-oriented if embedded without contextualisation by educators. This highlights the
450 importance of academic mediation in ensuring that AI literacy resources are framed as supportive scaffolds
451 rather than fixed rules. The collaborative development process, facilitated through a CoP, was a significant
452 strength of the project, enabling cross-disciplinary input and shared ownership. However, reliance on
453 voluntary participation also introduced limitations.

454 Willing academics embedded the resource, through a hyperlinked icon, into their own course learning
455 management system (LMS), and freely contextualised it within the course to meet the needs of their own
456 discipline. Acting as what Rogers (1995), in his Diffusion of Innovation theory, would call “innovators”
457 and “opinion leaders,” these academics not only shared with their students, but with their colleagues. As a
458 consequence of this peer-to-peer sharing of practice, there was likely more uptake within the university. As
459 a result, student exposure to the resource depended in part on local advocacy rather than systematic
460 integration across all courses. This raises questions about how such initiatives can be sustained and
461 normalised beyond early adopters. Initial student engagement metrics in the LMS revealed the resource
462 receiving 2596 views by 582 users in its first trimester of implementation.

463 Evaluation at this stage is also necessarily limited. While early engagement metrics and anecdotal feedback
464 suggest positive reception, these data do not yet provide insight into how students' AI practices, ethical
465 reasoning, or learning outcomes change over time. Nor do they capture how students interpret and enact
466 the guidance provided within diverse disciplinary and cultural contexts. As with many design-based
467 research initiatives, the strength of ecological validity is accompanied by challenges in producing
468 generalisable or longitudinal evidence.

469 Finally, while the resource is explicitly aimed to promote inclusivity and equity through modular design,
470 multimodal content, and offline accessibility, ongoing reflection is required to ensure these intentions
471 translate into practice. Students' access to AI tools, prior digital confidence, language background, and
472 cultural understandings of authorship and integrity all shape how AI literacy initiatives are experienced.

473 These factors underscore the need for continued refinement, contextual adaptation, and critical evaluation
474 as AI Power Up evolves.

475

476 **Limitations of the study**

477 This study has several limitations. As a design-based research case study conducted within a single regional
478 Australian university, findings are context-specific and not intended to be generalisable. At the time of
479 writing, evaluation data are primarily descriptive, comprising engagement metrics and anecdotal feedback
480 rather than systematic measures of learning impact or longitudinal change in student AI practices.
481 Additionally, participation in both the CoP and the resource implementation was voluntary, which may
482 reflect a self-selecting group of early adopters rather than representative institutional uptake.

483

484 **Scalability and institutional transferability**

485 While AI Power Up was developed within the UniSQ context, its underlying design principles of human-
486 centred framing, reflective engagement, and alignment with global competency frameworks are scalable
487 across diverse HE settings. The modular structure and open design allow institutions to adapt content to
488 local policies, disciplinary norms, and technological infrastructures rather than adopting a one-size-fits-all
489 solution.

490 While several institutional AI literacy initiatives have emerged in recent years, AI Power Up differs in
491 several important respects. Where the University of Sydney's co-designed guide (Schwartzkoff, 2024) and
492 Harvard's GenAI skills framework (Acar, 2023) primarily offer advisory or conceptual guidance, AI Power
493 Up is a fully developed, multimodal learning resource grounded in an explicit theoretical framework and
494 embedded within a CoP. Unlike the University of Florida's curriculum-wide initiative (Chen et al., 2025),
495 which targets workforce readiness at a systemic level, AI Power Up addresses the immediate, discipline-
496 agnostic needs of individual learners within a regional, predominantly online context. Its distinctive
497 contribution lies in combining the UNESCO AI Competency Framework for Students (Miao & Shiohira,
498 2024) with UDL principles and DBR methodology to produce a resource that is simultaneously ethically
499 grounded, pedagogically inclusive, openly accessible, and designed to evolve, potentially offering a
500 replicable model for institutions that lack the resources to develop large-scale curricular reform.

501

502 **Cultural adaptability and equity considerations**

503 Cultural adaptability remains a critical consideration in the design of AI literacy resources. Interpretations
504 of academic integrity, authorship, and acceptable AI use vary across cultural, disciplinary, and national
505 contexts. While UNESCO's framework provides a valuable global reference point, local adaptation is
506 essential to ensure relevance and inclusivity. The design of AI Power Up, including its modularity and
507 availability in offline formats, offers one approach to addressing equity and access, though further work is
508 needed to examine how such resources are interpreted and enacted across culturally diverse learner cohorts.

509

510 **Implications for future research**

511 Future research should extend beyond early implementation to examine the longer-term impact of AI
512 literacy resources on student learning practices, ethical reasoning, and academic confidence. Longitudinal
513 and comparative studies across institutions and cultural contexts would offer deeper insight into how
514 students develop AI fluency over time. Further work is also needed to explore discipline-specific
515 adaptations, the role of assessment design in shaping AI use, and the inclusion of student co-design
516 processes to ensure that AI literacy initiatives reflect learner perspectives and lived experiences.

517

518 **Future Evaluation Framework**

519 To move beyond descriptive engagement metrics and capture systematic measures of learning impact,
520 future iterations of AI Power Up will implement a longitudinal evaluation framework. This framework is
521 designed to assess both the acquisition of cognitive AI skills and the evolution of students' ethical and
522 practical AI behaviors over time. The planned evaluation approach comprises four key pillars: Quantitative
523 instruments, performance indicators, structural assessment, and learning analytics, as shown in Table 2.

524

525 **Table 2.** Longitudinal evaluation framework.

Evaluation Pillar	Methodology & Instruments	Target Measurement
Quantitative Instruments	Longitudinal administration of the Artificial Intelligence Literacy Scale. (Miao & Shiohira, 2024).	Core AI constructs: technological awareness, practical use, critical evaluation, and ethical understanding. (Miao & Shiohira, 2024).
Performance Indicators	Criterion-referenced and ipsative assessments via authentic, scenario-based tasks (Liu & Bridgeman, 2025)	Transferability, adaptivity, creativity, and ethical decision-making (aligning with UNESCO) (Miao & Shiohira, 2024).
Structural Assessment	Triangulating data from "Lane 1" (secure) and "Lane 2" (open) assessments.	Genuine foundational capability acquisition versus responsible AI application and student agency (Liu & Bridgeman, 2025)

Learning Analytics	Combining self-reported surveys with dynamic LMS behavioral/clickstream data.	Longitudinal changes in self-regulated learning (SRL) capabilities and the identification of distinct learner profiles (Luckin et al., 2022).
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526

527 **Conclusion**

528 This paper has presented AI Power Up as a design-based response to the growing need for
 529 coherent, ethical, and pedagogically grounded support for student engagement with generative
 530 AI in higher education. Developed through a cross-institutional CoP at a regional Australian
 531 university, the resource was informed by the UNESCO AI Competency Framework for Students
 532 and grounded in socio-cultural learning theory, experiential learning, and critical digital pedagogy.
 533 Together, these perspectives shaped an approach to AI literacy that positions learning as socially
 534 situated, reflective, and ethically mediated rather than purely technical or compliance driven.

535 Rather than offering prescriptive guidance on AI use, AI Power Up functioned as a mediating
 536 artefact that supported shared understanding, reflective judgment, and student agency across
 537 disciplines. Early implementation suggests that institutionally aligned, student-facing resources
 538 can help reduce confusion, counter deficit narratives, and foster more confident and ethical
 539 engagement with AI, particularly in predominantly online learning contexts.

540 As a DBR case study, the findings are necessarily context-specific and reflect early-stage
 541 implementation. However, the principles underpinning AI Power Up, such as human-centred
 542 framing, modular design, reflective practice, and collaborative development, offer a transferable
 543 foundation for institutions seeking to operationalise AI literacy in ways that are adaptable to local
 544 cultures, policies, and learner needs.

545 As GenAI continues to reshape higher education, initiatives such as AI Power Up highlight the
 546 importance of moving beyond reactive or tool-focused responses. Supporting students to engage
 547 critically and responsibly with AI requires sustained pedagogical attention, institutional
 548 collaboration, and an ongoing commitment to ethical, inclusive, and reflective learning practices.

549

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554

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561

562 **References**

563 Abbasi, B. N., Wu, Y., & Luo, Z. (2025). Exploring the impact of artificial intelligence on curriculum
564 development in global higher education institutions. *Education and Information Technologies*, 30(1),
565 547-581. <https://doi.org/10.1007/s10639-024-13113-z>

566 Acar, O. (2023, June 15). Are your students ready for AI? A 4-step framework to prepare learners for a
567 ChatGPT world. *Harvard Business Publishing*. [https://hbsp.harvard.edu/inspiring-minds/are-your-](https://hbsp.harvard.edu/inspiring-minds/are-your-students-ready-for-ai)
568 [students-ready-for-ai](https://hbsp.harvard.edu/inspiring-minds/are-your-students-ready-for-ai)

569 Al-Balas, M., Al-Balas, H. I., Jaber, H. M., Obeidat, K., Al-Balas, H., Aborajoooh, E., Al-Taher, R., & Al-
570 Balas, B. (2020). Remote learning during COVID-19: Lessons from Jordan. *Medical Teacher*,
571 42(S1), S36–S41. <https://doi.org/10.1080/0142159X.2020.1757431>

572 Airaj, M. (2024). Ethical artificial intelligence for teaching-learning in higher education. *Education and*
573 *Information Technologies*, 29(13), 17145-17167. <https://doi.org/10.1007/s10639-024-12545-x>

574 Ajani, O. A., Akintolu, M., & Afolabi, S. O. (2024). The emergence of artificial intelligence in higher
575 education: Prospects and challenges of AI. *International Journal of Research in Business & Social*
576 *Science*, 13(8). <https://doi.org/10.20525/ijrbs.v13i8.3507>

577 Anderson, T., & Shattuck, J. (2012). Design-based research: A decade of progress in education research?
578 *Educational Researcher*, 41(1), 16–25. <https://doi.org/10.3102/0013189X11428813>

579 Attewell, S. (2025, May 21). Student perceptions of AI 2025. National Centre for AI (Jisc).
580 <https://nationalcentreforai.jiscinvolve.org/wp/2025/05/21/student-perceptions-of-ai-2025/>

581 Banihashem, S. Y., Khosravi, H., & Kitto, K. (2022). Student engagement with asynchronous video-
582 based learning: A learning analytics approach. *British Journal of Educational Technology*, 53(4),
583 1012–1029. <https://doi.org/10.1111/bjet.13213>

584 Bozkurt, A., Xiao, J., Farrow, R., Bai, J. Y. H., Nerantzi, C., Moore, S., Dron, J., Stracke, C. M., Singh,
585 L., Crompton, H., Koutropoulos, A., Terentev, E., Pazurek, A., Nichols, M., Sidorkin, A. M.,
586 Costello, E., Watson, S., Mulligan, D., Honeychurch, S., Asino, T. I. (2024). The manifesto for
587 teaching and learning in a time of generative AI: A critical collective stance to better navigate the
588 future. *Open Praxis*, 16(4), 487–513. <https://doi.org/10.55982/openpraxis.16.4.777>

589 CAST (Center for Applied Special Technology). (2018). Universal Design for Learning guidelines
590 version 2.2. <http://udlguidelines.cast.org>

591 Chen, K., Tallant, A. C., & Selig, I. (2025). Exploring generative AI literacy in higher education: Student
592 adoption, interaction, evaluation, and ethical perceptions. *Information and Learning Sciences*, 126(1-
593 2), 132-148. <https://doi.org/10.1108/ILS-10-2023-0160>

594 Chu, H. C., Chen, C. Y., & Chen, Y. M. (2019). Students' engagement in video-based learning: A
595 Bayesian network analysis. *Educational Technology & Society*, 22(1), 25–36.

596 Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*
597 (Fourth Edition, International Student Edition). SAGE.

598 Cukurova, M., & Miao, F. (2024). AI competency framework for teachers. UNESCO Publishing.
599 <https://unesdoc.unesco.org/ark:/48223/pf0000391104>

600 Design-Based Research Collective. (2003). Design-based research: An emerging paradigm for
601 educational inquiry. *Educational Researcher*, 32(1), 5–8.
602 <https://doi.org/10.3102/0013189X032001005>

603 EduSupport. (n.d.). Critical AI literacy. Groningen University. Retrieved September 22, 2025, from
604 https://maken.wikiwijs.nl/217082/Critical_AI_Literacy#!page-8294070

605 Englund, C., Olofsson, A. D., & Price, L. (2016). Teaching with technology in higher education:
606 Understanding conceptual change and development in practice. *Higher Education Research &*
607 *Development*, 36(1), 73–87. <https://doi.org/10.1080/07294360.2016.1171300>

608 Francis, N. J., Jones, S., & Smith, D. P. (2025). Generative AI in higher education: Balancing innovation
609 and integrity. *British Journal of Biomedical Science*, 81. <https://doi.org/10.3389/bjbs.2024.14048>

610 Freire, P. (1970). *Pedagogy of the oppressed*. Continuum.

611 Georgieva, M. & Stuart, J. (2025, June 24). Ethics is the edge: The future of AI in higher education.
612 EDUCAUSE Review. [https://er.educause.edu/articles/2025/6/ethics-is-the-edge-the-future-of-ai-in-](https://er.educause.edu/articles/2025/6/ethics-is-the-edge-the-future-of-ai-in-higher-education)
613 [higher-education](https://er.educause.edu/articles/2025/6/ethics-is-the-edge-the-future-of-ai-in-higher-education)

614 Han, H., & Johnson, S. D. (2013). Enhancing student learning with asynchronous video-based
615 discussions: A case of integrating video technology in online learning. *Journal of Online Learning*
616 *and Teaching*, 9(4), 546–561.

617 Jacob, T., & Centofanti, S. (2024). Effectiveness of H5P in improving student learning outcomes in an
618 online tertiary education setting. *Journal of Computing in Higher Education*, 36, 469–485.
619 <https://doi.org/10.1007/s12528-023-09361-6>

620 Joint Information Systems Committee (Jisc). (2023). AI in tertiary education: A summary of the current
621 state of play (Third Edition). [https://www.jisc.ac.uk/reports/artificial-intelligence-in-tertiary-](https://www.jisc.ac.uk/reports/artificial-intelligence-in-tertiary-education)
622 [education](https://www.jisc.ac.uk/reports/artificial-intelligence-in-tertiary-education)

623 Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice
624 Hall.

625 Koumi, J. (2006). *Designing video and multimedia for open and flexible learning*. Taylor & Francis
626 Group.

627 Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge
628 University Press.

629 Liu, D., & Bridgeman, A. (2025, June 2). Why banning the banning of AI in assessment is all about
630 increasing trust and agency. *Needed Now in Learning and Teaching*.
631 <https://needednowlt.substack.com/p/why-banning-ai-in-assessment-is-all>

632 Luckin, R., Cukurova, M., Kent, C., & Du Boulay, B. (2022). Empowering educators to be AI-ready.
633 *Computers and Education: Artificial Intelligence*, 3, 100076.
634 <https://doi.org/10.1016/j.caeai.2022.100076>

635 Maddock, D. (2021). Cinema and educational video: Borrowing from cinema to develop a pedagogical
636 framework for educational video design. *Australian Art Education*, 42(2), 141-165.

637 McKenney, S., & Reeves, T. C. (2013). *Conducting educational design research* (1st edition). Routledge.
638 <https://ebookcentral.proquest.com/lib/usq/detail.action?docID=956975>

639 Miao, F., & Shiohira, K. (2024). *AI competency framework for students*. UNESCO Publishing.
640 <https://unesdoc.unesco.org/ark:/48223/pf0000391105>

641 Robert, J., Muscanell, N., McCormack, M., Pelletier, K., Arnold, K., Arbino, N., Young, K., & Reeves, J.
642 (2025). *EDUCAUSE Horizon Report: Teaching and Learning Edition*. Educause.
643 [https://library.educause.edu/resources/2025/5/2025-educause-horizon-report-teaching-and-learning-](https://library.educause.edu/resources/2025/5/2025-educause-horizon-report-teaching-and-learning-edition)
644 [edition](https://library.educause.edu/resources/2025/5/2025-educause-horizon-report-teaching-and-learning-edition)

645 Rogers, E. M. (1995). *Diffusion of innovations* (Fourth Edition). The Free Press.

646 Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. Basic Books.

647 Schwartzkoff, L. (2024, November 15). How to use AI to learn (without cheating): students develop new
648 guide. The University of Sydney. [https://www.sydney.edu.au/news-opinion/news/2024/11/15/how-](https://www.sydney.edu.au/news-opinion/news/2024/11/15/how-to-use-ai-to-learn-without-cheating-students-develop-new-guide.html)
649 [to-use-ai-to-learn-without-cheating-students-develop-new-guide.html](https://www.sydney.edu.au/news-opinion/news/2024/11/15/how-to-use-ai-to-learn-without-cheating-students-develop-new-guide.html)

650 Stommel, J., Friend, C., & Morris, S. M. (Eds.). (2020). *Critical digital pedagogy: A collection*. *Hybrid*
651 *Pedagogy*. <https://cdpcollection.pressbooks.com/>

652 United Nations Educational, Scientific and Cultural Organization (UNESCO). (2025). *AI and the future*
653 *of education: Disruptions, dilemmas and directions*. <https://doi.org/10.54675/KECK1261>

654 Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard
655 University Press.

656 Wang, F., & Hannafin, M. J. (2005). Design-based research and technology-enhanced learning
657 environments. *Educational Technology Research and Development*, 53(4), 5–23.
658 <https://doi.org/10.1007/BF02504682>

- 659 Wang, B., Rau, P. L. P., & Yuan, T. (2023). Measuring user competence in using artificial intelligence:
660 validity and reliability of the artificial intelligence literacy scale. *Behaviour & Information*
661 *Technology*, 42(9), 1324-1337. <https://doi.org/10.1080/0144929X.2022.2072768>
662 Watters, A. (2021). *Teaching machines: The history of personalized learning*. MIT Press.
663 Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge University
664 Press.
665

666 **Appendix**

667 **Video Artefact 1**

- 668 Technology Demonstrators. (2025). *AI Powerup – Introduction* [Video]. YouTube.
669 <https://youtu.be/f0YrqnyY480>

670 **Video Artefact 2**

- 671 Technology Demonstrators. (2025). *AI Powerup – Exploring AI and Gen AI* [Video]. YouTube.
672 <https://youtu.be/gvC0qUFm76l>

673 **Video Artefact 3**

- 674 Technology Demonstrators. (2025). *AI Powerup – Ethical AI use & academic integrity* [Video].
675 YouTube. https://youtu.be/A1_oC69I7H8

676 **Video Artefact 4**

- 677 Technology Demonstrators. (2025). *AI Powerup – AI academic writing and research* [Video].
678 YouTube. <https://youtu.be/HNsgHADTA7M>

679 **Video Artefact 5**

- 680 Technology Demonstrators. (2025). *AI Powerup – Using AI in assessments* [Video]. YouTube.
681 <https://youtu.be/3-QCpLekhto>

682

683 **Video Production Note:**

- 684 All AI-assisted video artefacts embedded in the resource were produced by the authors, with
685 Lachlan Mears leading the production using Synthesia for video generation and Microsoft Copilot
686 for initial script development. Videos were published under the UniSQ EdTech “Technology
687 Demonstrators” YouTube channel for institutional consistency and accessibility.