ASCILITE 2025
Future-Focused:
Educating in an Era of Continuous Change

Mapping work-integrated learning gaps through Bloom's Taxonomy: A multi-layer curriculum analysis in creative education

Donna Cleveland, Long Nguyen, An Nguyen, Manny Ling, Thanh Nguyen
RMIT University Vietnam, Ho Chi Minh City, Vietnam

Work-integrated learning (WIL) has become central to higher education reform, yet its implementation remains inconsistent across disciplines, with evaluation often limited to surface metrics rather than cognitive depth. This study explores how WIL is embedded within creative undergraduate programs of School of Communication & Design (SCD) at RMIT Vietnam – an international branch of a prestigious Australian university, responding to calls for greater curriculum-employability alignment in higher education. Drawing on transformative learning and authentic learning theories, and using Bloom's revised taxonomy as an evaluative lens, this research systematically maps WIL integration across 153 courses in three curriculum layers— course learning outcomes (CLOs), assessments, and course materials. Quantitative analysis of action verbs and learning activities reveals that while WIL is moderately represented in CLOs and assessments, significant gaps exist in instructional delivery, particularly in early-year courses. The findings suggest a concentration of cognitively complex WIL in capstone experiences, with limited scaffolding earlier in programs. The study offers a replicable evaluative framework and advocates for intentional curriculum co-design involving educators and industry. This contribution informs pedagogical, institutional, and policy strategies to support more authentic, scaffolded, and equitable WIL integration.

Keywords: work-integrated learning, Bloom's taxonomy, creative education, curriculum mapping, transformative learning, authentic learning, industry engagement

Introduction and research aim

Recent years have seen a sharp rise in global attention to graduate employability, with the Workplace Intelligence survey by Hult International Business School revealing widespread concerns about job readiness— only 40% of fresh-graduates claimed their higher education institutions (HEIs) provided challenge-based learning approaches focusing on real-world business problems, while 91% of Human Resources managers insisted this in their recruitment process (Brown, 2025). In response to this, Australia recently topped QS World Future Skills Index 2025 for "Work Readiness" (Study Australia, 2025), prompting HEIs, particularly in Australia, to embed work-integrated learning (WIL) within curriculum reform (Ferns et al., 2025).

WIL, defined as "an educational approach involving three parties—the student, educational institution, and an external stakeholder—consisting of authentic work-focused experiences as an intentional component of the curriculum" (Zegwaard et al., 2023, p. 39), spans placements, simulations, internships, client projects, and classroom-embedded activities to enhance students' job readiness, adaptability, and reflective practice (Oliver, 2015). Its growth reflects a shift in HEIs' priorities towards employability, social engagement, and innovation, with countries such as Australia, Canada, and New Zealand positioning WIL as a key pedagogical strategy in response to governmental pressures for measurable graduate outcomes (Jackson, 2024). Beyond traditional placements, WIL now encompasses hybrid, virtual, and project-based models aimed at fostering critical thinking, collaboration, and industry engagement in both face-to-face and digital contexts (Maria et al., 2019; Oliver, 2015). Despite this momentum, WIL remains inconsistently defined and unevenly applied across contexts, with common issues equity of access, the risk of tokenistic partnerships, and variability in academic oversight and quality (Rowe & Zegwaard, 2017; Oliver, 2015; Smith & Smith, 2010). Narrow definitions and reliance on output-based indicators such as participation rates or employment outcomes obscure deeper questions of learning quality. In many cases, WIL is narrowly defined by placements or internships, while alternative forms such as classroom-based simulations or industry-linked assessments are under-recognised in evaluation models (Kay et al., 2019). This inconsistency leads to a lack of clarity about what constitutes

effective WIL, and more importantly, how it should be measured across curriculum layers. Scholars argue for frameworks that assess not just WIL's occurrence but its educational depth and disciplinary relevance (Ferns et al., 2025; Schonell & Macklin, 2019). Ferns et al. (2025) emphasised the value of curriculum-level mapping, particularly through learning outcomes and assessments, to capture WIL's educational intent and cognitive demands. Meanwhile, broader frameworks such as that of Schonell and Macklin (2019) incorporated institutional, pedagogical, and reflective dimensions, focusing on core curriculum components, allowing for a deeper understanding of how WIL is structured within academic design.

Creative disciplines such as communication, design, and media pose distinct WIL challenges due to fragmented industry engagement and limited formal placements. Students often encounter informal, shifting industry environments requiring adaptable strategies (Daniel & Daniel, 2015), while institutional structures frequently struggle to accommodate the iterative nature of creative practice (Collis, 2010). Non-placement models have gained traction to address these challenges (Kay et al., 2019), yet consistent evaluative tools remain scarce. Responding to these concerns, this study examines how WIL is integrated into creative curricula and proposes a framework for evaluating its cognitive depth across curriculum layers.

Theoretical foundations

This study aligns WIL with higher-order thinking by drawing on three interrelated theoretical concepts: transformative learning theory (Mezirow, 2003) explains the why, authentic learning theory (Herrington & Oliver, 2000) the how, and Bloom's taxonomy (Krathwohl et al., 2001; Bloom et al., 1956) the tool for systematically analysing cognitive depth in curriculum design. Transformative learning involves shifting learners' perspectives through critical reflection and engagement with real-world complexity. In WIL, especially within creative disciplines, this transformation often occurs through design iterations, peer feedback, and industry collaboration, encouraging students to challenge assumptions and develop professional identity (Austin et al., 2021; Tezcan et al., 2020; Fleischmann, 2015). Authentic learning complements this by emphasising complex, real-world tasks that require interdisciplinary thinking and reflective practice. These are common in creative WIL contexts such as client-based projects and industry challenges, helping students internalise disciplinary thinking and prepare for professional ambiguity (Lombardi, 2007). Bloom's revised taxonomy offers a structured framework to assess cognitive engagement, combining six cognitive processes (remember, understand, apply, analyse, evaluate, create) with four knowledge types (factual, conceptual, procedural, metacognitive) (Krathwohl et al., 2001). Its emphasis on "create" as the highest order resonates with the demands of creative education, where students synthesise insights and produce original work (Hanna, 2007). Applying Bloom's taxonomy to WIL enables standardised comparisons across courses and programs by categorising the level of cognitive engagement required, while supporting a structured audit of curriculum intentions (via CLOs), assessment strategies (via task design) and delivery mechanisms (via instructional materials). This help educators distinguish between deep learning and surface-level simulation.

Research methodology

This study focuses on the School of Communication & Design (SCD) at RMIT University Vietnam, a branch of a globally ranked Australian institution known for its emphasis on employability and innovation. SCD offers a relevant context for creative WIL analysis, combining international standards with local pedagogical practice. The seven undergraduate programs examined—Professional Communication, Design Studies, Digital Media, Fashion Enterprise, Languages, Digital Film & Video, and Games Design—emphasise applied, client-focused, and project-based learning. Guided by Bloom's revised taxonomy, a mixed-methods design was employed to map WIL integration across 153 courses in three curriculum layers—CLOs, assessment structures, and weekly course materials, allowing triangulation between intended, assessed, and enacted learning, respectively. Phase One applied quantitative content analysis to the CLOs drawn from RMIT's Course Guide. Each CLO was parsed for action verbs, assigned a WIL proxy score using Bloom's six cognitive levels (Table 1), with the highest cognitive verb in each CLO retained. The WIL score per course was calculated by averaging all CLOs, indicating the intended cognitive engagement level. Phase Two assessed whether the cognitive levels promised by CLOs were delivered through assessment by mapping each task to its corresponding CLOs. The same scoring mechanism was applied, weighted by each assessment's percentage contribution to the final grade. Phase Three investigated teaching materials—in-class activities, independent learning resources, and

assessment-related tasks. Weekly activities were categorised by delivery type and tagged using Bloom-level verbs. Each week's WIL score was calculated by multiplying the activity's time allocation by its verb score. These were then averaged over the course duration to derive a final material-based WIL score per course.

Table 1
WIL Verb Categories based on Bloom's Taxonomy

| Level 1 (10%)	Remember	Define, Identify, Describe, Outline, Discuss, Recognise, Be aware of, Read, Write, Be familiar with, Specify, Participate, Provide, Document, Find
Level 2 (20%)	Understand	Understand, Explain, Summarise, Compare, Contrast, Express, Synthesise, Interpret, Possess, Reinforce, Present, Comprehend, Engage, Exhibit, Conceptualise, Respond, Select, Articulate, Translate
Level 3 (40%)	Apply	Apply, Work, Utilise, Employ, Plan, Work collaboratively, Communicate, Use, Situate, Interact, Conduct, Practice, Adapt, Maintain, Navigate, Troubleshoot, Correctly employ, Exercise, Disseminate, Solve, Implement, Control, Prepare, Configure, Deliver, Deploy, Professionally present
Level 4 (60%)	Analyse	Analyse, Investigate, Differentiate, Audit, Research, Determine, Critically analyse, Examine, Critically discuss, Explore, Integrate, Critically compare, Critically experiment, Map, Illustrate
Level 5 (80%)	Evaluate	Review, Evaluate, Critically evaluate, Reflect, Predict, Critically assess, Demonstrate, Critique, Debate, Critically examine, Critically review, Creatively consider, Critically reflect, Assess, Judge, Critically appraise, Critically engage, Persuasively present
Level 6 (100%)	Create	Construct, Create, Develop, Execute, Formulate, Effectively work, Professionally communicate, Establish, Effectively communicate, Produce, Edit, Manage, Effectively manage, Independently work, Professionally work, Enhance, Communicate fluently, Ideate, Brainstorm, Design, Consolidate, Refine, Change, Propose, Recommend

Findings and discussion
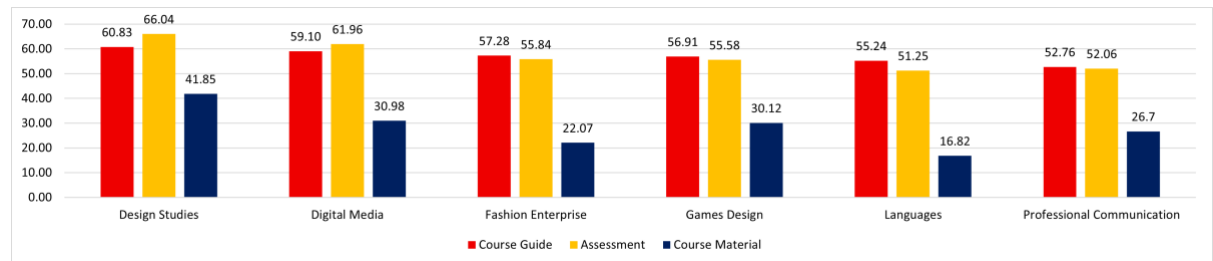
Figure 1. Average WIL Score per Curriculum Layer of Programs of SCD, RMIT Vietnam

The findings indicate that the average WIL score in CLOs of Course Guide ranges from 52.76% in Languages to 60.83% in Design Studies. As illustrated in Figure 1, most programs show moderate cognitive expectations in CLOs, falling within a 52–60% range. Assessment scores of Design Studies (66.04%) and Digital Media (61.96%) are notably higher than CLOs, suggesting these programs introduce more complex, applied tasks than those described in the learning outcomes. Meanwhile, other programs' assessment scores closely keep up with CLOs' expectations, with Languages showing the broadest score gap at roughly 4%. Course materials—used as indicators of delivered curriculum—record significantly lower WIL scores. Languages (16.82%) and Fashion Enterprise (22.07%) register the weakest material alignment, while Design Studies achieves the highest material score (41.85%). Even Digital Media, despite performing well in CLOs and assessments, drops to 30.98%, revealing a substantial cognitive delivery gap.
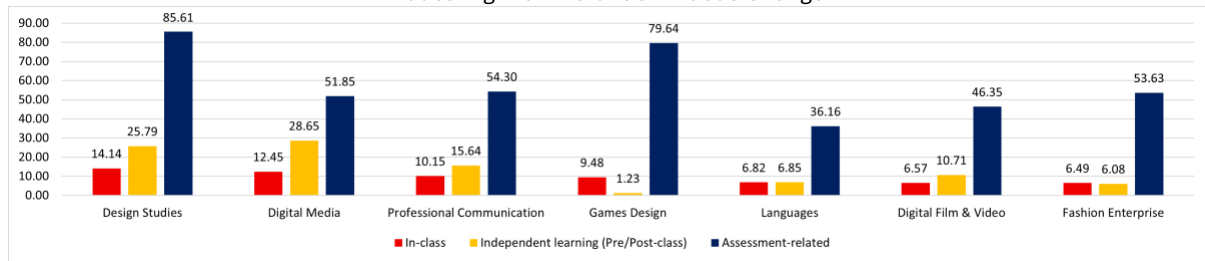
Figure 2. Average WIL Score per Delivery Mode of Programs of SCD, RMIT Vietnam

As shown in Figure 2, assessment-related activities dominate weekly instructional time across all programs, particularly in Design Studies (85.61%), Games Design (79.64%), and Professional Communication (54.30%). Fashion Enterprise (53.63%) and Digital Media (51.85%) follow a similar pattern. By contrast, in-class activities remain marginal across the board, with most programs allocating under 15%, ranging from 6.49% in Fashion Enterprise to 14.14% in Design Studies. Independent learning activities (pre/post-class) show greater variance, from 1.23% in Games Design to 28.65% in Digital Media. This distribution indicates a heavy reliance on assessment-driven engagement while underutilising interactive and preparatory learning modes in delivery design.
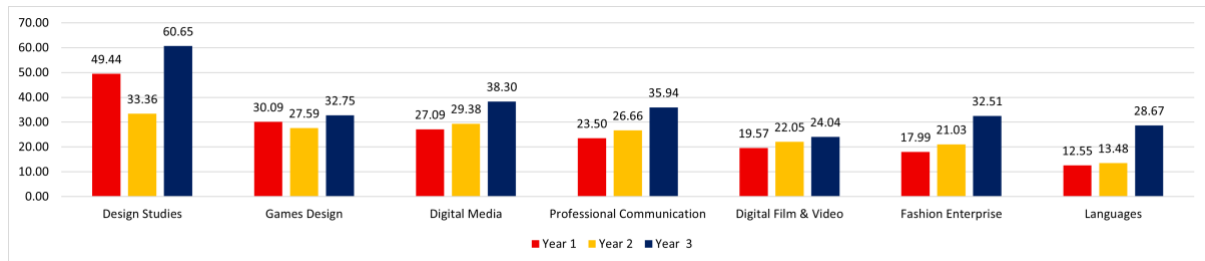

Figure 3. Average WIL Score per School Year of Programs of SCD, RMIT Vietnam

In terms of cognitive development by year level (Figure 3), Year 3 courses report the highest average WIL scores, with Design Studies (60.65%), Digital Media (38.30%), and Professional Communication (35.94%) leading progression. However, Year 1 and 2 courses across most programs fall below 35%, particularly in Languages (12.55% in Year 1 and 13.48% in Year 2), indicating insufficient scaffolding toward complex, workplace-relevant learning. These results suggest that curriculum design tends to concentrate WIL engagement in capstone or final-year experiences, with limited early-year emphasis.

Contribution to theory and practice

By adopting a new approach that integrates Bloom's revised taxonomy with authentic and transformative learning theories, this study enriches the theoretical understanding of WIL within higher education contexts. It reconceptualises WIL as a multi-layered cognitive construct and provides a practical framework for evaluating alignment across course intentions, assessment strategies, and delivery practices. This approach contributes to scholarship on pedagogical design in creative education and offers a replicable model for other HEIs seeking to diagnose and enhance WIL implementation. Future research could expand this framework into comparative studies across disciplines, institutions, or countries, or apply a longitudinal lens to capture changes over time in WIL curriculum development. From a practical standpoint, this study provides curriculum designers and academic leaders with an evaluative tool to identify delivery gaps and strategically strengthen learning design. It helps guide HEIs' curriculum development to produce well-prepared graduates, which, in turn, can significantly attract more companies and agencies to offer greater industry engagement programs to HEIs and job opportunities to graduates, thereby strengthening the relationship between academia and industry. Ultimately, this study emphasises that transformative WIL does not happen by default—it requires intentional, data-driven design grounded in inclusive, interdisciplinary collaboration. Embedding cognitive complexity and authenticity across curriculum layers is crucial not only for learning quality but also for reinforcing the innovation-driven identity of creative higher education providers.

ASCILITE 2025

Future-Focused:

Educating in an Era of Continuous Change

References

Austin, T., Pollard, E., Sliwa, M., Ho, H., & Taylor, C. (2021). *Creativity at work: Interdisciplinary work-integrated learning in industry and community settings*. Australia Council for the Arts & QUT Faculty of Creative Industries. https://creative.gov.au/sites/creative-australia/files/documents/2025-05/Creativity-at-Work-PDF.pdf

Bloom, B. S. (1956). *Taxonomy of educational objectives: the classification of educational goals*. Longman Group.

Brown, E. (2025). New survey reveals traditional undergraduate education is not preparing students for the workforce. *Hult International Business School*. https://www.hult.edu/blog/wi_skills_survey/

Collis, C. (2010). Developing work-integrated learning curricula for the creative industries: Embedding stakeholder perspectives. *Learning and Teaching in Higher Education (LATHE)*, *(4–1)*, 3–19. https://eprints.qut.edu.au/217643/1/CollisLathe10.pdf

Daniel, R., & Daniel, L. (2015). Enhancing capacity for success in the creative industries: Undergraduate student reflections on the implementation of work-integrated learning strategies. *Asia-Pacific Journal of Cooperative Education, 16*(3), 199–209. https://files.eric.ed.gov/fulltext/EJ1113548.pdf

Ferns, S., Zegwaard, K. E., Pretti, T. J. & Rowe, A.D. (2025). Defining and designing work-integrated learning curriculum. *Higher Education Research & Development*, *44*(2), 371–385. https://doi.org/10.1080/07294360.2024.2399072

Fleischmann, K. (2015). Developing on-campus work-integrated learning activities: The value of integrating community and industry partners into the creative arts curriculum. *Asia-Pacific Journal of Cooperative Education*, *16*(1), 25–38. https://files.eric.ed.gov/fulltext/EJ1113647.pdf

Hanna, W. (2007). The new Bloom's taxonomy: Implications for music education. *Arts Education Policy Review*, *108*(4), 7–16. https://doi.org/10.3200/AEPR.108.4.7-16

Herrington, J., & Oliver, R. (2000). An instructional design framework for authentic learning environments. *Educational Technology Research and Development, 48*, 23–48. https://doi.org/10.1007/BF02319856

Jackson, D. (2024). Work-integrated learning: Opportunities and challenges in Australia. *Higher Education Research & Development*, *43*(3), 767–773. https://doi.org/10.1080/07294360.2024.2307929

Kay, J., Ferns, S., Russell, L., Smith, J., & Winchester-Seeto, T. (2019). The emerging future: Innovative models of work-integrated learning. *International Journal of Work-Integrated Learning, 20*(4), 401–413. https://files.eric.ed.gov/fulltext/EJ1238315.pdf

Krathwohl, D. R., Anderson, L. W., & Bloom, B. S. (2001). *A taxonomy for learning, teaching, and assessing: a revision of Bloom's taxonomy of educational objectives* (Complete ed.). Longman.

Lombardi, M. M. (2007). *Authentic learning for the 21st century: An overview* [White paper]. EDUCAUSE Learning Initiative. https://library.educause.edu/-/media/files/library/2007/1/eli3009-pdf.pdf

Maria, D., Piggott, B., Chapman, S. N., & Rycroft, P. (2019). The benefits and challenges of embedding work-integrated learning: A case study in a university education degree program. *Australian Journal of Teacher Education, 44*(6), 91–108. https://doi.org/10.14221/ajte.2018v44n6.6

Mezirow, J. (2003). Transformative learning as discourse. *Journal of Transformative Education, 1*(1), 58–63. https://doi.org/10.1177/1541344603252172

Oliver, B. (2015). Redefining graduate employability and work-integrated learning: Proposals for effective higher education in disrupted economies. *Journal of Teaching and Learning for Graduate Employability*, *6*(1), 56–65. https://doi.org/10.21153/jtlge2015vol6no1art573

Rowe, A. D., & Zegwaard, K. E. (2017). Developing graduate employability skills and attributes: Curriculum enhancement through work-integrated learning [Special issue]. *Asia-Pacific Journal of Cooperative Education, 18*(2), 87–99. https://www.ijwil.org/files/APJCE_18_2_87_99.pdf

Schonell, S., & Macklin, R. (2019). Work integrated learning initiatives: Live case studies as a mainstream WIL assessment. *Studies in Higher Education, 44*(7), 1197–1208. https://doi.org/10.1080/03075079.2018.1425986

Smith, J. E., & Smith, R. (2010, April 8–9). *Work-integrated learning: An industry partners' perspective* [Conference paper]. Australian Vocational Education and Training Research Association (AVETRA) Conference, Surfers Paradise, QLD, Australia. https://eprints.qut.edu.au/41405/2/41405.pdf

Study Australia. (2025, January 22). Australia: A global leader in future skills and education excellence. *Study Australia*. https://www.studyaustralia.gov.au/en/tools-and-resources/news/australia-global-leader-in-future-skills

ASCILITE 2025

Future-Focused:

Educating in an Era of Continuous Change

Tezcan, N., Durakovic, I., Smith, C., Lloyd, E., & D'Arcy, S. (2020). Scaffolded, simulated work-integrated learning in design education: Beyond the live project. *International Journal of Work-Integrated Learning, 21*(5), 521–529. https://www.ijwil.org/files/IJWIL_21_5_521_529.pdf

Zegwaard, K. E., Pretti, T. J., Rowe, A. D., & Ferns, S. J. (2023). Defining work-integrated learning. In K. E. Zegwaard & T. J. Pretti (Eds.), *The Routledge international handbook of work-integrated learning* (3rd ed., pp. 29–48). Routledge. https://www.taylorfrancis.com/chapters/edit/10.4324/9781003156420-4/defining-work-integrated-learning-karsten-zegwaard-judene-pretti-anna-rowe-sonia-ferns