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The Future is Connection:

Collaboration, Creativity and Compassion in a Digital Society

Designing authentic learning through anchor scenarios: A whole-of-unit approach

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In technology disciplines, students are more engaged and better prepared for employment when they experience technical work as purposeful professional practice rather than as isolated exercises (Kerven et al., 2017). Generative AI can now produce working code, configured systems and polished documentation, so students can complete tasks that mainly ask for these outputs without doing much of the work themselves. Such tasks are unlikely to hold students' interest, and the work submitted can be weak evidence of capability. The professional judgement remains theirs: deciding what should be built, for whom, within which constraints, and with what consequences. The challenge for curriculum design is to integrate, teach and assess that judgement.

This presentation describes a curriculum design we developed in response. Each unit is set in one authentic workplace context, the anchor scenario, which defines the stakeholders, constraints and outcome for the whole unit. Every session then presents a session scenario: a professional decision in that context, building on the one before. In the final assessment, students deliver the outcome the anchor scenario set. Content is taught when students need it for a decision, and assessment is set in the same context.

The approach draws on situated learning, in which judgement develops through authentic activity in realistic contexts (Brown et al., 1989; Lave & Wenger, 1991), and on Action Mapping, which begins from a real workplace outcome and derives the decisions learners must make before selecting content (Moore, 2017). Narrative carries more force when scenarios accumulate rather than stand alone (Bruner, 1991). Sustained scenario structures have precedents: anchored instruction centres on one extended problem (Cognition and Technology Group at Vanderbilt, 1990), media computation organises content coverage (Guzdial, 2003), and task-driven case studies guide practice rather than judgement (Porubän et al., 2024). None spans an entire unit while structuring cumulative professional decisions, producing employer-facing artefacts, and giving AI a purposeful role.

Each unit is built in three phases. The Anchor phase derives the scenario from a workplace outcome and produces a unit design plan mapping outcomes to assessments and giving every session its own scenario. The Embed phase scripts each session in full, writing assessments at the same time and checking alignment in both directions (Biggs, 1996), with every activity carrying a short connection back to the scenario. The Shift phase builds the design as web-based learning paths for delivery on campus, online or in hybrid mode.

This approach now runs in more than 30 units across five discipline areas. They include a café point-of-sale system built over 11 programming sessions, a hospital network designed for a computer networking unit, and a robotic warehouse floor for an electrical engineering unit. The presentation walks through the designs themselves, alongside feedback from the teaching staff who delivered them. While the scenarios are varied, each design begins with the professional world and its people, derives the decisions from them, and lets the technology find its place inside that world.

Keywords: Anchor scenarios, scenario-based learning, generative AI, student engagement, employability, curriculum design

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