Anchor-Interrogate-Merge (AIM) Framework: Designing Assessment Partnered with Artificial Intelligence in Online Higher Education

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Abstract:

Generative artificial intelligence has weakened the link between visible performance and underlying learning in online higher education. Assessment has long relied on the cognitive work a product is meant to reveal, yet a single prompt can now produce a passable essay without that work. Detection software is unreliable and biased against multilingual writers, and banning the technology is unenforceable in online courses. Permitting it without structure, however, invites the over-reliance that automation research describes, in which users accept machine output without critical evaluation. This raises grades without necessarily raising learning. This talk proposes the Anchor-Interrogate-Merge (AIM) framework, an online assessment design that positions generative artificial intelligence as a biased and fallible cognitive partner. Drawing on cognitive apprenticeship, desirable difficulties, generative learning, and AI literacy, we developed the framework by reviewing literature on assessment and academic integrity and mapping each design decision to learning research. In Anchor, learners write a substantive draft unaided, activating prior knowledge before external input. In Interrogate, they direct a tool to challenge the draft, then evaluate its output for accuracy, bias, and fit, a practice intended to build evaluative judgment. In Merge, they write a synthesis in their own voice with a short unaided note on one judgment they made, supporting metacognitive monitoring consistent with self-regulated learning. Grade rests mainly on learner-authored work, and the learning management system's process record provides evidence of authorship without relying on detection. The framework is a design hypothesis illustrated with a worked example. We recommend a pilot in real online courses that tests learning gain and learner attitudes before wider adoption.