

Human-Centred AI Microcredential for English Teachers: Designing and Evaluating a Practice-Oriented Professional Development Model

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Abstract

The rapid adoption of generative artificial intelligence (GenAI) is transforming English language teaching while creating new challenges related to teacher competence, assessment, academic integrity, verification, privacy, and student agency. This conceptual research article proposes a Human-Centred AI Microcredential for English Teachers designed as a four- to eight-week professional-development intervention. Unlike lecture-based technology training, the proposed model emphasizes practical experimentation, ethical decision-making, lesson redesign, AI-assisted feedback, output verification, and preservation of teacher and learner agency. Participants are expected to produce classroom-ready instructional artifacts and an individual implementation commitment. The proposed evaluation methodology combines pre- and post-course assessment, rubric-based evaluation of participant artifacts, semi-structured interviews, and a 30-day follow-up. The framework integrates technological, pedagogical, ethical, and reflective dimensions of AI literacy and positions teachers as informed decision-makers rather than passive technology users. The article argues that effective AI professional development should measure not only knowledge acquisition but also teachers' ability to critically evaluate AI outputs, redesign learning activities, establish appropriate boundaries for AI use, and translate professional learning into classroom practice.

Keywords: artificial intelligence literacy; English language teaching; teacher professional development; generative AI; microcredentials; human-centred AI; teacher agency

The emergence of generative artificial intelligence has created a significant transformation in the professional landscape of English language teaching. Tools capable of generating explanations, exercises, dialogues, reading passages, feedback, lesson plans, translations, and assessment materials are increasingly accessible to teachers and learners. Large language models can support teachers with routine instructional tasks and can provide students with new opportunities for language practice, individualized feedback, brainstorming, and interaction. At the same time, the availability of these technologies does not automatically produce effective educational innovation. Teachers need to understand what AI systems can and cannot do, how generated content should be evaluated, how prompts influence outputs, how bias and inaccuracies can emerge, and how AI-supported activities can be integrated without reducing student thinking or teacher professional judgment. The central challenge is therefore not simply whether English teachers use artificial intelligence, but whether they can use it critically, ethically, pedagogically, and intentionally. This creates a need for professional-development models that move beyond demonstrations of individual AI tools and instead develop transferable AI literacy.

The proposed Human-Centred AI Microcredential for English Teachers responds to this need by conceptualizing AI professional development as a practice-oriented, evidence-based learning intervention. The term "human-centred" is important because the objective is not to maximize technology adoption. Rather, the objective is to ensure that artificial intelligence remains subordinate to educational purposes, teacher judgment, learner development, and ethical principles. UNESCO's guidance on generative AI in education emphasizes a human-centred approach and highlights issues including data privacy, age-appropriate use, ethical

validation, and the need for educators to understand both opportunities and limitations of generative AI (UNESCO, 2023). Similarly, UNESCO's AI competency framework for teachers identifies competencies related to human-centred mindset, AI ethics, AI foundations and applications, AI pedagogy, and AI for professional learning (UNESCO, 2024). These principles provide a strong conceptual foundation for a microcredential specifically designed for English teachers.

Teacher professional development is most effective when it connects new knowledge to authentic classroom practice rather than treating professional learning as the passive acquisition of information. Traditional short workshops frequently introduce teachers to technological tools but provide limited opportunities to experiment, receive feedback, revise materials, and evaluate classroom consequences. A microcredential model offers an alternative because it can organize professional learning around clearly defined competencies and assess demonstrable outputs. In the proposed model, teachers would not complete the course merely by attending sessions. Instead, they would demonstrate competence through a sequence of practical artifacts, including an AI-supported lesson plan, an AI verification protocol, an ethical-use guideline, an AI-assisted feedback activity, and a classroom implementation plan. The final outcome would therefore be a portfolio of materials that teachers can use or adapt in their own classrooms. This approach aligns professional learning with observable performance and creates evidence that participation has produced practical capability.

The proposed microcredential would be delivered over approximately four to eight weeks, depending on institutional context and participant workload. A four-week intensive version could contain one major learning cycle per week, while an eight-week version could provide additional time for experimentation, peer feedback, classroom implementation, and reflection. The course would begin with AI literacy and conceptual foundations. Participants would examine how generative AI systems work at a functional level, including concepts such as training data, probabilistic generation, hallucination, context sensitivity, prompting, and model limitations. The purpose would not be to turn English teachers into computer scientists. Instead, teachers would develop sufficient conceptual understanding to make informed pedagogical decisions. They would learn why an AI-generated answer can appear convincing while still being inaccurate and why different prompts can produce substantially different outputs. This foundation would become essential for later modules on verification and assessment.

The second component would address ethical and responsible AI use in English-language classrooms. Teachers would investigate issues including student privacy, collection of personal information, intellectual property, bias, transparency, academic integrity, and appropriate disclosure of AI assistance. Ethical competence should be presented through classroom cases rather than abstract principles. For example, participants could analyze whether students should be allowed to use generative AI to brainstorm an essay, generate a first draft, receive language feedback, or rewrite an entire assignment. The objective would not be to establish a universal prohibition or universal permission. Instead, teachers would learn to distinguish between productive forms of assistance and forms of AI use that undermine the intended learning outcome. Such an approach recognizes that the pedagogical value of AI depends on the relationship between the technology and the learning objective.

The third component would focus on AI-supported lesson design. Participants would redesign an existing English lesson using a human-centred AI framework. Rather than asking an AI system to produce an entire lesson and then implementing the result unchanged, teachers would identify the learning objective first, determine which parts of the instructional sequence genuinely benefit from AI, and specify where human interaction remains essential. For example, AI could be used to generate alternative discussion prompts, create differentiated reading materials, simulate conversational partners, or provide examples of grammatical errors. However, students could then be required to critique the generated content, identify

inaccuracies, compare alternatives, justify linguistic choices, or revise AI-generated material. In this model, AI becomes an object of critical learning as well as a tool for learning. Such activities can potentially strengthen rather than weaken student agency because learners are required to evaluate and transform machine-generated content.

The fourth component would address AI-assisted feedback. Feedback is particularly relevant to English language teaching because teachers regularly respond to student writing, vocabulary, grammar, pronunciation, and communicative performance. Generative AI can provide rapid feedback, but speed should not be confused with pedagogical quality. Participants would therefore learn how to design prompts and workflows that encourage specific, comprehensible, and level-appropriate feedback. More importantly, teachers would examine how AI feedback should be checked before being provided to learners. Participants could compare teacher feedback with AI-generated feedback and classify differences in accuracy, relevance, tone, specificity, and pedagogical usefulness. The resulting artifact could be an AI-assisted feedback protocol specifying what AI may evaluate, what teachers must verify, and which feedback decisions should remain exclusively under teacher control.

Verification would constitute another central competency of the microcredential. Generative AI systems can produce incorrect factual information, invented references, misleading explanations, inappropriate language examples, and culturally insensitive content. In English teaching, even apparently minor inaccuracies can become problematic if students internalize them as correct language. Teachers therefore need a systematic verification process. The proposed course would teach participants to identify claims requiring external verification, compare AI-generated explanations with authoritative linguistic or educational resources, examine multiple outputs, and revise or reject unreliable material. A verification checklist could become part of every participant's portfolio. The emphasis would be on cultivating professional skepticism: AI output should be treated as a draft or suggestion rather than an unquestionable source of authority.

Student agency represents the final major pedagogical principle. An AI-rich classroom can easily become teacher-controlled and technology-dependent if students simply follow machine-generated instructions or accept generated answers. A human-centred model instead asks whether AI use increases students' ability to make decisions, formulate questions, evaluate information, communicate ideas, and take responsibility for learning. Participants would therefore design at least one activity in which students must explicitly exercise judgment over AI output. Examples could include evaluating two AI-generated explanations, correcting an AI-generated text, identifying weaknesses in an AI-produced argument, comparing human and AI feedback, or developing a prompt and explaining why it produces a desirable linguistic outcome. These activities reposition students from consumers of AI output to critical participants who can interrogate and reshape technology-mediated information.

The evaluation of the microcredential should combine quantitative and qualitative evidence. A pre-course and post-course assessment could measure changes in teachers' AI knowledge, confidence, ethical awareness, verification skills, and perceived pedagogical readiness. However, self-reported confidence should not be treated as evidence of actual competence. For this reason, the assessment should also include performance-based artifacts. Each participant could submit a small portfolio consisting of an AI-supported lesson plan, an ethical-use scenario analysis, an AI verification checklist, an AI-assisted feedback activity, and an implementation commitment. A standardized artifact rubric could assess pedagogical alignment, accuracy, ethical awareness, student agency, verification procedures, inclusivity, and practical usability. This combination would allow the study to distinguish between what teachers believe they can do and what they can demonstrably produce.

Participant interviews would provide additional evidence concerning the professional learning process. Semi-structured interviews could explore teachers' previous experiences with AI, changes in their perceptions, concerns about classroom implementation, perceived barriers,

and examples of intended practice. Interviews would also help identify contextual factors that quantitative measures may not capture. For example, teachers may demonstrate strong AI literacy but report that institutional policies, limited internet access, workload, examination requirements, or parental expectations make classroom implementation difficult. Such findings would be important because professional development cannot be evaluated independently of the organizational environment in which teachers work.

A 30-day follow-up would provide a particularly valuable measure of transfer. Many professional-development interventions produce positive immediate reactions that do not necessarily translate into sustained classroom practice. Thirty days after completion, participants could submit a brief implementation report describing which artifact they used, how students responded, what problems occurred, and what they changed. A follow-up interview or short survey could assess frequency of AI use, types of activities implemented, perceived student response, and continuing professional-learning needs. Comparing course completion artifacts with follow-up evidence would make it possible to examine whether participants actually moved from knowledge acquisition to classroom implementation.

The proposed research design could therefore employ a mixed-methods pre-post intervention framework. Quantitative data could include pre- and post-assessment scores and artifact-rubric scores, while qualitative data could consist of participant interviews and implementation reflections. Descriptive statistics and paired-sample comparisons could be used to examine changes in measured competencies, while qualitative thematic analysis could identify patterns in teacher experiences and implementation barriers. If the sample permits, researchers could further investigate whether factors such as teaching experience, previous AI exposure, institutional context, or baseline digital competence are associated with different levels of improvement. Inter-rater reliability should be established for artifact assessment when multiple evaluators use the rubric. This would strengthen the methodological credibility of the microcredential evaluation.

The project also has implications for institutional teacher-development strategy. Schools and universities frequently respond to emerging technologies through isolated workshops, but sustainable AI integration requires continuing professional learning. A microcredential can provide a scalable structure because its competencies, learning activities, assessment criteria, and artifacts can be standardized while allowing contextual adaptation. The course could be delivered through blended or fully online formats, supported by peer discussion groups and facilitator feedback. Cohort management would be important because teachers can learn from one another's classroom contexts and examples. Facilitators should therefore function not simply as lecturers but as instructional coaches who guide experimentation, challenge assumptions, and help participants translate AI capabilities into pedagogically meaningful practices.

Several limitations should nevertheless be recognized. A short microcredential cannot provide comprehensive AI expertise, particularly because AI systems and institutional policies change rapidly. Pre-post improvements may also partly reflect familiarity with the assessment rather than genuine development. Participants who volunteer for an AI-focused course may already be more motivated or technologically confident than the broader teacher population. Self-reported implementation data may contain social-desirability bias. A 30-day follow-up is useful but insufficient for determining long-term changes in teaching practice. Future research should therefore consider longer follow-up periods, comparison groups, classroom observations, student learning outcomes, and repeated artifact analysis. These limitations do not undermine the model; rather, they indicate the need to treat the microcredential as a testable professional-development intervention rather than assuming that participation automatically produces educational improvement.

The Human-Centred AI Microcredential ultimately proposes a shift from tool-centered AI training toward competency-centered teacher development. Its purpose is not to persuade

English teachers to use as much AI as possible, but to help them determine when, why, and how AI should be used. The most meaningful outcome is therefore not the number of AI tools participants can operate but their capacity to exercise professional judgment in AI-mediated educational environments. By combining AI literacy, ethical reasoning, lesson design, feedback, verification, student agency, practical artifacts, and implementation reflection, the proposed model offers a structured pathway for preparing English teachers for increasingly AI-rich classrooms. Its empirical evaluation through pre- and post-assessment, artifact rubrics, participant interviews, and 30-day follow-up could generate evidence about whether short, practice-oriented microcredentials can produce meaningful changes in teacher competence and classroom implementation. More broadly, the model positions professional development as an ongoing process of critical adaptation in which teachers remain responsible for educational decisions while artificial intelligence serves as a potentially powerful but fallible instructional resource.

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