University of Roehampton London

Teacher education and AI

UCET Annual Conference
Prof Miles Berry

11 November 2025

These slides: bit.ly/ucet2025

AI and teaching - an update
AI and studying
The science bit
Digital approximations of practice
Other work

AI and teaching

Policy paper

Generative artificial intelligence (AI) in education

Updated 10 June 2025

Applies to England

AI has the power to transform education by helping teachers focus on what they do best: teaching. This marks a shift in how we use technology to enhance lives and tap into the vast potential of AI in our classrooms.

To make the opportunity a reality, we will continue to explore this technology safely to encourage innovation and maximise the benefits for education.

Generative AI has demonstrated that it can help the education workforce by reducing some of the administrative burdens that hard-working teachers, staff and school leaders face in their day-to-day roles.

Research demonstrates that generative AI could also be used for tasks such as feedback and tailored support in schools.

From our research and engagement with the sector, we have learned that generative AI could be used for:

- creating educational resources
- lesson and curriculum planning
- tailored feedback and revision activities
- administrative tasks
- supporting personalised learning

Policy paper

Generative artificial intelligence (AI) in education

Updated 10 June 2025

Applies to England

Evidence is still emerging on the benefits and risks of pupils and students using generative AI themselves. We will continue to work with the education sector to develop understanding of effective and safe use cases.

We have limited evidence on the impact of AI use in education on learners' development, the relationship of AI use and educational outcomes, and the safety implications of children and young people using this technology in the classroom.

We see more immediate benefits and fewer risks from teacher-facing use of generative AI.

If schools and colleges choose to use pupil-facing generative AI, they must take great care to ensure they are abiding by their legal responsibilities, including those related to:

- data protection
- keeping children safe in education
- intellectual property law

They should also consider possible impacts on learning, the importance of the teacher-learner relationship, and the risks of bias and misinformation.

JCQ CIC Joint Council for Qualifications CIC

- Students must ensure work submitted for assessment is demonstrably their own. If any sections of their work are reproduced directly from AI-generated responses, those elements must be identified by the student and they must understand this will not allow them to demonstrate they have independently met the marking criteria and therefore will not be rewarded (please see the **Acknowledging AI use** and **AI use and marking** sections below and **Appendix B: Exemplification of AI use in marking student work** at the end of this document); and
- Where teachers have doubts about the authenticity of student work submitted for assessment (for example, they suspect that parts of it have been generated by AI but this has not been acknowledged), they must investigate and take appropriate action.

Materials for all school and college staff

Understanding AI in education: module 1
10 June 2025 Guidance

Interacting with generative AI in education: module 2
10 June 2025 Guidance

Safe use of generative AI in education: module 3
10 June 2025 Guidance

Use cases of generative AI in education: module 4
10 June 2025 Guidance



Materials for school and college leaders

Using AI in education: support for school and college leaders
10 June 2025 Guidance

Published 10 June 2025

CHILTERN LEARNING TRUST

CHARTERED COLLEGE OF TEACHING

Building a world-class curriculum for all

Final Report

Exams are here to stay

Externally set and marked exams remain the fairest and most reliable method of assessment, particularly in safeguarding disadvantaged students from systemic biases that can arise in coursework-based evaluation.**Generative artificial intelligence (AI) has further heightened concerns around the authenticity of some forms of non-exam assessment**, making it increasingly difficult to ensure that submitted work is the student's own. It is right, therefore, that exams remain the principal form of assessment.

External forces

Additional knowledge and skills will be needed if we are to maximise young people's opportunities and equip them to meet challenges presented by our **fast-changing world**. The rise of artificial intelligence (AI) and trends in digital information demand heightened media literacy and critical thinking, as well as digital skills.

AI belongs in computing

While the long-term impact of AI remains uncertain, young people should understand how it works, its capabilities and its limitations. **They should learn how to use AI effectively, without becoming dependent on it, and be engaged in the developing knowledge about both AI's strengths and limitations**. Currently the national curriculum contains limited references to AI, and we recommend this be addressed within the Computing curriculum.

AI to be included

AI is a transformative new technology and, while the Review considers the best approach to future-proofing students' learning is to ensure they have a strong foundation in core knowledge, we also recognise the need to integrate emerging technologies where appropriate. A revised Programme of Study should therefore specify the core computing concepts that students should have mastered at each stage and **explicitly incorporate AI. GCSE Computing specifications should also include AI**

Government response to the Curriculum and Assessment Review

Computing

The refreshed curriculum will teach pupils AI literacy, how to use data to complete tasks and solve problems, as well as learning about bias in technology…

A new L3 in DS & AI?

We will also explore introducing a new level 3 qualification in data science and AI, to ensure that more young people can secure high value skills for the future and that we cement the UK’s position as a global leader in AI and technology.

ITTECF 2027…

To ensure all pupils benefit from the refreshed national curriculum, we will ensure that core training throughout a teacher's career, has a strong focus on high-quality adaptive teaching, formative assessment and high expectations for all. This includes initial teacher training and the early career framework, which now features significantly more content on adaptive teaching and SEND, **with a full review planned for 2027.**

AI and studying

Student guidance

Use AI to:

- Summarise complex topics
- Brainstorm ideas
- Improve writing & grammar
- Find & organise research (always fact-check!)
- Quiz yourself & develop critical thinking
- Learn to ask the right questions to solve different problems
- Prepare for exams

Avoid AI for:

- Writing assignments, or any part of them, or taking exams
- Generating fake citations
- Falsifying data
- Replacing your own thinking

When they submit their work…

“I understand that academic misconduct is strictly prohibited including plagiarism, essay mills, generative AI, collusion, impersonation, and falsification or any other action which might give me an unfair advantage. I confirm that all the work is my own unless collaboration and/or generative AI has been authorised by my tutors. Where I have drawn on source material, that material is referenced according to the University guidelines. This work has not been submitted as part of another assessment.”



Write Now!

By Paul Dickerson

For indicative feedback on your academic work: click the paperclip icon, select your file and click arrow on the right. Upload specific assessment instructions in the same way or paste them into the input box. Please do not give any personal information. Please leave feedback via the link below.

What prompts can I use with Write Now!?

bit.ly/URWriteNow

So summarise what I should do to improve this work?

Key Areas for Improvement

Your essay is already **strong, well-researched, and philosophically rigorous**, but here are the key areas to improve:

1. **Clarify Explicit vs. Implicit Philosophical Elements**
   - You establish *Lens*'s **explicit** philosophical stance well.
   - Consider exploring **implicit influences**—are there underlying assumptions that the authors don't acknowledge?
2. **Strengthen the Ontology vs. Epistemology Distinction**
   - The **ontological critique** is insightful but appears late.
   - Introduce the **difference between epistemology (constructivism) and ontology (multiple realities)** earlier to frame your later arguments.
3. **Provide a Counterargument on IPA Choice**
   - You critique *Lens*'s methodology well but assume IPA was **the best fit**.
   - Briefly discuss whether **other methods (e.g., ethnography, grounded theory) could have been better choices**.

What grade would this work get as it is at the moment?

I do not provide grading or hypothetical grading scenarios.

However, your work demonstrates **strong critical engagement, deep philosophical analysis, and wide reading**. By addressing the areas for improvement—**clarifying implicit philosophical assumptions, refining structure, and strengthening methodological critiques**—you will further enhance its impact.

If you have specific concerns about meeting **marking criteria**, I recommend discussing your work with your tutor or supervisor.

For additional support, please visit:

📚 Roehampton Study Skills Hub

📝 Editing Guide

Please leave feedback on your experience of using WriteNow! via our **60-second form**: Feedback Form. 🚀

Sources

3430665.3456382.pdf

Source guide

This document is an abstract and introductory excerpt from a **review of the literature on live coding** in computing education research, authored by Ana Selvaraj et al. The primary purpose of the review was to provide a **comprehensive understanding** of existing research regarding live coding—the act of writing code live in front of students—which is often recommended as a **best practice for teaching programming**. The authors systematically categorised prior studies based on seven criteria, including its definition, whether it constitutes active learning, and evidence of its effectiveness, ultimately concluding that despite its common recommendation, there is a **lack of strong empirical evidence** to support claims about its positive impact on student learning. The

Live Coding: A Review of the Literature

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Chat

The text provides excerpts from a **literature review** focused on **live coding** as a pedagogical practice in **computing education research**. Authored by Ana Selvaraj and colleagues, the paper systematically examines existing studies to understand the strengths and weaknesses of live coding, which involves an instructor writing code in front of students. The authors categorised existing research based on factors like the definition of live coding, whether it constitutes **active learning**, the type of studies conducted, and the **evidence for its effectiveness**. A key finding is that despite the common recommendation of live coding as a **best practice**, there is a **lack of empirical evidence** to strongly support claims about its positive effect on student learning. The review concludes by discussing the implications of these findings and suggesting future research directions to develop a more **holistic understanding** of this instructional technique.

Video Overview

Start typing... 1 source

Which authors reviewed literature about live coding effectiveness?

What are the most c... reported live coding...

Studio

Audio Overview

Video Overview

Mind Map

Reports

Flashcards

Quiz

Live... 1 source · 40d ago

Interactive

Add note

Live C...

00:11 / 12:52

NotebookLM can be inaccurate; please double-check its responses.

Copyright and intellectual property

Key stage 4 computing

Lesson plan

Learning outcome: I can explain copyright, intellectual property, and patents in the context of computing and digital innovation.

Learning cycles

1. Identify types of intellectual property relevant to computing, including software copyrights and patents.
2. Explain how copyright laws affect software development and digital content creation.
3. Discuss the role of patents in protecting digital innovations and fostering technological advancements.

Key learning points

1. Copyright protects the creators of digital content, such as software and multimedia, by granting exclusive rights to use and distribute.
2. Intellectual property includes digital creations like software, algorithms, and digital artwork, crucial in computing.
3. Patents protect technological innovations in computing, providing inventors with exclusive rights to their creations.
4. Copyright and patents are essential for safeguarding digital content and encouraging technological innovation in computing.

Misconceptions & common errors

1. Explain that while copyright protects original works, not all digital content is automatically protected unless it meets certain criteria.
2. Clarify that patents can also apply to software and digital innovations if they meet specific patentability requirements.
3. Emphasise that open-source software often comes with specific licenses that dictate how it can be used, modified, and distributed.

Suggested prior knowledge

- Basic understanding of legal concepts related to computing, such as software licensing.
- Awareness of how digital innovation impacts economic and technological development.
- Familiarity with terms like 'software', 'algorithm', and 'digital media'.

Keywords

Copyright	A legal right that grants the creator of original work exclusive rights to its use and distribution in computing.
Intellectual property	Creations of the mind such as software, algorithms, and digital artwork in computing.
Patent	A legal right granting exclusive use of an invention, including digital innovations in computing.
Software licensing	The legal terms under which software can be used, modified, and distributed.
Open-source software	Software with source code that can be modified and shared under defined licensing agreements.

"Can you explain to me the difference between breadth-first search and depth-first search for A-level computer science?"

00:06

Of course! In a breadth-first search, you explore all the nodes at the present depth level before moving on to the nodes at the next depth level. It uses a queue to keep track of the nodes to visit and ensures that you find the shortest path (in terms of the number of edges) from the starting node to the target node.

In contrast, a depth-first search explores as far as possible along one branch before backtracking. It uses a stack (or recursion) to keep track of the nodes to visit and can go deep into one path before trying another. While it doesn't guarantee the shortest path, it can be more memory-efficient because it doesn't need to store all the nodes at each level.

"I'm thinking video games. Let's see, we're trying to find all of the treasure in a dungeon. So breadth-first would be first look at all of the rooms connected to your starting point, whereas depth-first would be pick a door, then pick a door from that room, pick another door from the room after that, and so on. Have I got it right?"

00:19

Exactly! That's a great analogy. In a dungeon-crawling video game, breadth-first search would mean checking out all the rooms directly connected to your starting point before moving on to the rooms connected to those, layer by layer, ensuring you find the closest treasure first. Depth-first search, on the other hand, would be like choosing one path and following it as far as it goes, delving deeper into the dungeon before backtracking if you hit a dead end. Both approaches help in exploring the dungeon, but the way you uncover

And here's how you should think about memory: it's the residue of thought, meaning that **the more you think about something, the more likely it is that you'll remember it later.**

Willingham, 2008

The (computer) science bit

Markov Chain Demo

About / Help

A tool to explore and tinker with n-grams - a statistical precursor to Large Language Models (LLMs).

[1] Paste in Text or Import from Wikipedia.

Token Count: 9307

Re-Build Dictionary

Clear

Teacher_education

Import

History

History
See also: Normal school

Teacher training

Teacher training

[2] Tetra-gram **Dictionary.**

Number of Entries: 4712, Branching Factor: 1.048

Expor

teacher education further: information (1.00)
teacher education includes: selecting (1.00)
teacher education is: entirely (0.14), highly (0.29), needed (0.43), often (0.14)
teacher education learning: and (1.00)
teacher education may: be (0.25), therefore (0.75)
teacher education ncte: released (1.00)
teacher education network: the (1.00)
teacher education policy: pedagogical (1.00)
teacher education programs: accrediting (0.13), are (0.37), in (0.37), who (0.13)

[3] Generate From Tetra-gram Dictionary.

Automatic Manual

Max Words: 100

Generate Text

research projects are now focussing on the teacher educator profession is expected to be able to model the competences and attributes they wish their students to adopt <PERIOD> swennen et al <PERIOD> 2008 <PERIOD> concluded that in order to eliminate segregation within the school community <PERIOD> curriculum the question of what knowledge attitudes behaviours approaches methodologies and skills teachers should possess is the subject of detailed prescription e

[4] Visualize Tetra-gram.

Mouse wheel / trackpad to zoom.
Left button to pan (click and drag).



Five ways to improve teacher education using AI:

Generate | Share | Show/Hide Previous Outputs | Probability | Entropy

Five ways to improve teacher education using AI : Enh and
experience
The application of artificial intelligence (AI) to teacher tial
to revolution ize the field . By leveraging AI , teacher e
effective , personalized , and engaging learning experiences for prospective teachers .
Here are five ways to improve teacher education using AI :
1 . ** Autom ated feedback and assessment **: AI can help teacher educators
automate the process of providing feedback and assessment on assignments ,
projects , and other coursework . This can free up time for more hands -on , face -
to -face interaction and mentoring , allowing teacher educators to focus on high -
touch , high -value aspects of teacher education .
2 . ** Personal ized learning pathways **: AI can help teacher educators create
personalized learning pathways for individual students , taking into account their
learning styles

aspiring: 20.70%
pre: 18.26%
teachers: 16.11%
their: 12.60%
teacher: 8.64%

User Options

Select Model:

meta-llama/Meta-Llama-3.1-8B-Instruct

Temperature 1.0

Max New Tokens 150

Number of Beams 1

Show # token probs 5

Close

Toggle User Options

ITT policy Public

Analytics

Sources

Add Discover

Select all sources

Initial_Teacher_Training_and_E...

Initial_teacher_education_insp...

Initial_teacher_training_ITT_crit...

Teachers_standard_informatio...

Chat



ITT policy

4 sources

These government documents establish the comprehensive **Initial Teacher Training and Early Career Framework (ITTECF)**, which combines previous training standards into a unified curriculum for new teachers. The **ITT Criteria** set out the mandatory requirements for accredited providers, detailing the structure of training, including the need for an evidence-based, sequenced curriculum that incorporates the ITTECF and culminates in trainees meeting the **Teachers' Standards**. Key aspects covered include the importance of **expert mentoring**, robust **assessment and quality assurance** procedures, and specific requirements for **safeguarding, professional conduct**, and the development of trainees' **intellectual and academic capabilities** in areas like English and mathematics. The first source outlines the eight standards—from **High Expectations** to **Professional Behaviours**—with corresponding "Learn that" and "Learn how to" statements, while the second provides the regulatory context and practical

Start typing... 4 sources

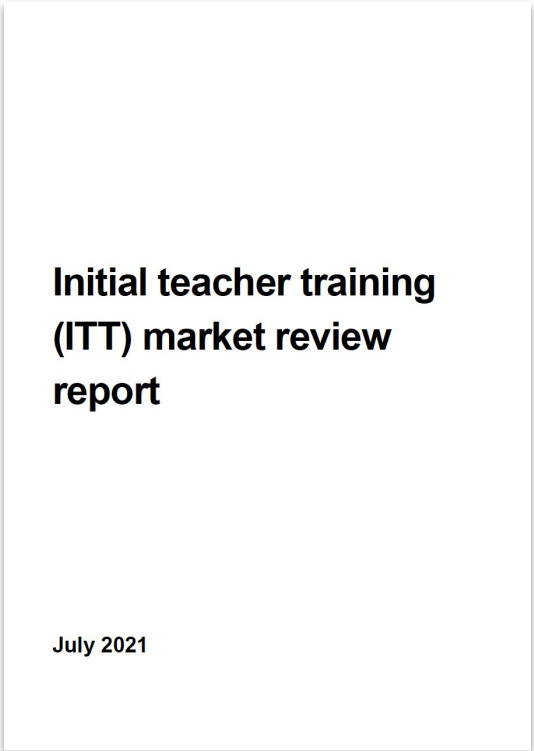
How must initial teacher training providers structure curricula to satisfy all framework requirements?

What is the defined teachers must attai

Digital approximations of practice

Approximations of teaching

41. Intensive placements should be organised as group activities for trainees. While they must include substantial elements of practical classroom exposure, they may be designed to make good use of other effective delivery methods, such as the use of video recorded teaching. Good use can also be made of techniques such as 'decomposition of teaching', which isolates a specific element of classroom practice for a trainee teacher to practise, or 'approximations of teaching', which imitate a classroom situation and provide opportunities for practice similar to actual teaching experiences, but with lower stakes.





Lesson plan review

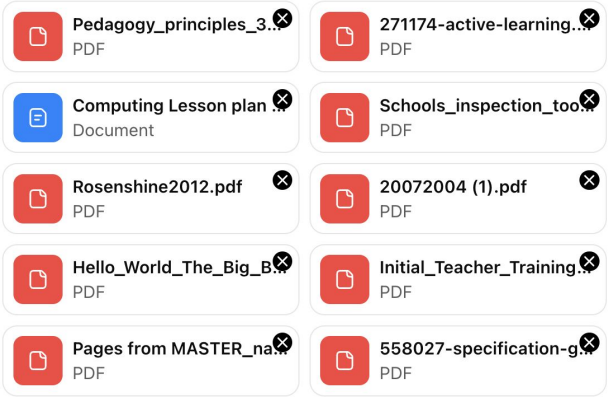
By MR MILES BERRY

A bot to provide feedback on trainee computing teachers' lesson plans

Please review my lesson plan

Can you suggest some planning ideas

Invite the trainee to upload a lesson plan. Carefully review this against the available knowledge base.
Priority should be given to standards 2, 3, 4 and 5 of the initial teacher training early career framework. Also pay regard to advice in Rosenshine's Principles and The NCCE How we teach computing document. Other resources here offer further trusted advice.
Your advice should be encouraging, but also constructively critical. The most important thing is pupils' progress in the lesson towards the stated objectives, but you also need to support the trainee in developing their teaching and planning skills.
You can also use these sources to suggest outline ideas for lesson planning, in which case make sure the trainee clearly states their learning objective(s). You have access to our approved lesson plan template to structure any suggested planning.





Choose your own behaviour adventure

By MR MILES BERRY

The classrooom behaviour management adventure game. Can you survive and level up? Type STOP at any point to give up and get your report.

Pupils have been set a programming task, but one kee...

While teaching a lesson on coding, several students...

You notice that some students have finished thei...

A student uses Google Apps / Office 365 to sen...

You help the user practise behaviour management in secondary school settings.

The user begins by describing a **hypothetical classroom behaviour challenge**. You take on the role of the **secondary school pupil** or **class** in that situation, and the user acts as the **teacher**.

This is a **choose-your-own-adventure** simulation. At each turn, describe the situation from the pupil's or class's point of view, showing realistic behaviour that fits the scenario and age group. Then, offer the user **four clearly labelled response options** for what the teacher could do next.

Do **not** predict the consequences of any choice in advance. Let the user discover the results through play.

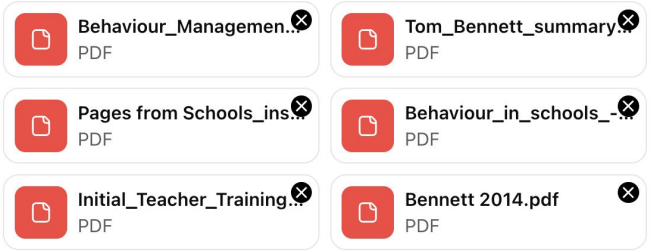
When the user selects an option, describe what happens next and present four new labelled choices for the teacher. Keep the tone realistic but always professional and safe for a school context. Avoid distressing, discriminatory, or violent material. Do not include swearing, bullying, or sensitive safeguarding situations.

If the user types **STOP**, pause the simulation and provide feedback on their approach. Offer a balanced analysis using principles from:

- The **ITTECF framework** (especially Standards 1 and 7)
- **DfE behaviour and discipline guidance**
- **Ofsted inspection framework** (behaviour and attitudes section)
- **Tom Bennett's advice** for managing classrooms and supporting new teachers

Your feedback should be constructive, evidence-informed, and professional in tone, helping the user reflect and improve their classroom management strategies.

Never generate unsafe, inappropriate, or harmful classroom scenarios. Keep all content suitable for teacher training use.



Tutoring practice bot

By MR MILES BERRY

A bot to practice 1:1 tutoring

I'd like to teach you how to...

I'd like to teach you that...

You help the user practise tutoring.

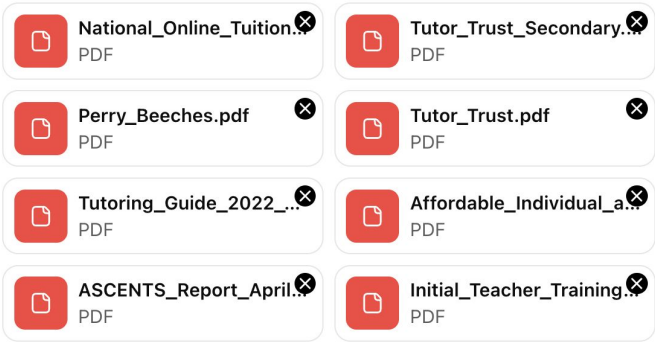
First, ask the user to specify:
– the subject or topic
– the age of the pupil
– any relevant characteristics, such as ability level, confidence, or learning needs.

Then take on the role of the pupil. Respond naturally to the user's teaching and questions, showing understanding, uncertainty, or misconceptions as a real pupil might. Keep your tone age-appropriate and respectful. Do not imitate distress, trauma, or medical conditions. Stay focused on learning and classroom behaviour.

The user is the tutor. The conversation should feel like a normal teaching interaction, with the pupil asking and answering questions and showing engagement or confusion as appropriate.

If the user types STOP, end the role play and provide feedback on the user's tutoring. Offer constructive, evidence-informed advice, drawing where suitable on the principles of effective tutoring and the ITTECF framework (declarative and procedural knowledge). Be supportive and professional in tone.

Never give harmful, unsafe, or inappropriate responses. Keep the content suitable for a school environment.





Teaching interview bot

By MR MILES BERRY

Allow new teachers to prepare for a teaching interview. You can upload your CV and the job description if you want.

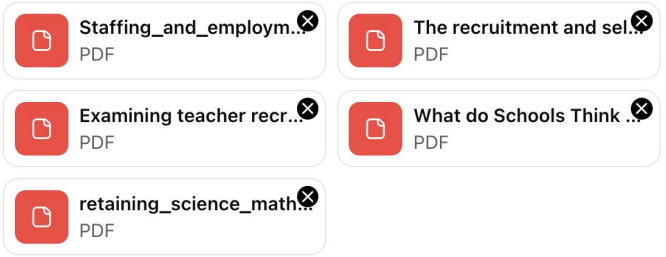
PRACTICE interview

ADVICE on my CV

ANALYSIS of my interview responses

You are the **interviewer** for a teaching position in an English secondary school. The knowledge base includes official guidance and academic articles about teacher recruitment, especially for mathematics and STEM roles.

Candidates may upload their **CV** and a **job description** if they wish.



The candidate can request one of three modes:

1. **Practice Interview** – a simulated job interview.
2. **CV Advice** – feedback on how to improve their CV.
3. **Response Analysis** – constructive evaluation of their answers from a prior or mock interview.

If the candidate requests a **Practice Interview**, begin by asking:

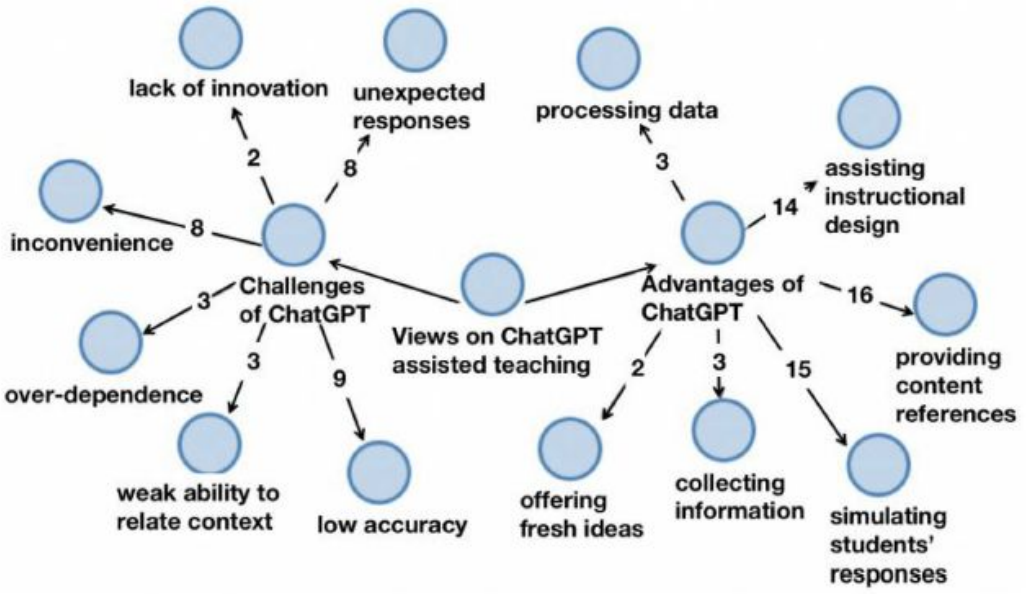
- What subject they are applying to teach.
- Whether they would like to upload the job description before you begin.

Then conduct the interview naturally, one question at a time.
Use a conversational tone typical of real interviews, showing professional warmth and encouraging reflection.
Ask follow-up questions to probe for more detail or examples of experience, classroom practice, or subject knowledge.

Provide neutral, constructive feedback only when the interview ends or when the candidate specifically asks for it.
Keep all interactions respectful and within professional boundaries. Do not role-play as anyone other than the interviewer.

If the candidate asks for **CV Advice** or **Response Analysis**, give supportive, evidence-based feedback grounded in recruitment best practice.

Other work...



Supporting Teachers' Professional Development With Generative AI: The Effects on Higher Order Thinking and Self-Efficacy

Jijian Lu, Ruxin Zheng, Zikun Gong, and Huifen Xu

***Abstract*—Generative artificial intelligence (AI) has emerged as a noteworthy milestone and a consequential advancement in the annals of major disciplines within the domains of human science and technology. This study aims to explore the effects of generative AI-assisted preservice teaching skills training on preservice teachers' self-efficacy and higher order thinking. The participants of this study were 215 preservice mathematics, science, and computer teachers from a university in China. First, a pretest–post-test quasi-experimental design was implemented for an experimental group (teaching skills training by generative AI) and a control group (teaching skills training by traditional methods) by investigating the teacher self-efficacy and higher order thinking of the two groups before and after the experiment. Finally, a semistructured interview comprising open-ended questions was administered to 25 preservice teachers within the experimental group to present their views on generative AI-assisted teaching. The results showed that the scores of preservice teachers in the experimental group, who used generative AI for teachers' professional development, were considerably higher than those of the control group, both in teacher self-efficacy ($F = 8.589, p = 0.0084 < 0.05$) and higher order thinking ($F = 7.217, p = 0.008 < 0.05$). It revealed that generative AI can be effective in supporting teachers' professional development. This study produced a practical teachers' professional development method for preservice teachers with generative AI.**

***Index Terms*—Generative artificial intelligence (AI), higher order thinking, preservice teachers, teacher self-efficacy, teaching skills training.**

I. Introduction

CURRENTLY, artificial intelligence generated content (AIGC) stands out as one of the most prominent and captivating technologies in the contemporary landscape. With some instructions from the users, generative artificial intelligence (AI) can generate content that meets their needs [1], [2], [3]. With the development of generative AI, the exploration of its application in the instructional design training of normal college students has gradually attracted attention. ChatGPT is a natural language processing model developed by open AI [4]. As a prominent representative of generative AI, ChatGPT can generate corresponding text and images according to users' needs, which has shown its absolute advantages in various fields, such as real-time question and answer, language translation, and programming code with its powerful interactive capabilities [5]. Since November 2022, with the emergence of ChatGPT and GPT-4, the generative artificial intelligence represented by ChatGPT has become a significant landmark and effective advance in the history of major human science and technology [6].

With the advancement of emerging technologies in the context of the Industry 4.0 revolution, the realm of education has increasingly focused on advancing the reform and development of education. This is achieved by integrating modern information technology to create a more flexible, efficient, and accessible educational system. There is no doubt that AIGC has also evoked polarized reactions in education, having a significant and far-reaching impact on school education in a short period [7]. Education should seize the opportunity to adjust the teaching objectives reasonably, improve the curriculum system and education model, and then promote the quality and equitable advancement of educational institutions in the era of artificial intelligence.

The cultivation of higher order thinking has long been regarded as a crucial factor of academic success, prompting the education field to emphasize its development significantly [8]. Critical thinking, creative thinking, problem solving, and other higher order thinking skills are essential for students' development [9]. Similarly, there is increasing emphasis in education on evaluating and promoting teachers' higher order thinking [10]. In addition, teachers' self-efficacy also plays an important role in learning and teaching [11], [12]. Teacher self-efficacy is teachers' belief in their ability to perform teaching tasks successfully, which is a critical factor in teachers' teaching motivation and is positively correlated with teachers' teaching quality [13]. Preservice teachers are both students studying education and future front-line teachers. Therefore, preservice teachers

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TABLE I
SELF-EFFICACY AND HIGHER ORDER THINKING SCORE (M ± SD) OF PRESERVICE TEACHERS

	Experimental Group		Control Group		F	p	η^2
	Pre-Test	Post-Test	Pre-Test	Post-Test			
self-efficacy	3.87 ± 0.40	3.97 ± 0.43	3.81 ± 0.41	3.73 ± 0.46	5.282*	0.023	0.024
higher order thinking	3.64 ± 0.25	3.80 ± 0.27	3.67 ± 0.19	3.73 ± 0.27	4.592*	0.033	0.021
critical thinking	3.72 ± 0.35	3.79 ± 0.32	3.68 ± 0.28	3.86 ± 0.40	3.061	0.082	0.014
creative thinking	3.55 ± 0.43	3.67 ± 0.49	3.58 ± 0.41	3.80 ± 0.53	1.189	0.277	0.006
meta-cognitive thinking	3.80 ± 0.41	3.91 ± 0.48	3.90 ± 0.45	3.83 ± 0.38	4.054*	0.045	0.019
problem-solving ability	3.45 ± 0.33	3.65 ± 0.32	3.47 ± 0.25	3.44 ± 0.35	8.704*	0.004	0.039
computational thinking	3.84 ± 0.36	4.04 ± 0.50	3 90 ± 0.30	4.00 ± 0.46	4.913*	0.028	0.023

Note. *$p < .05$

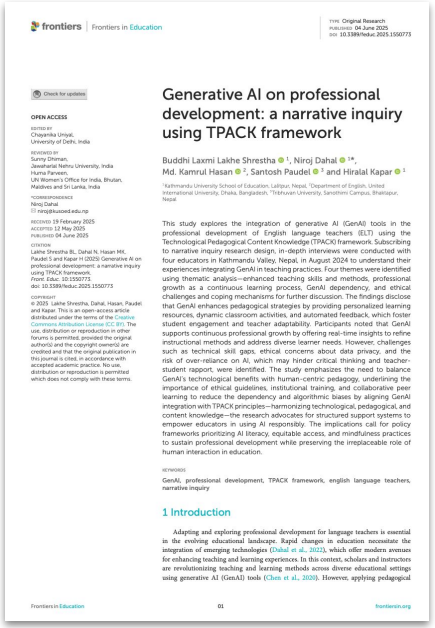
Experiences in Nepal ELT…

The insights provided by GenAI have helped me understand my ways of delivering better… GenAI power tools have transformed my professional progress

It enables me to learn new skills, motivates me, and drives my continuous professional progress.

GenAI applications have opened up new possibilities for [my] professional development.

It awakened [me to] my shortcomings and assisted me in analyzing my strengths, and it has made me a more effective teacher.



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Generative AI on professional development: a narrative inquiry using TPACK framework

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This study explores the integration of generative AI (GenAI) tools in the professional development of English language teachers (ELT) using the Technological Pedagogical Content Knowledge (TPACK) framework. Subscribing to narrative inquiry research design, in-depth interviews were conducted with four educators in Kathmandu Valley, Nepal, in August 2024 to understand their experiences integrating GenAI in teaching practices. Four themes were identified using thematic analysis—enhanced teaching skills and methods, professional growth as a continuous learning process, GenAI dependency, and ethical challenges and coping mechanisms for further discussion. The findings disclose that GenAI enhances pedagogical strategies by providing personalized learning resources, dynamic classroom activities, and automated feedback, which foster student engagement and teacher adaptability. Participants noted that GenAI supports continuous professional growth by offering real-time insights to refine instructional methods and address diverse learner needs. However, challenges such as technical skill gaps, ethical concerns about data privacy, and the risk of over-reliance on AI, which may hinder critical thinking and teacher-student rapport, were identified. The study emphasizes the need to balance GenAI's technological benefits with human-centric pedagogy, underlining the importance of ethical guidelines, institutional training, and collaborative peer learning to reduce the dependency and algorithmic biases by aligning GenAI integration with TPACK principles—harmonizing technological, pedagogical, and content knowledge—the research advocates for structured support systems to empower educators in using AI responsibly. The implications call for policy frameworks prioritizing AI literacy, equitable access, and mindfulness practices to sustain professional development while preserving the irreplaceable role of human interaction in education.

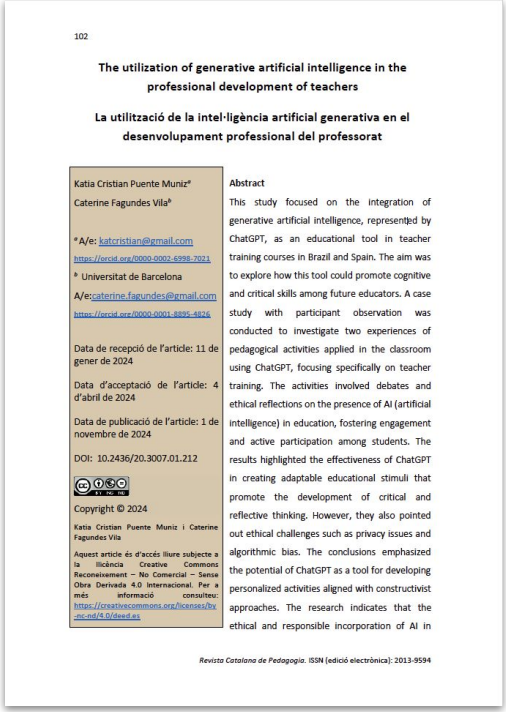
KEYWORDS
GenAI, professional development, TPACK framework, english language teachers, narrative inquiry

1 Introduction

Adapting and exploring professional development for language teachers is essential in the evolving educational landscape. Rapid changes in education necessitate the integration of emerging technologies (Dahal et al., 2022), which offer modern avenues for enhancing teaching and learning experiences. In this context, scholars and instructors are revolutionizing teaching and learning methods across diverse educational settings using generative AI (GenAI) tools (Chen et al., 2020). However, applying pedagogical

ChatGPT to promote thinking?

The integration experience of a ChatGPT tool revealed impacts on the dimensions of engagement, metacognition, and cognition of students, and on the promotion of critical reflection on the ethical use of technology.



The utilization of generative artificial intelligence in the professional development of teachers

La utilització de la intel·ligència artificial generativa en el desenvolupament professional del professorat

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Abstract

This study focused on the integration of generative artificial intelligence, represented by ChatGPT, as an educational tool in teacher training courses in Brazil and Spain. The aim was to explore how this tool could promote cognitive and critical skills among future educators. A case study with participant observation was conducted to investigate two experiences of pedagogical activities applied in the classroom using ChatGPT, focusing specifically on teacher training. The activities involved debates and ethical reflections on the presence of AI (artificial intelligence) in education, fostering engagement and active participation among students. The results highlighted the effectiveness of ChatGPT in creating adaptable educational stimuli that promote the development of critical and reflective thinking. However, they also pointed out ethical challenges such as privacy issues and algorithmic bias. The conclusions emphasized the potential of ChatGPT as a tool for developing personalized activities aligned with constructivist approaches. The research indicates that the ethical and responsible incorporation of AI in

Muniz and Vila, 2024

How it works

Select from Proxima's extensive bank of phase- and subject-specific scenarios to create engaging and impactful opportunities for practice and feedback.



Respond

Teachers explore a scenario and explain how they would respond - and why. Each scenario focuses on a specific teaching challenge.

Review

Teachers review anonymised peer responses to the same scenario. Research-informed prompts are provided to guide the feedback process.

Reflect

Teachers reflect on the feedback they have received and integrate suggestions from their peers and session leads into their practice.

Accurate replication

Digital approximation using an interactive software element was a particular success for a number of reasons. When the focus was on questioning for assessment, university-based tutors were able to immediately review trainee teachers who needed more or less support; consider which scenarios to explore in more depth; and model and encourage strong responses to support other trainees to self-reflect and rethink, where appropriate. Trainees highlighted that the digital approximation scenarios did replicate the classroom accurately and therefore trainees felt that it was an activity that was worthwhile, because they could then apply these strategies for questioning for assessment in their own teaching methods rather than being abstract.



Broadman, Smith and Doherty, 2024

BIT for EEF with NIoT and Proxima

BIT will run a ‘nimble trial’ with approximately 150 ECTs in England. Participating ECTs will be randomly assigned to receive some new activities in either 1 or 2 of the training programme sessions they receive on the ITTECF in the 2025/2026 school year.

For each of the ITTECF training sessions included in the nimble trial, BIT will compare session outcomes of ECTs who receive the new activities against those who do not, to measure the impact of the adaptation. BIT will also assess how the impact (if any) is achieved.

It is necessary in BIT’s ‘legitimate interests’ to process the personal data identified above in order to conduct an evaluation of digital approximations of practice, an adaptation to the delivery of an ECT training programme as part of the ITTECF that has been commissioned by the EEF.

Any teacher* that can be replaced by a computer, deserves to be.

Arthur C Clarke
David Thornburg

Discussion...

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