

UJMU

2025-2026

STUDENT/ MENTOR

GUIDE

ITAP

ARTIFICIAL INTELLIGENCE AS A
PEDAGOGICAL TOOL

"Reflecting on activities created by ChatGPT can help to broaden teachers' perspectives and inspire creativity by offering a range of potential activities." (Van Den Burg & Du Plessis: 2023)



Rationale & Purpose

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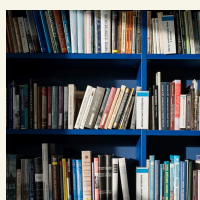
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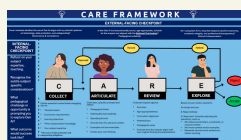
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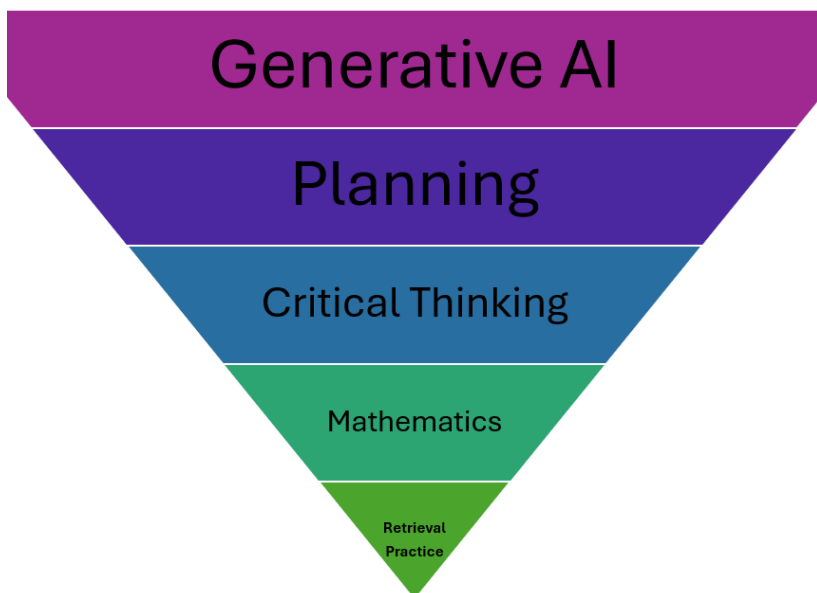
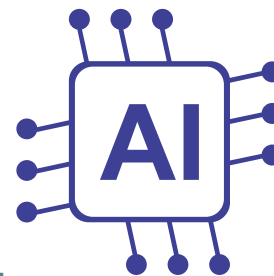


CARE Framework and use of Gen AI

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Rationale & Purpose

OFSTED acknowledge the broad availability of AI and they support its innovation in improving education for the learners. They state how they as an organisation have embraced and are harnessing some of the features of AI within their own processes. OFSTED will assess the impact of the use of AI on learners as part of their inspections.



Why is the use of AI an ITAP focus?

The DfE (20235), recognises that when used appropriately, AI has the potential to reduce workload, free up teachers' time and thus allowing them to focus on face-to-face teaching. They are seeking to identify opportunities to improve education and workload by using AI purposefully, whilst also recognising the need to protect data, staff and pupils, along with ensuring educators are aware of the possible inaccurate, inappropriate, unreliable and bias content that can be created.

In the ever-increasing digital age, with AI on the cusp of becoming a feature within education, LJMU is seeking to take a proactive, innovative and ethical approach to how AI can be best utilised for our student teachers and ultimately for our schools and their learners. Our assessment data indicates that our students are accustomed to working within the framework of quality-assured curriculum schemes and from anecdotal conversations with mentors we are encouraged that our student teachers are urged to engage with the schemes while also personalising content and recognise the value of adapting the scheme to the needs of the class.

The use of AI and more specifically large language models (LLM) such as ChatGPT and Microsoft Copilot allows the student teacher and mentor to interact with an AI system that can provide information, suggestions, and generate content based on the input it receives. This can be seen as a form of "bouncing ideas" with the software. The teacher can propose an idea or ask a question, and the AI system can respond with relevant information or suggestions, thereby facilitating a dynamic exchange of ideas.

The data we collect each year identifies that many of our students reflect upon areas of concern they have, this can include lack of subject knowledge, anxiety around modelling, explanations and adapting to the needs of the class. At the heart of the ITaP is developing the student teachers' decision making and professional judgement skills. Despite the AI being able to provide valuable output and assist in idea generation, the ultimate decision-making and creative control remains with the teacher. Through working closely with a professional mentor, the student teachers will maintain autonomy, accountability and responsibility through crafting carefully targeted prompts based upon specific needs of the class. This can help teachers to personalise and contextualise their teaching to the needs of the class. This can only be achieved however through rigorously analysing, reflecting and evaluating the content provided by AI and therefore discerning its value within the authentic, contextual nature of the classroom.

KEY LITERATURE

UNDERPINNING THE ITAP

AI ITAP



DfE 2025 - <https://www.gov.uk/government/publications/generative-artificial-intelligence-in-education/generative-artificial-intelligence-ai-in-education>

Kalenda, P. J., Rath, L., Heidt, M. A., & Wright, A. (2025). Pre-service teacher perceptions of ChatGPT for lesson plan generation. *Journal of Educational Technology Systems*. Sage Journals
<https://doi.org/10.1177/00472395241301388>

Kehoe, F. (2023). Leveraging generative AI tools for enhanced lesson planning in initial teacher education at post primary. *Irish Journal of Technology Enhanced Learning*, 7(2), 172-182.
<https://doi.org/10.22554/ijtel.v7i2.124>

Sumeracki MA and Weinsten Y (2018) Optimising learning using retrieval practice. *Impact* 2: 16-19.
Available at: https://my.chartered.college/impact_article/optimising-learning-using-retrieval-practice/

UNESCO 2026, 'AI and the future of education: disruptions, dilemmas and directions.'
<https://unesdoc.unesco.org/ark:/48223/pf0000395236>

van den Burg, G., & du Plessis, E. (2023). ChatGPT and generative AI: Possibilities for its contribution to lesson planning, critical thinking and openness in teacher education. *Education Sciences*, 13(10), 998.
<https://doi.org/10.3390/educsci13100998>

Model Structure

INTRODUCE <i>Learning about the theory of teaching and learning</i>	ANALYSE <i>Using representations to analyse expert teaching</i>	PREPARE <i>Using approximations to practise and get feedback</i>	ENACT <i>Receiving support to apply learning in the classroom</i>	ASSESS <i>Tracking trainees' growing knowledge and skills</i>
Lectures	Lesson observations	Instructional rehearsals	Instructional coaching	Lesson observations
Seminars	Video deconstructions	Scenario planning	Team teaching	Classroom artefacts
Assigned readings	Classroom artefacts	Role plays	Co-planning	Quizzes
Interviews	Expert modelling	Digital approximations	Lesson study	Portfolios

Framework informed by: Grossman, P. (2018) (ed.). *Teaching Core Practices in Teacher Education*. & *Teaching Works* (2022). *Teacher Education Pedagogies*. University of Michigan. [URL](#)

UNIVERSITY-BASED SESSIONS

DAY 1: 2 hours

Introduction to the ITaP, rationale and purpose. Logistics and practicalities. Awareness of bias, safeguarding, privacy, hallucinations and sustainability around Generative AI use.

DAY 1: 1 hour

Introduction to Generative AI, the models and interface. Key vocabulary around using Generative AI. Benefits and limitations for teachers, considering power dynamics and impact on responsibility, autonomy and professional judgment.

DAY 1: 2 hours

Prompt crafting, CARE framework. Unpicking prompts, scrutinising and evaluating prompts.

DAY 2: 2 hours

Retrieval Practice introduction. What is it? Why does it work? Research around it. Performance vs learning. Effective retrieval practice. Purpose and ways it can illuminate misconceptions.

DAY 2: 1.5 hours

Build prompts to create retrieval practice opportunities based upon scenario/ case study class, peer and tutor feedback.

DAY 2: 1.5 hours

Present and evaluate prompts and feedback.
Approximation of practice.

Day 3: School-Based (see page 6)

Day 4: School-Based (see page 6)

PLEASE NOTE THAT WE DO NOT EXPECT ANY OF OUR MENTORS TO BE EXPERTS IN GENERATIVE AI OR TO USE IT REGULARLY AS PART OF THEIR PRACTICE. THE MENTORS ARE THE EXPERTS IN THE CLASSROOM AND IT IS THEIR SUBJECT AND PEDAGOGICAL KNOWLEDGE WHICH IS MOST VALUED WITHIN THIS ITAP.

DAY 5: 1.5 hours

Review School-based ITaP. Consider current confidence and future application. Review next steps

Day 5: 1.5 hours

Build and develop own subject specific AI agent

Day 5: 2 hours - Present and questions subject specific Gen AI agents with peers and staff

School-based GUIDANCE

This ITaP aligns with Questions 2 and 5 from the Phase Expectations

Day 3

D ISCUSSION

We would encourage our students to develop an understanding of the coverage within the mathematics curriculum. What has been taught? Areas of strength? Areas of concern? Recent topics? Example questions? Also discuss what retrieval practice looks like within the school curriculum, format, time etc.. Does the school have an AI policy? Is it widely used and if so how?

O BSERVATION

The student teacher would observe an expert school colleague delivering a retrieval practice (whole class or small group). Please note this could be discrete from the actual timetabled lesson or within the lesson itself. Discuss the observation with the teacher and discuss the retrieval practice content that will be planned and delivered for the following day.

P LAN

With the use of generative AI, the student teacher to plan and a retrieval practice for whole class or small group, with a focus upon an activity, identification of misconceptions and addressing these with suitable pedagogies. **Please note that we are asking for the student teacher to be permitted around 15-20 minutes for their retrieval practice activity, which we recognise is longer than the traditional retrieval practice but allows them time to fully test out their plan**

Day 4

T EACH

Accommodate an opportunity for the student teachers to deliver their retrieval practice activity.

F EEDBACK

Give students feedback on their retrieval practice. This is likely to include, the student teacher showing the mentor how they have developed the retrieval practice for the day using AI. They will talk through their prior knowledge, students' needs, information they collected, how they articulated their thoughts with the Gen AI, how they used their professional judgement to determine its suitability and what the final outcome is. Mentor can offer some feedback regarding the information considered, the prompting to the Gen AI tool, the output and final decisions along with the implementation and impact of the retrieval practice activity.

A SSESSMENT

Mentor to complete the AI ITaP outcomes document (Example on following page)

ITaP Outcomes (to be completed by the mentor)

Student teachers are learning to:
Use Generative AI as a pedagogical tool to support teachers in planning and delivering mathematics retrieval practice. **Please refer to the student/ mentor evidence portfolio file to complete this.**

Mentor Assessment Form

Please mark the appropriate coloured box on the right-hand side for each assessment outcome and write a brief comment to explain why you came to this decision

The student teacher has gathered key information about the class, the curriculum coverage and other necessary information.

Comments:

The student can use AI to augment their own thinking and critically evaluate the retrieval activity to ensure it meets the specific cognitive and mathematical needs of the learners in their placement class

Comments:

The chosen activity was suitable in age/stage, format and challenge.

Comments:

Contact us:

Mentor Assessment Form

Please mark the appropriate coloured box on the right-hand side for each assessment outcome and write a brief comment to explain why you came to this decision

The student teacher was aware of and planned for potential misconceptions.

Comments:

The student teacher was capable of addressing misconceptions confidently.

Comments:

The planning & delivery of the retrieval practice was well organised and professional

Comments:

Contact us:



Example Questions

DURING THE POST-LESSON FEEDBACK



"What information did you gather before planning the retrieval practice activity?"

Prompts the student teacher to reflect on some brief assessment of the children and the mathematics.

"What were the key things you observed and learnt when observing my retrieval practice activity?"

This reflective dialogue supports professional growth by recognising what observable elements to the retrieval practice the students understood and took away.

"What were the key elements within your initial prompt to AI?"

Helps check understanding of the CARE framework and how teacher knowledge and agency underpins any AI output.

"Which part of this activity was suggested by AI, and which part did you have to change to make it work for this specific class?"

Helps check critical evaluation and adaptation skills.

"How did you ensure the mathematical approaches in this activity matches the way I taught them earlier in the week?"

Helps evaluate professional alignment and accuracy.

"If you had to do this again without AI, what core 'retrieval' principles would you keep?"

Evaluates understanding of the underlying pedagogy (Retrieval Practice) versus the tool.

FOR FURTHER INFORMATION PLEASE EMAIL SIMON @
S.P.LEA1@LJMU.AC.UK



Privacy Guidelines

USE OF GENERATIVE AI



1) Student teachers should not enter any information about the school or the children which could compromise anonymity.

This could include, names, addresses, data, personal SEN reports.

2) Student teachers should check the accuracy and reliability of the generative AI output before accepting its use with the children.

3) Student teachers should use an 'equity first' approach when prompt engineering and reviewing any output.

4) Student teacher should consider possible examples of bias in any outputs produced.

5) The student teacher must recognise they are responsible for the content chosen and the impact on the children.

6) The student teacher recognises that the use of AI is as a supportive tool and not to replace the teaching process or undermine their knowledge and professional judgement.

7) Student teacher will only use the Generative AI tools approved by LJMU as part of the ITaP.

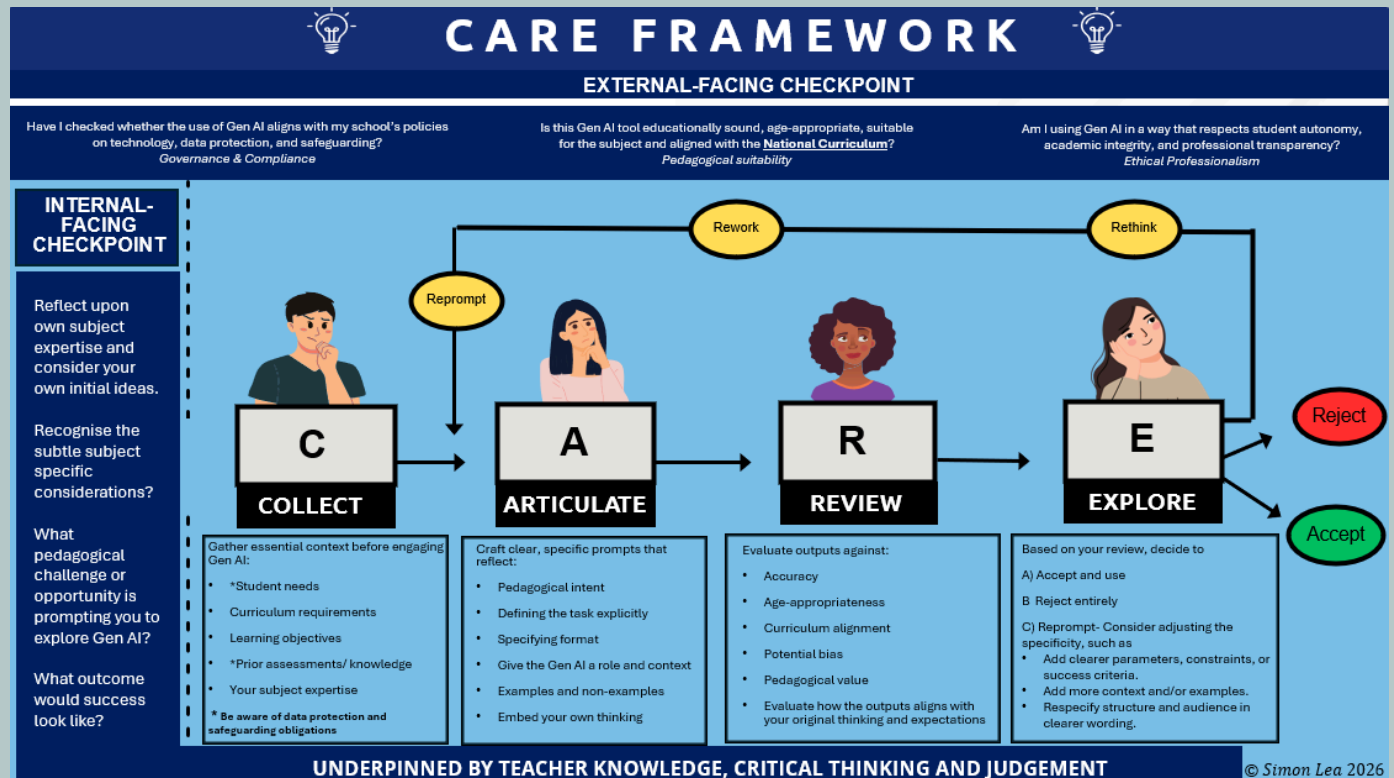
8) Student teacher should be aware of the overarching impact of generative AI on sustainability and ways to prevent overuse.

FOR FURTHER INFORMATION PLEASE EMAIL SIMON LEA
S.P.LEA1@LJMU.AC.UK

CARE Framework



Our student teachers have been trained throughout the ITaP to use the CARE framework as a structured approach to use Generative AI in a safe and effective manner.



Use of AI

The student teachers have a choice of Generative AI tools they could use, but at LJMU the student teachers all have access to Microsoft Copilot. There are three key elements to the retrieval practice,

1. Using the Generative AI to help them build a suitable retrieval practice activity.
2. Using the Generative AI to help them identify possible misconceptions that could arise during the retrieval practice.
3. Using the Generative AI to help them consider approaches/ strategies to address these possible misconceptions.

The framework above should be used by the student teachers to ensure the use of AI is done professionally.

C = Collect (Gathering information about the class, current understanding, misconceptions, timetables, topic coverage etc...)

- The student teachers must not enter the name of school, class or individual children but could for example say 'This is a Year 3 class, with 30 children. Two children have been diagnosed with dyscalculia.'

A = Articulate (The students should then build a suitable prompt for the AI. This is likely to come in the form of a question or request).

R = Review (The AI model will then produce an output, the student teacher must carefully scrutinise the output using professional judgement and discernment).

E = Explore (The student teacher must then explore their options regarding what they will do with this output. They could reject it and start again, refine their prompts to achieve a better outcome or accept what has been produced).