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## Exploring Generative AI in Initial Teacher Education: A Pre-Research Study on Pre-Service Teachers' use and perceptions of Generative AI tools during their first Primary PGCE teaching practice



The University of Manchester

02.07.25



EMPOWERING  
FUTURE  
GENERATIONS

# Rationale for AI pilot

UoM primary PGCE

MANCHESTER  
1824

The University of Manchester



Who are we?



Should we allow **trainee teachers** to use AI?

Which **AI tool** should be explored?



What can AI **do well** and what **can't it do well**?



**Voluntary or mandated** use?



# Research team and FLP grant

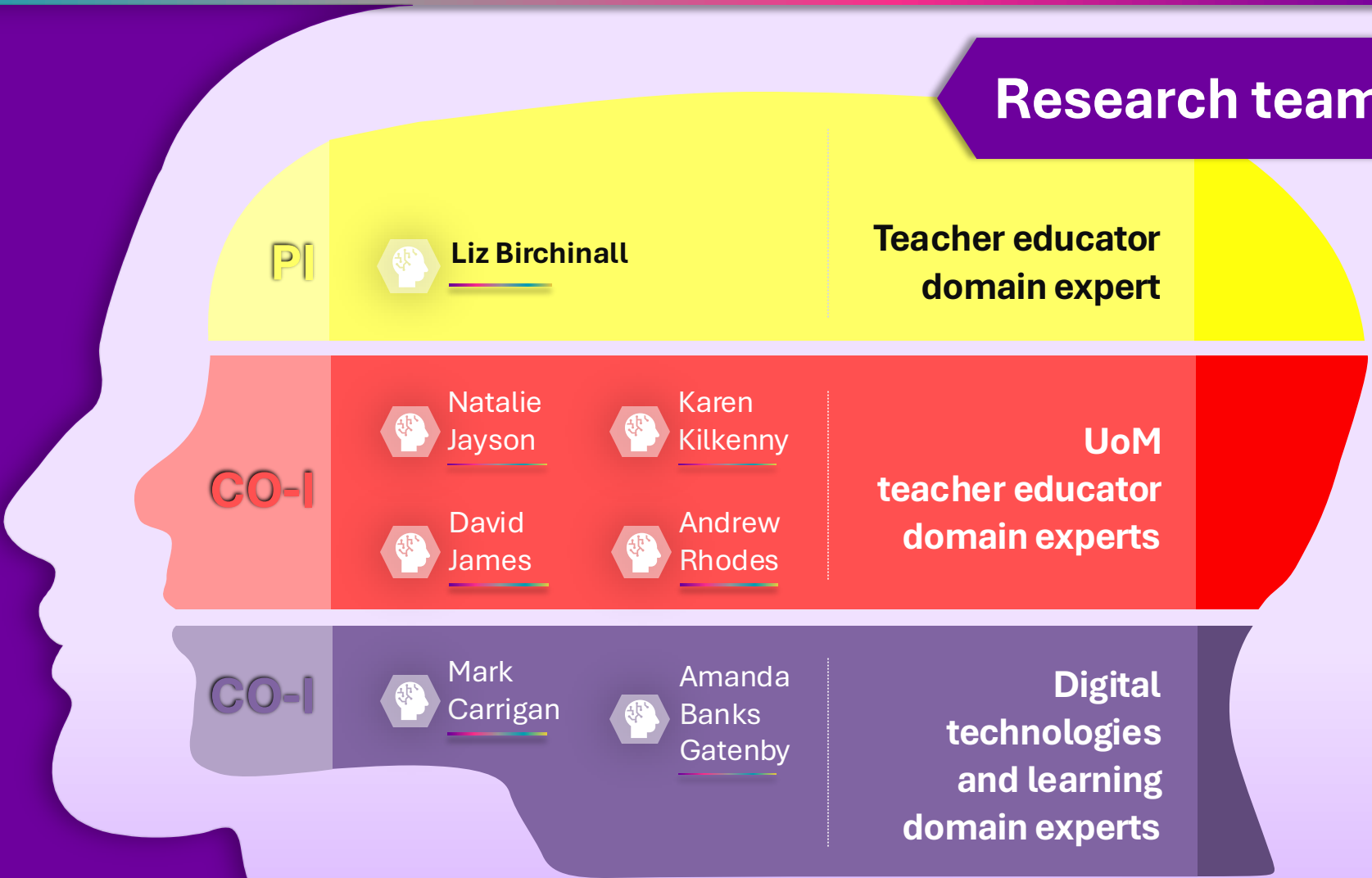


## Research team



**Flexible  
learning pilot  
(FLP grant)**

**successful  
application  
Summer  
2024**



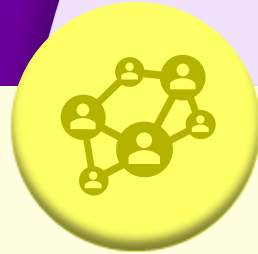


## RESEARCH QUESTION

What are HE academics, trainee teachers and primary school staff's perceptions, experiences and learning from using an AI tool called TeachMateAI during the primary PGCE programme?



### INTERPRETIVISM PHILOSOPHY



understanding participant perceptions, experiences and learning

### QUALITATIVE RESEARCH



understand 'how and why' and not just 'what'

### CASE STUDY



examining in detail a specific enquiry in a specific context

### LONGITUDINAL STUDY



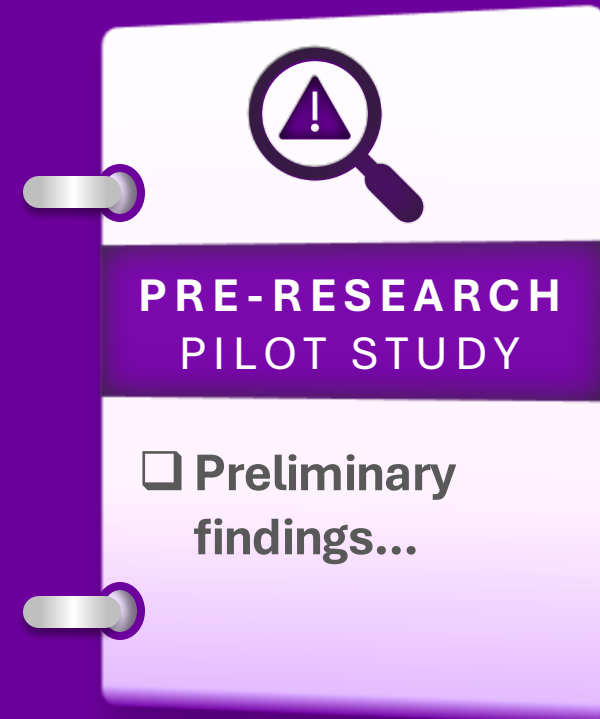
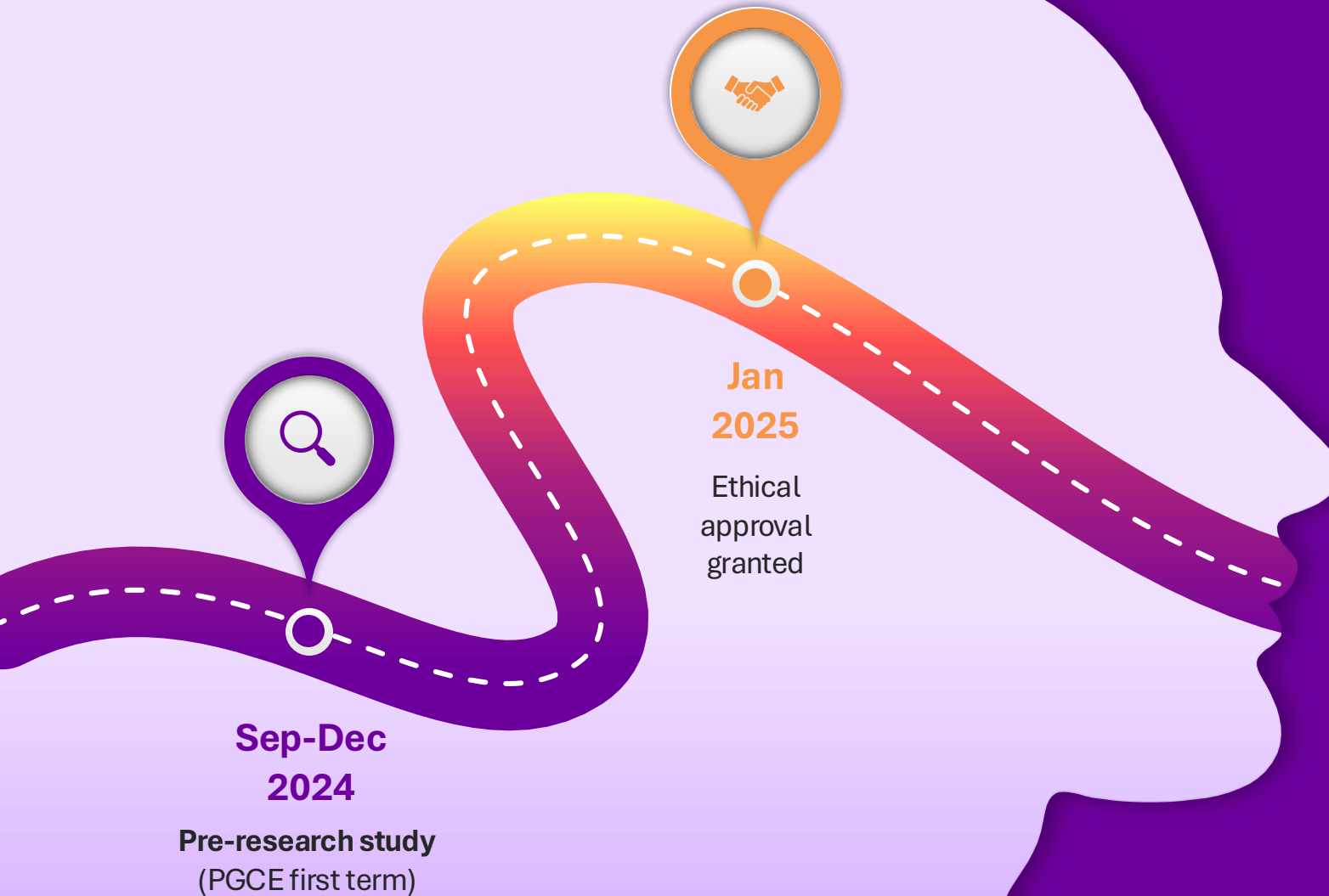
evaluation over 3 years (2024 – 2027)

**longitudinal qualitative exploratory case study**

# Introduction to pre-research pilot study



FREE ACCESS



# Pre-research thoughts and feedback



DURING SE1  
(FIRST TEACHING PLACEMENT)



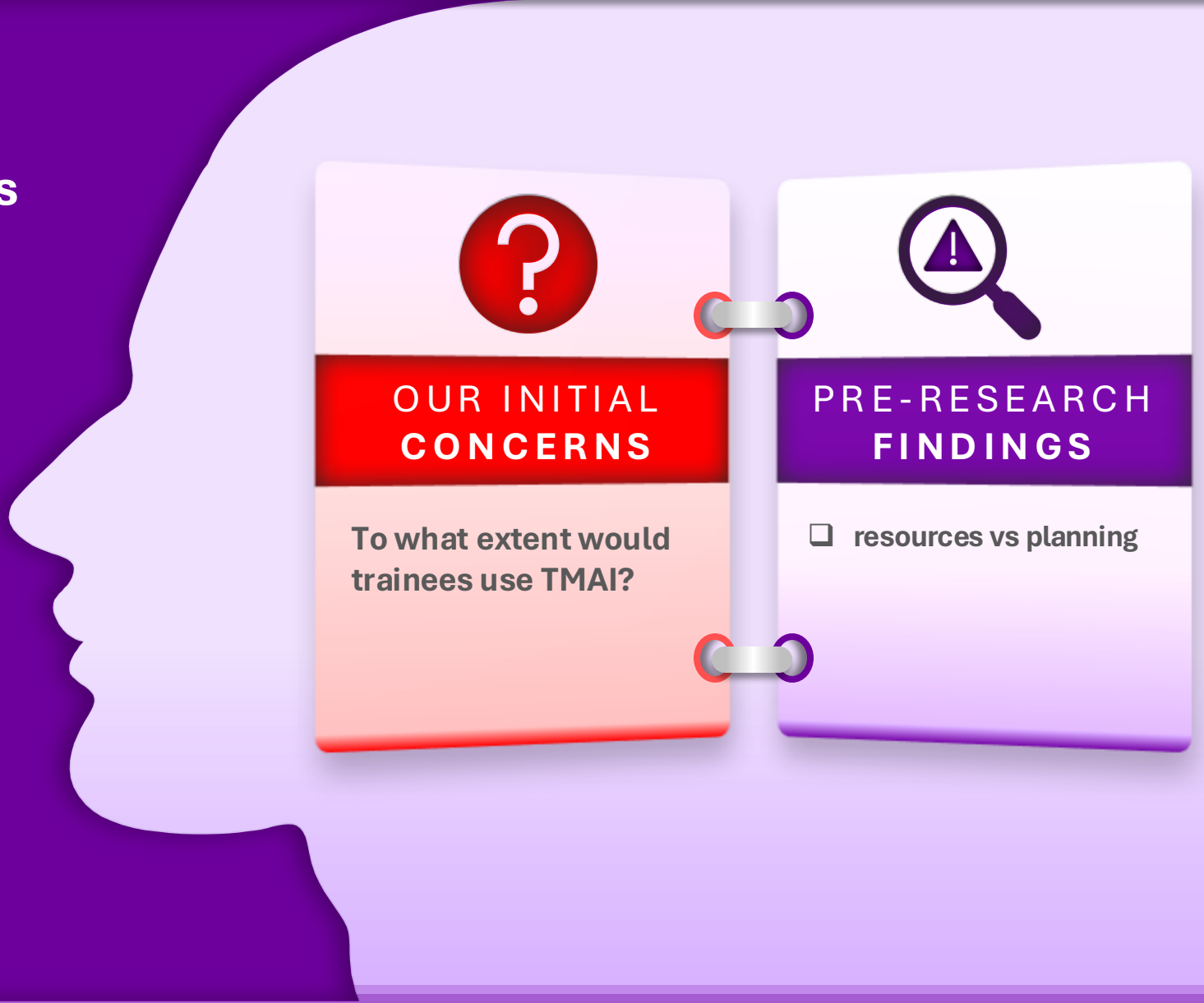
**Tutor group trials**  
(TMAI/other)



**Feedback**  
(placement visits)

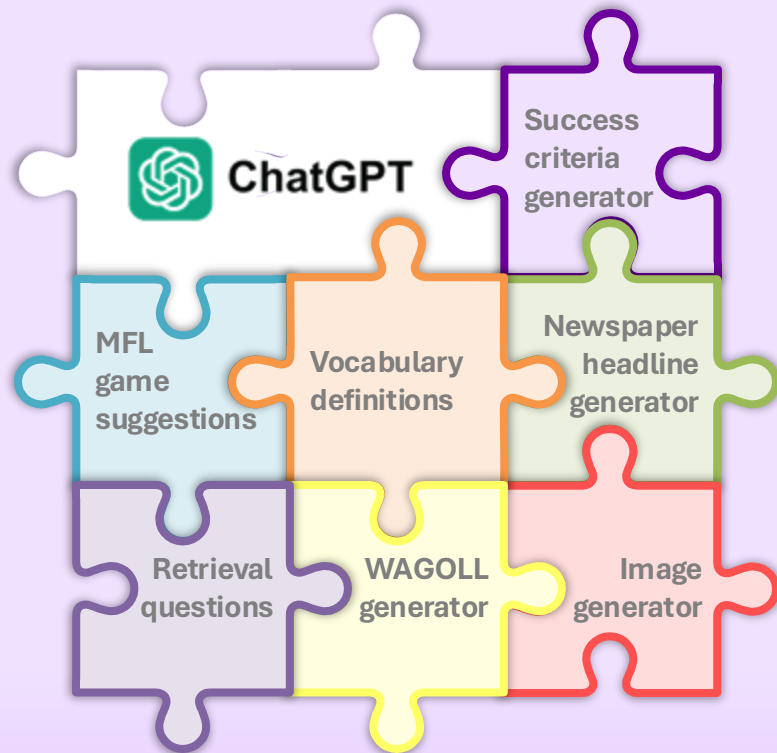
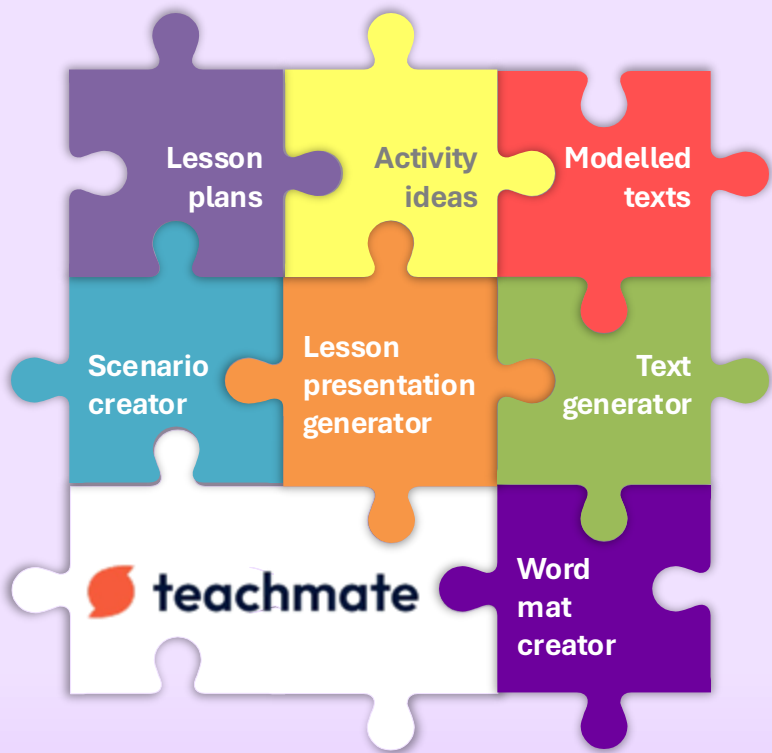


**Anecdotal**  
(inform project)



# Generative AI tool use

(50 trainees)

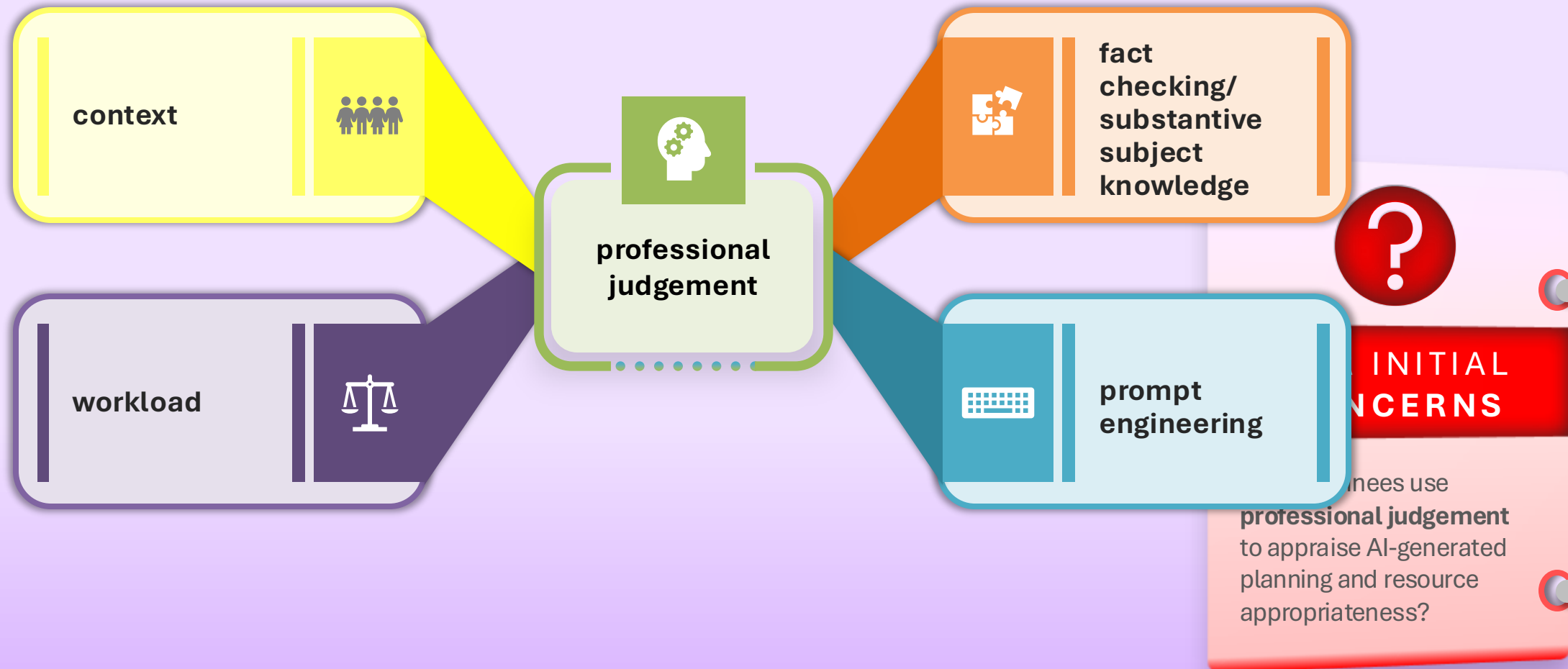


COMMON  
THEME

English



# 5 Themes emerging





# THEME 1

## Context



Positive feedback



Negative feedback



Key consideration



professional  
judgement



context



workload



fact checking/  
substantive  
subject  
knowledge



prompt  
engineering



### OUR INITIAL CONCERNS

Would trainees **adapt**  
generated **resources** to  
meet the identified  
**context/needs** of their  
placement class?



### PRE-RESEARCH FINDINGS

- ☐ AI tools vs  
schemes of work
- ☐ greater autonomy



professional  
judgement

If **not used responsibly**, it  
could mean **resources** are **not  
tailored** well for the specific  
needs of the class.

Sometimes even though I  
specified year 1 it **generates**  
**tasks my class wouldn't be  
able to do.**

Medium term and lesson **plans**  
are **very limited** and are very  
much a '**starting point**' for the  
pupils in my class.



### EXAMPLE

I created a **letter from Santa** that was **tailored**  
to my **school setting** and **class context**.

# Workload management



Positive feedback



Negative feedback



Key consideration



professional  
judgement



context



workload



fact checking/  
substantive  
subject  
knowledge



prompt  
engineering



## OUR INITIAL CONCERNS

Would trainees simply  
'cut and paste' from AI,  
**without evaluation**, as  
a time saver?



## PRE-RESEARCH FINDINGS

- ☐ resources vs lesson planning
- ☐ 'heavy lifting'
- ☐ criticality of effective & non-effective use



professional  
judgement

Saves time **physically** making  
**resources** but I have to **delete**  
**a lot of the auto generated**  
**text** as I am in Year 1.

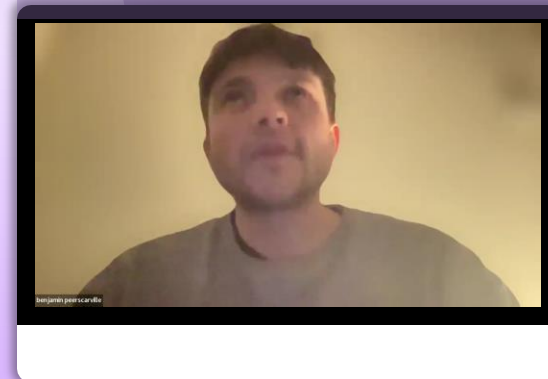


Saves **time** and **mental energy**.



### EXAMPLE

A trainee's perspective



### EXAMPLE

English: create **sample texts** for  
**modelled writing** and **WAGOLL**.



Positive feedback



Negative feedback



Key consideration

professional  
judgement

context



workload

fact checking/  
substantive  
subject knowledgeprompt  
engineeringOUR INITIAL  
CONCERNS

How will trainees know  
what is **factually  
correct** with such **little  
teaching experience**?

PRE-RESEARCH  
FINDINGS

- ☐ TeachMate: **age- and  
curriculum- appropriate**  
resources
- ☐ **Limited vs strong**  
subject knowledge

professional  
judgement

I like to have **subject knowledge** in  
**my mind** and ready to **answer any  
questions**. If I depended on AI, I  
would **struggle to go 'off script'**.



I think you **retain less** of the  
**subject knowledge** and **retrieval  
practice questions** from it.



**TM** is good at **targeting correct age  
groups**. It can incorporate **relevant  
year group words/spellings**.



**ChatGPT** is more helpful for **texts**  
and **checking subject knowledge  
accuracy quickly**.

EXAMPLE (*limited subject knowledge*)

I created an **EAL word mat** (Cantonese)  
but **didn't end up using it** as I was worried  
that the **Cantonese might be incorrect**.

EXAMPLE (*strong subject knowledge*)

**Hitler** invading.



Positive feedback



Negative feedback



Key consideration

professional  
judgement

context



workload

fact checking/  
substantive  
subject  
knowledgeprompt  
engineering

## OUR INITIAL CONCERNS

Would trainees know  
**what to ask AI to  
generate appropriate  
outcomes?**



## PRE-RESEARCH FINDINGS

- ☐ Clear, precise, knowledge of **class context**
- ☐ Previous AI experience increases **prompt confidence**

professional  
judgement

When adding **refinements** to a lesson/idea, **TeachMateAI generates a new lesson plan**, rather than editing the initial one so the **initial ideas are lost**.



**ChatGPT** shows the **refined version** and original above.



You need to be **clear and specific** about what you want and what you ask it [AI] to do.



Sometimes the **time spent changing what it [AI] produces** makes it quicker to **just make it yourself!**



# Further considerations



Positive feedback



Negative feedback



Key consideration



professional judgement

context

workload

fact checking/  
substantive  
subject  
knowledge

prompt engineering

creativity

OUR INITIAL CONCERNS

Would the use of AI **stop trainees** needing to **think creatively**?

PRE-RESEARCH FINDINGS

☐ Reduction in 'heavy lifting' = creative space

☐ AI-generated planning was repetitive

It can **limit** our **creativity** as teachers.

Environmental concerns

I don't use it due to **environmental concerns**.

I'm **sceptical** of over-using it, given the **environmental impact**.

# Generative AI summary:

## advantages and disadvantages






DURING SE1  
(FIRST TEACHING PLACEMENT)

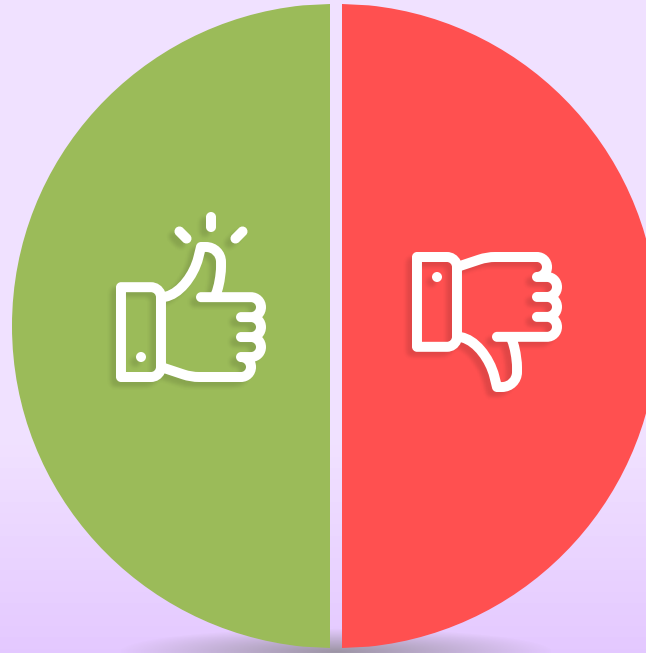
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### Advantages








-  **Subject knowledge support**
-  **Child-friendly** (& trainee-friendly) **definitions**
-  Can be **time-saving** (**workload**)
-  Create **resources** to meet **class needs**
-  Generate ideas to **support planning** process



### Disadvantages



-  Can be an **extra unnecessary step**
-  Takes away your own **creativity**
-  Need to be very **specific** with **prompts**
-  Not always age/class appropriate (**pitch**)
-  Lesson plan timings not always supportive





1

### Be specific

- prompts and outcomes

• Give ChatGPT an example to work with



prompt  
engineering

2

### Know your children!



context

3

### Don't expect it to be perfect!



workload



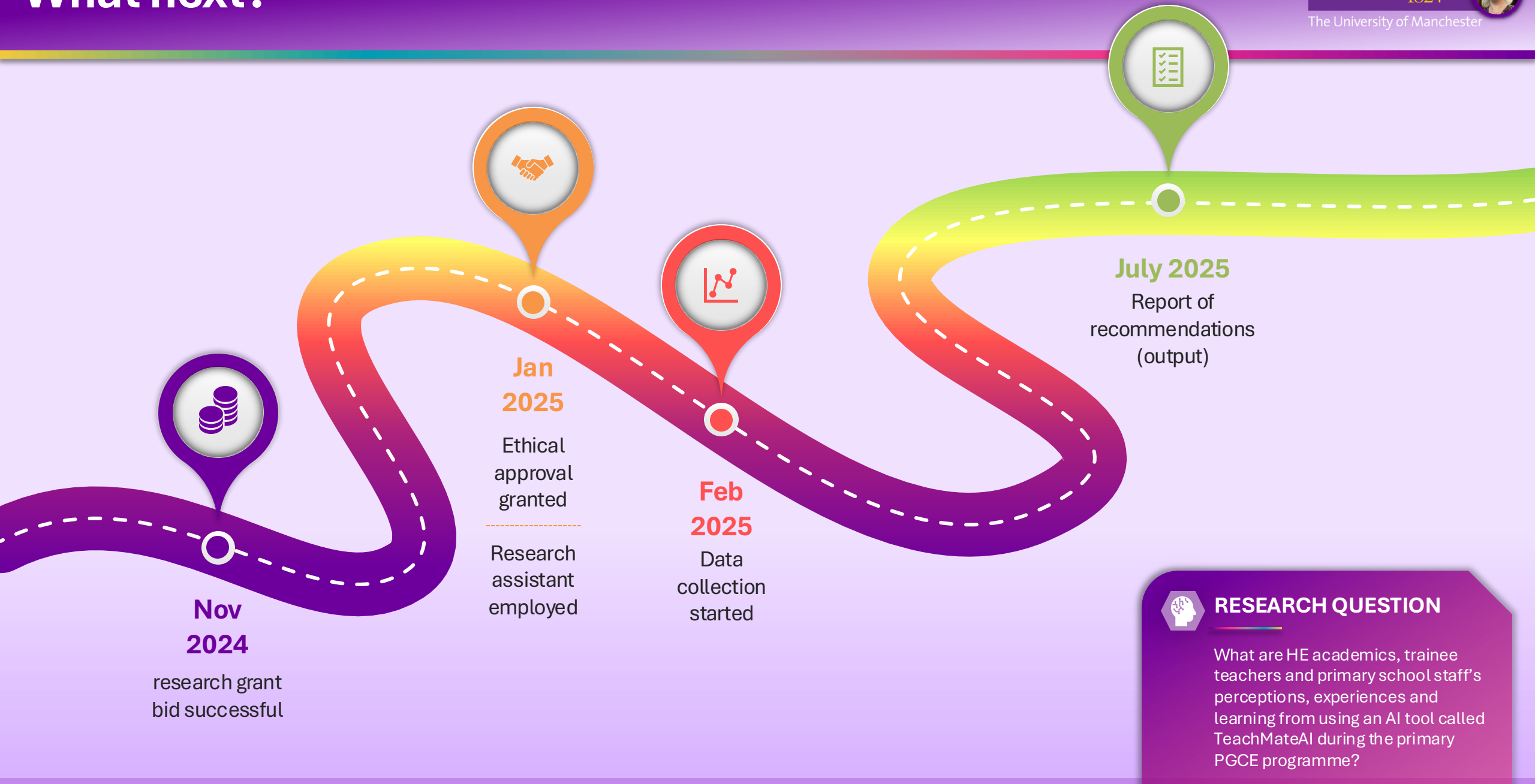
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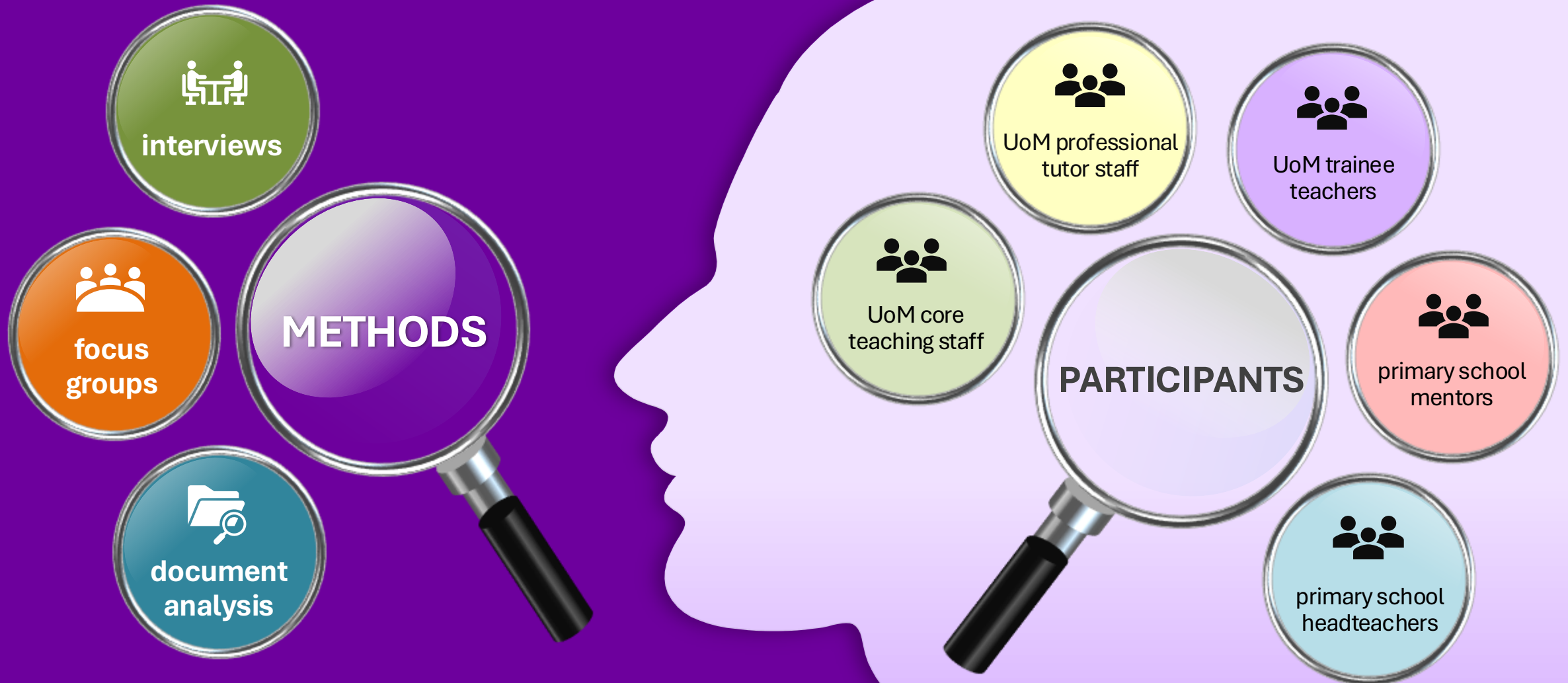
professional  
judgement



# What next?



# Data collection in progress for actual study



# Discussion/activity – 15 mins



**SWOT  
analysis**  
for your  
own context

e.g. personal AI  
practice and your  
students' use of AI

