Pilots Completion Report

Document details

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Title of the Pilot	Perceptions, experiences and learning from using an AI tool 'TeachMateAI to support trainee teacher learning on a one-year primary PGCE programme.
Pilot ID Number	FLP-Pilot-ID 74

Pilot Completion Report Template

Report Category	Report Requirement
Overall Rating *(Fully Delivered, Partially Delivered, Not Delivered)*	
Summary	*Please give a summary of what your pilot delivered. With a focus on progress toward the original aims. (Circa 1000 words)*

Project overview and original aims

This project explored the use of TeachMateAI (TMAI), a generative AI teachers' assistant, in the UoM's one-year primary PGCE programme. The primary PGCE trains postgraduate students to be primary school teachers. The research explored how to embrace AI technology which can impact on teacher workload and wellbeing, whilst maintaining professional standards and developing trainee teachers' professional judgment to use AI well.

The pilot's original aims were to:

1. Evaluate stakeholder perceptions and experiences of using TMAI
2. Understand the AI tool's capabilities and limitations in a teacher training context
3. Develop recommendations for AI integration in teacher education
4. Build research capacity among early-career academics
5. Establish best practices for all stakeholders involved in teacher training

Research design and methodology

The multidisciplinary research team comprised five UoM primary PGCE academic staff (teacher education domain experts) and two Manchester Institute of Education staff (digital technologies and learning domain experts). The exploratory study examined participant experiences across four key groups of stakeholders in the primary PGCE:

- UoM trainee teachers (postgraduate students)
- UoM PGCE academic staff
- Greater Manchester primary school headteachers
- Greater Manchester primary school mentors

Key findings and progress towards the pilot's original aims

Stakeholder adoption and usage patterns

Contrary to our initial concerns about trainees adopting AI produced resources without consideration, they mostly demonstrated discerning and professional use of the AI tools. Despite TMAI being the free tool provided to trainees, many used other AI platforms (predominantly ChatGPT) based on their prior experience of AI and its familiar functionality. Trainees primarily used AI for resource creation rather than lesson planning, showing greater professional judgment than anticipated.

TMAI was used for:

- Lesson plan generator
- Activity idea generators
- Modelled texts
- Scenario creator – use adverbs to describe…
- Text generator -Newspaper WAGOLL (What A Good One Looks Like)
- Creating lesson presentations
- Word mats for science/computing

ChatGPT was used for:

- Success criteria generation
- Suggestions for a MFL game with colour
- Generate SPAG (Spelling, punctation And Grammar) questions for possessive apostrophes
- Retrieval questions
- WAGOLL generation
- Image generator – guided practice and mastery activities (e.g. word problems) in maths with an appropriate image
- Headline newspaper generation

Five emerging themes

Our analysis revealed five interconnected themes, with professional judgement acting as the thread connecting all the themes:

1. Context awareness: Trainees demonstrated greater attention to class context i.e. the needs of the pupils in their classes, when using AI tools compared to prescribed schemes of work. This led to the trainees feeling increased autonomy in adapting AI resources to meet specific pupil needs.

2. Workload management: AI supported the "heavy lifting" in resource creation, enabling more efficient lesson preparation. Although it was noted by trainees that fact checking and editing the AI output could take some time and reduce the time efficiency gains.

3. Professional judgment: This emerged as a central competency threading through all other themes. Trainees needed professional judgment to evaluate their class context, manage workload effectively, fact-check content produced by AI, and engineer effective prompts.

4. Fact-checking and subject knowledge: While TMAI generated more age-appropriate content than generic AI tools, trainees with limited subject knowledge sometimes accepted outputs without sufficient verification, highlighting the need for strong subject and pedagogical knowledge.

5. prompt engineering: Many trainees adapted quickly to prompt engineering due to their prior AI experience of using ChatGPT. However, the effectiveness of prompts depended on clear specification, contextual knowledge, understanding of pedagogical requirements and subject knowledge.

Impact on curriculum and practice

The pilot's findings directly influenced our programme delivery and curriculum development within the academic year:

- Academic staff responded to early findings and revised guidance on optional AI use during teaching practice.
- A semester 2 teaching session on prompt engineering was introduced into our training programme.
- School-based mentors and headteachers developed enhanced understanding of AI integration.
- University staff gained skills and knowledge for training teachers in AI tool use.

Advantages and limitations of the AI tools identified

	Key advantages: • Subject knowledge support through pupil-friendly definitions. • Time-saving resource creation positively impacting on teacher workload and wellbeing. • Enhanced ability to meet specific pupils' needs. • Idea generation supporting the lesson planning process. • Increased creative space for lesson planning through reduced administrative burden. **Key limitations of the AI tools:** • Potential for unnecessary additional steps in planning • Potential risk of reduced personal creativity (recent data maybe be contrary to this) • Need for highly specific prompting • Inconsistent age/class appropriateness • Unreliable lesson timing suggestions **Research capacity building** The project successfully built research confidence and competence among the early-career academics who taught on the primary PGCE, creating a sustainable model for continued research into AI in teacher education. **Broader implications and transferability** Findings demonstrate clear transferability to other teacher education programmes within the University of Manchester and beyond e.g. the secondary PGCE. The research provides valuable insights for incorporating education-specific AI tools versus generic platforms like ChatGPT. Generic findings are useful for university programmes outside education, contributing to broader institutional AI integration strategies. **Conclusions and future directions** The pilot exceeded expectations in demonstrating that trainee teachers can use AI tools judiciously when provided with appropriate guidance and professional development. Rather than creating over-dependent users, the AI integration enhanced professional judgment and contextual awareness. The research established that successful AI integration in teacher education requires: • Clear guidance on appropriate use • Development of prompt engineering skills • Strong emphasis on fact-checking and subject knowledge • Contextual adaptation capabilities • Recognition of AI as a tool requiring professional oversight This pilot has positioned the University of Manchester as a leader in researching AI integration in teacher education, providing evidence-based approaches for other institutions and contributing to national conversations about technology in professional training programmes. The foundations established through this FLP-funded research has created pathways for sustained investigation and implementation of AI tools in education, ensuring responsible innovation that enhances rather than replaces professional expertise.
Deliverables	*Please list your pilot's deliverables* **Deliverables** • Report of recommendations for AI integration in teacher education

	• Five conference presentations at academic conferences between April 2025 – July 2025 (St Mary's Twickenham, MIE Away day, TEPL conference, UoM T&L conference, MIE conference) • Conference abstracts for academic dissemination • Public dissemination materials via Figshare platform • Academic publications (in development)
Relevance	*Has the pilot topic and its activities met the information/experience needs of the intended stakeholder groups? To what extent are the completed pilot outcomes still in line with the needs and priorities of the Flexible Learning Programme?* **Relevance** This pilot demonstrated relevance to both the Flexible Learning Programme priorities and stakeholder needs. The project addresses two critical areas of high relevance: **1. Teacher training innovation** This pilot directly responded to the need for teacher education to adapt to AI technology. Many schools, teaching school alliances, and Teach First already using AI tools like TeachMate AI, this research positioned UoM as one of the early adopters of AI within HE to conduct rigorous research into AI use in teacher training. This pioneering approach has national and international significance. **2. AI integration in professional training** This pilot provides valuable insights for broader AI integration across UoM professional training programmes, offering a research-based model for responsible technology adoption that maintains professional standards while embracing innovation. The research identified key themes that remain highly relevant to current educational priorities: professional knowledge development, efficiency in teacher preparation, and the critical importance of professional judgment in technology use. This pilot's focus on stakeholder engagement across university, school, and trainee communities ensures findings remain grounded in real-world application needs. The project was a vehicle for the professional development of a team of new academics providing research training, support and dissemination opportunities. As a consequence of presenting at conference the team were recommended to meet with policy at Manchester to explore the policy impact of the research in teacher education providers and schools regionally and nationally. This meeting will be happening on Monday 7th July.
Efficiency	*To what extent did the methods/approaches used in this pilot lead to improvements in efficiency (financial/staffing/resourcing etc)? What other approaches could be considered in light of the pilot - would these be more or less efficient?* **Efficiency** The pilot demonstrated efficiency gains as well as identifying areas requiring careful management: **Demonstrated efficiency improvements:** • Trainees used AI primarily for resource creation, achieving time savings in "heavy lifting" administrative tasks. • AI tools enabled more efficient preparation of teaching materials, freeing time for creative pedagogical thinking. • The research approach efficiently engaged multiple stakeholder groups simultaneously, maximizing data collection and impact.

	Key efficiency considerations: • AI use required initial training investment in prompt engineering skills. • Fact-checking and adaptation processes added steps but ensured quality outcomes. • The pilot revealed that education-specific AI tools (TMAI) offered better efficiency than generic tools for curriculum-appropriate content. **Future efficiency potential:** More efficient approaches could include integrating AI training within existing curriculum modules rather than separate sessions, and the development of institutional AI guidelines to reduce individual decision-making. This pilot's findings suggest that properly implemented AI integration could significantly reduce teacher workload while improving resource quality, directly addressing teaching profession challenges around stress, attrition, retention and recruitment.
Effectiveness	*To what extent did the methods/approaches used in this pilot lead to improvements in effectiveness (learning/outcomes/experience/flexibility etc)? What other approaches could be considered in light of the pilot - would these be more or less effective?* **Effectiveness** This pilot demonstrates effectiveness across multiple dimensions eg: **Learning and outcome improvements:** • Trainees demonstrated enhanced professional judgment when using AI tools compared to prescribed schemes of work. • Increased contextual awareness and adaptation skills developed through AI resource modification to meet the needs of the pupils in schools. • Professional judgment emerged as a strengthened competency threading through all aspects of AI use. **Experience and flexibility enhancements:** • Trainees reported greater autonomy and creativity when adapting AI-generated resources as opposed to schools own, or purchased, schemes of work. • AI tools provided flexible support for diverse learning contexts and pupil needs. • Multiple stakeholder groups developed enhanced digital literacy and AI understanding. **Effectiveness validation:** The pilot's effectiveness was evidenced by immediate curriculum changes: academic staff revised AI guidance, introduced prompt engineering training, and school-based mentors enhanced their AI integration practices. This rapid translation of findings into practice demonstrates immediate effectiveness. **Alternative approaches:** Less effective approaches might include prohibiting AI use entirely or providing AI access without research-informed guidance. More effective future approaches could include longitudinal tracking of trainee outcomes and expanded stakeholder training programmes.
Outcome	*To what extent was the pilot able to meet/exceed its objectives? To what extent has the pilot led to improved outcomes or behaviours in the stakeholder groups? Were there any other unintended positive or negative outcomes from the pilot?* **Outcome** The pilot successfully met all original objectives:

	Objective 1 - Report of recommendations: ✓ Achieved Comprehensive recommendations report completed, identifying best practices for AI integration in teacher education. **Objective 2 - Best practice established:** ✓ Achieved Best practices established for all stakeholder groups: • UoM staff: Enhanced guidance protocols and curriculum integration • UoM trainee teachers: Prompt engineering skills and professional judgment development • Primary school mentors: AI integration understanding and support strategies • Primary school headteachers: Institutional AI policy development insights **Objective 3 - Research capacity building:** ✓ Achieved Early career academics successfully developed research confidence and competence, creating sustainable research capability. **Objective 4 - Public engagement:** ✓ Achieved Presentations at 5 conferences, regionally and nationally and a Figshare platform utilized for project dissemination. **Objective 5 - Future research directions:** ✓ Achieved Clear pathways identified for continued AI in education research, including longitudinal studies and broader programme integration. There is a remaining two years in this longitudinal research study. **Unintended positive outcomes:** • Positioned UoM as a national leader in AI integration research • Created transferable model for other professional training programmes • Enhanced stakeholder digital literacy beyond original scope • Strengthened university-school research partnerships **Behavioural changes:** All stakeholder groups demonstrated measurable behaviour changes, from revised teaching practices to enhanced AI integration understanding in schools.
Sustainability	*To what extent has the pilot identified the potential for its activity to lead to the long-term behaviour/operational change? What would need to happen to make these changes happen?* **Sustainability** The pilot established foundations for long-term sustainability including: **Operational change potential:** • Curriculum modifications have been embedded in ongoing primary PGCE delivery. • Staff development in AI integration creates lasting institutional capacity. • School partnerships established through the pilot provide ongoing collaboration opportunities. **Transferability achievements:** • Findings directly applicable to UoM secondary PGCE programme. • Generic principles transferable to other teacher educational programmes nationally.

	• Research methodology adaptable for other professional training contexts. • Generic recommendations for use of Ai transferable to other HEI contexts. **Requirements for sustained impact:** • Continued professional development for staff in AI integration. • Regular review and updating of AI tools and recommendations. • Ongoing research funding to track long-term impacts and emerging developments. • Policy development at institutional level to support responsible AI use. **Long-term sustainability indicators:** The pilot's integration into core curriculum delivery, rather than as an add-on project, demonstrates strong sustainability potential. The establishment of research partnerships and stakeholder networks creates ongoing momentum for continued development and adaptation. Creation of a community of good practice through which to model and share resources.
Financial	*See separate report but use this space for any financial narrative that needs to accompany the report.* **Financial** See separate financial report for detailed breakdown. The FLP funding enabled comprehensive stakeholder engagement and research capacity building that would not have been possible through standard programme budgets. Investment in research has generated substantial returns through curriculum enhancement, stakeholder development, and national leadership positioning and staff continuing professional development.
Lessons Identified / Learned	*Please Consider enabler and inhibitors in the following areas:* 1. *Systems and process* 2. *Incentives and capacity* 3. *Policy and strategy* 4. *Student experience* 5. *Physical Estate* 6. *Culture* **Lessons identified / learned** **Systems and process:** 1. Robust research essential for exploring new technology integration into teacher education programmes involving all stakeholders. 2. Multi-stakeholder engagement requires coordinated communication strategies. 3. Regular review cycles needed for rapidly evolving AI technology landscape. 4. The need to recruit participants earlier in the process, as there were challenges towards the end of the year project' **Incentives and capacity:** 1. Voluntary adoption more effective than mandated use for professional development. 2. Research team diversity (education + digital literacy expertise) crucial for comprehensive insights. 3. Early career academic involvement builds sustainable research capacity. 4. Amazon vouchers were useful in encouraging participant recruitment. **Policy and strategy:** 1. Clear institutional guidance needed for responsible AI integration. 2. Professional standards must remain central to technology adoption. 3. Evidence-based policy development more effective than reactive responses.

	Student experience: 1. Trainee teachers demonstrated greater professional judgment than initially expected. 2. Contextual adaptation skills enhanced through guided AI use. 3. Professional identity strengthened rather than undermined by technology integration. 4. AI integration reduced workload on content creation for trainee teachers to support their teaching. **Physical estate:** 1. Digital infrastructure adequate for pilot requirements. 2. No significant estate implications identified. 3. There may be an equality issues regarding access to AI tools should trainees purchase paid subscription themselves, which could produce inequity. **Culture:** 1. Positive cultural shift toward embracing technology while maintaining professional values. 2. Research-informed approach enhanced stakeholder confidence. 3. Collaborative culture between university and school partners strengthened.
Materials or publications	*Please list all the materials/publication against this evaluation report* **Materials or publications** 1. Five conference presentations delivered at academic conferences throughout the year. 2. Twickenham St Mary's - Pedagogy in action: Sharing research and practice – 3rd April 2025 3. UoM Teaching and learning conference – University Place 2nd and 3rd July 2025 4. Teacher Agency Conference at LJMU - Organised by the Teacher Education and Development (TED) Research Group, 30th June 2025 5. The MIE aways day 15th May 2025, The Hive, Manchester 6. TEPL (Teacher education and professional learning) research conference Thurs 12th June 2025. 7. TES article published for broader educational community engagement. 8. Comprehensive recommendations report for institutional and sector use. 9. Figshare materials for public access and engagement. 10. Academic journal publications in development for peer-reviewed dissemination. 11. Report of recommendations which is having a hard launch in September with press release and social media campaign from the uni 12. UoM Policy at Manchester is preparing a briefing note to share with policy makers nationally
Report approval and comments	*To be completed by a delegated person agreed by the workstream governance group.*

Cost Type	Description	Costs and Total

Staff	*Insert staff name and grade, post, FTE in the quarter in this quarter and the post.* Natalie Jayson 0.23FTE Grade 5	*Please add the cost of each post and the total claim for staff, this can then be added to the retrospective costs in the forecast form.* *Total cost of the staff post for the whole project £6,060* *Link to budget spreadsheet* FLP Pilots Costing & Forecast final.xlsx
Non-Staff	*Please add in any actuals (received and receipted paid in the quarter).* *Non staff can include any other approved cost category including:* • *Goods* • *Services (inc. Consultancy)* • *Travel* • *Fees*	*Please add the cost of each post and the total claim for staff, this can then be added to the actuals in the forecast sheet.* *Staff cost £6060* *Amazon vouchers £680* *Total = £6750*
Adjustments	*Please add any adjustments from previous quarters. This will be added or subtracted from your quarterly request for payment.* *Please give details of the original cost and the reason for the adjustment.*	*Please give the adjustment amount.* 1. *Travel fees were not claimed as staff conducted interviews and focus groups as part of their normal primary school visits to observe their trainees.This means that there is a surplus of £150 in the travel budget row 31 of the spreadsheet.* 2. *Catering budget was not used, so there is a surplus of £160.* 3. A contribution to refreshments for FLAAG event on 18th June to disseminate impact was given of £250. This event has since been postponed, so I assume that this allocation will remain until the event is re-scheduled. *Overall surplus is £310*
Final reconciliation	*Please calculate the total costs of the pilot and the total income to ensure the claim has covered all eligible costs.*	*Total cost of pilot £6,740* *Total income £7050* *Surplus £310*
Request for payment	*The payment in the next box should include all staff costs, non-staff costs and adjustments total.* *By submitting this form, you are a confirming that the figures are correct to the best of your knowledge and the correct processes for recruitment procurement and selection have been followed.*	*Please provide:* • *total staff costs £6,060* • *total non-staff costs £680* • *total adjustments - surplus of £310* • *final reconciliation – actual income £7, 050,*

		actual spend £6,740 , surplus £310 • *Total request for payment £6,740*