Jisc

TeacherMatic higher education pilot report

October 2024

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1. Introduction

Jisc's artificial intelligence team provides resources and guidance to facilitate the ethical and effective adoption of AI across the sector. A key area of the team's work is running pilots of promising AI tools and products with Jisc members. These pilots provide members with the opportunity to gain direct experience with AI-assisted tools, and the results provide valuable insights which are shared with the sector.

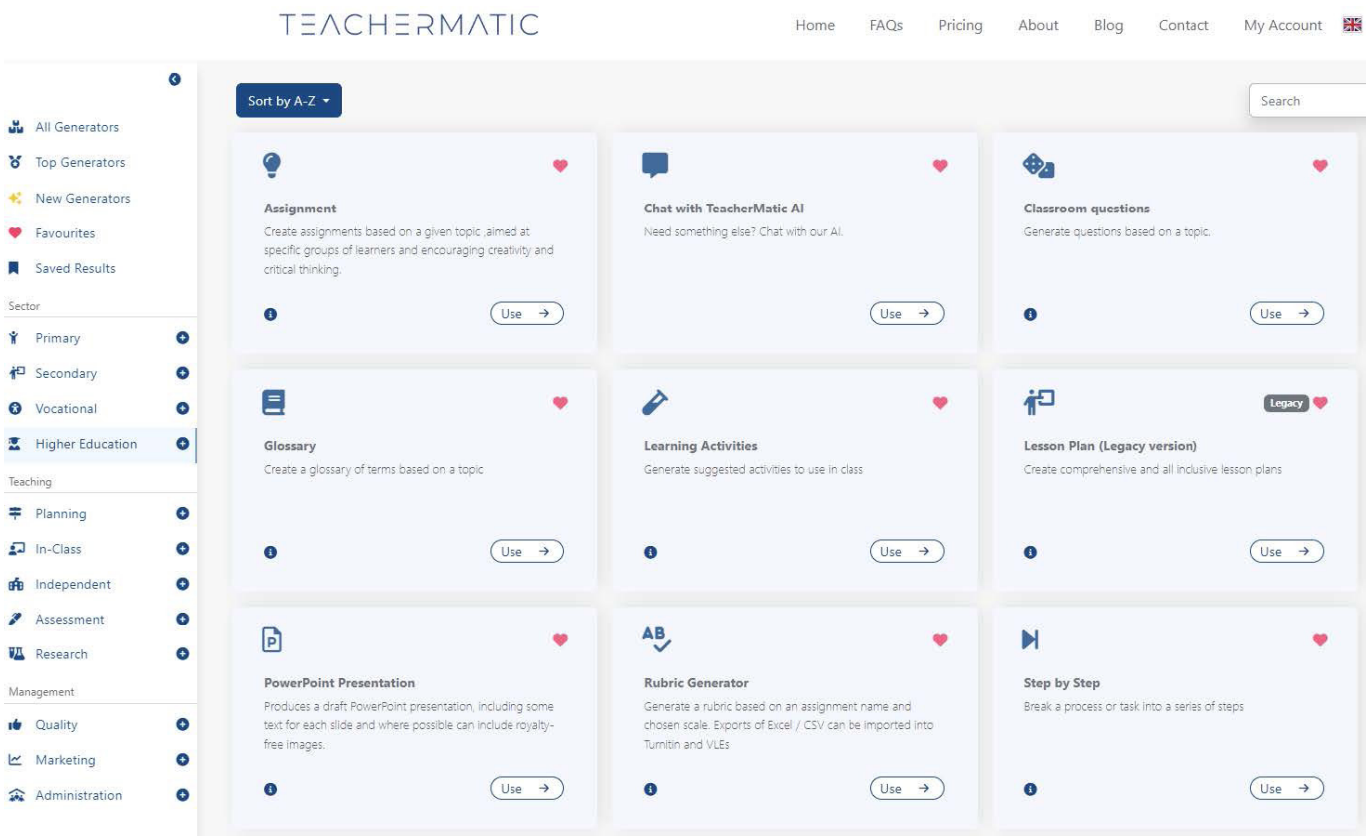
2. Piloting TeacherMatic

In April 2023, TeacherMatic was launched with the aim of reducing teachers' workload and enhancing productivity through the use of generative artificial intelligence. The artificial intelligence team at Jisc collaborated with TeacherMatic to run a pilot programme firstly with eight Further Education (FE) organisations. Following this, we decided to run a pilot with seven Higher Education (HE) organisations to evaluate the AI tool's impact and suitability in the HE sector.

What is TeacherMatic?

TeacherMatic is an AI-driven platform designed to assist educators by easing their workload and enhancing teaching efficacy. It offers over 90 generators to create educational resources such as lesson plans, rubrics, coaching prompts, reading lists and quizzes. The platform is developed with input from numerous teachers to ensure it meets the practical needs of educational environments.

Figure 1: An image of TeacherMatic's Higher Education sector screen showing several generators.



Piloting institutions

At the start of November, we put the call out for HE organisations to take part and received a large number of applications. The pilot aimed to trial TeacherMatic at HE level across different subject areas at different levels and evaluate the quality and level of content generated by TeacherMatic. The successful pilot organisations were: University College Birmingham, Stranmillis University College, University of Chester, University of East Anglia, University of Strathclyde, University of Sunderland and the University of Westminster.

The pilot process

Participants attended a training session designed to ensure they were able to use the tool. This session was a joint effort, collaboratively conducted by the TeacherMatic team and the Jisc team.

For review purposes, the pilot was divided into two distinct phases: phase one spanned from January 2024 to February 2024, while the second phase extended from March 2024 to July 2024. Each participating institution received 50 licenses for 12 months, enabling around 350 participants to actively engage with and evaluate the TeacherMatic platform.

Review process

For phase one, we met with each university and conducted a focus group with the organisation's pilot lead and five to ten participants, each providing feedback and insights. For phase two all participants were sent a questionnaire to complete and we met with the pilot lead to discuss the overall pilot findings and common themes of feedback.

3. TeacherMatic pilot evaluation

Findings from phase one

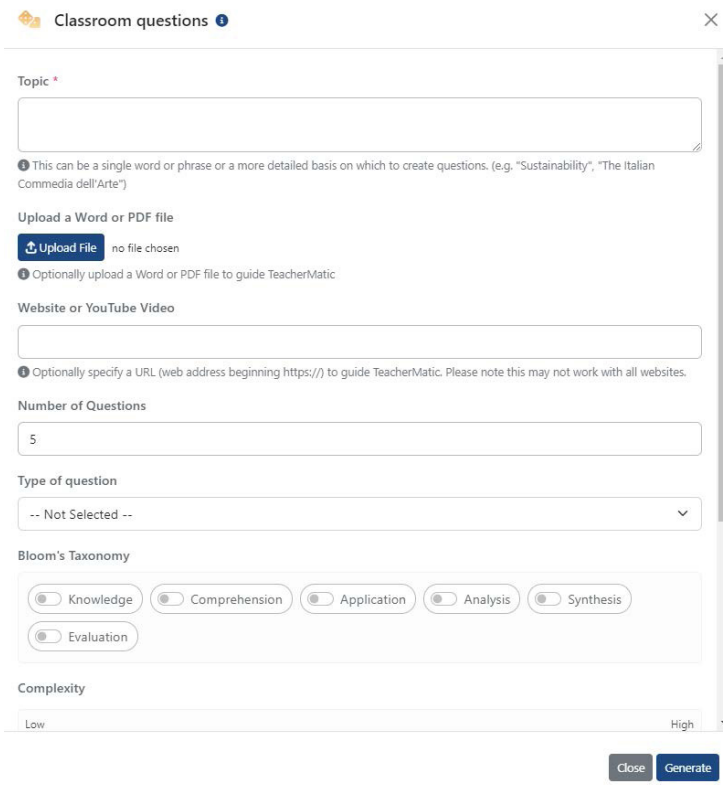
Perspectives from phase one focus groups

In focus groups at the end of phase one, we assessed TeacherMatic's effectiveness in resource creation and teaching enhancement for HE. Participants delivering across various subjects and levels, from natural sciences to sports and technical disciplines, praised its time-saving capabilities, creativity support, and student feedback assistance. Alongside the overall positive response, they also noted areas for improvement to better meet HE demands.

Positives:

- TeacherMatic was praised for significantly reducing time spent on resource creation and idea generation
- Most participants found TeacherMatic user-friendly for creating resources like presentation outlines, lesson plans, and discussion topics
- Participants consistently reported that TeacherMatic positively impacted teaching methods, enhancing creativity and serving as a valuable starting point for tasks like lesson planning
- TeacherMatic proved especially useful for remote educators, effectively generating and refining content when in-person collaboration was limited
- Content quality improved when participants uploaded their own materials into the generator

Figure 2 An image of the classroom questions generator with the ability to upload a word or PDF file to guide TeacherMatic when generating content.



- The feedback generator was notably effective, reducing time and enhancing the quality of feedback

Suggested areas for development:

- Some participants found the content from TeacherMatic's presentation generator too basic for HE, lacking sufficient complexity. Often, the generated content included excessive text layered over other text and irrelevant images

- The complexity slider frequently failed to meet the required detail or difficulty for HE content

- Feedback indicated that the Bloom's taxonomy feature did not meet the needs for higher education. Participants noted that the content generated often lacked the necessary depth. For example, when generating classroom questions with the 'analysis' level selected, the questions produced were often too basic

These have been fed back to TeacherMatic, with a very positive response, informing the development roadmap, see section 5.

Additional comments:

One organisation provided TeacherMatic accounts to educators who deliver solely online. These participants praised TeacherMatic for content generation and lesson planning. Unlike their onsite counterparts, who can share ideas in the staff room, online educators found it particularly useful for generating ideas and suggesting resources.

Findings from phase two

Perspectives from phase 2 participant questionnaire

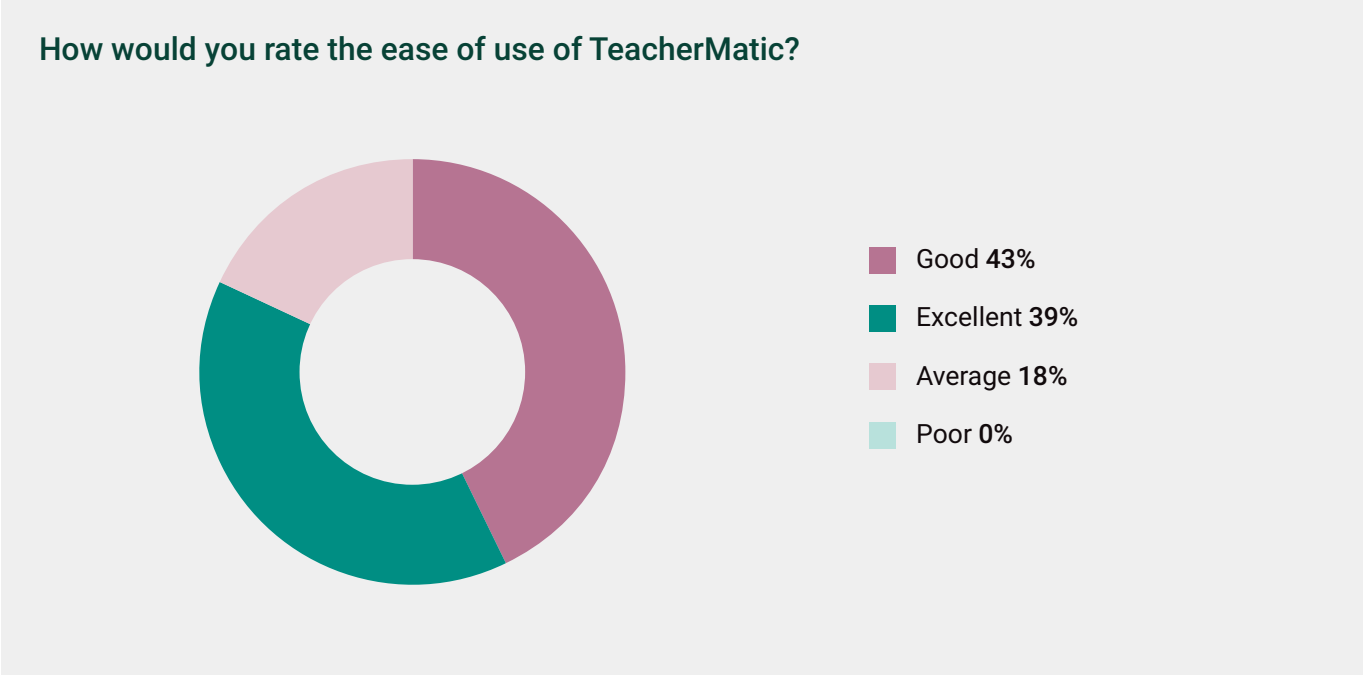
To review the pilot all participants were asked to complete a questionnaire to review the suitability of TeacherMatic at HE level.

In summary:

How participants rated their experience with TeacherMatic

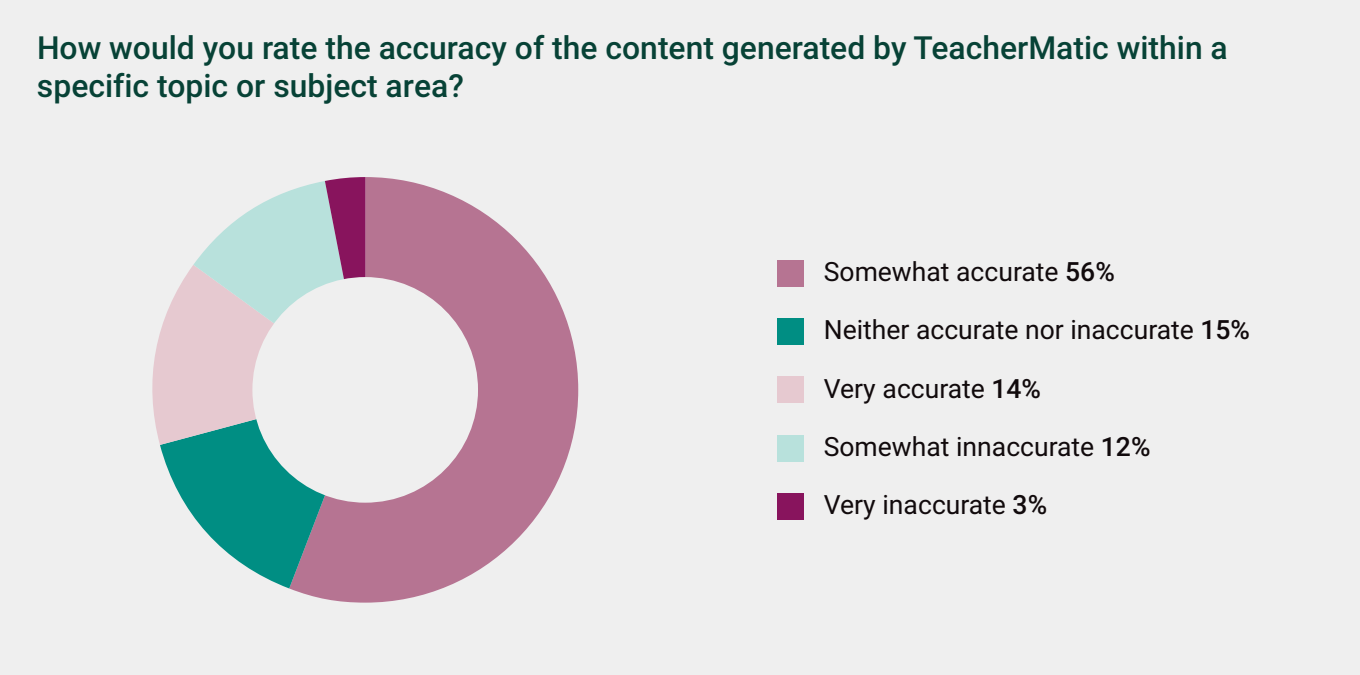
- Feedback showed that 63% of participants would recommend TeacherMatic for HE
- When asked whether participating in the pilot had enhanced their understanding of generative AI and its capabilities, feedback indicated that 43% of respondents strongly agreed, 43% agreed, 11% were neutral, 2% disagreed, and 1% strongly disagreed
- 51% of participants said the overall quality of content produced by TeacherMatic was good
- 69% of participants said TeacherMatic enhanced learning experiences by accelerating feedback, providing assessment and discussion topics, and suggesting methods when mentoring students
- Feedback on the ease of use for content generation with TeacherMatic revealed that 43% of participants rated it as good, 39% as excellent, 18% as average and 0% as poor

Figure 3: A pie chart showing how easy participants felt TeacherMatic was to use.



- When asked about the accuracy of content generated, 56% found it somewhat accurate, 15% found it neither accurate nor inaccurate, 14% very accurate, 12% somewhat inaccurate, while 3% found it very inaccurate

Figure 4: A pie chart showing how accurate participants felt TeacherMatic was at generating content within a specific subject.

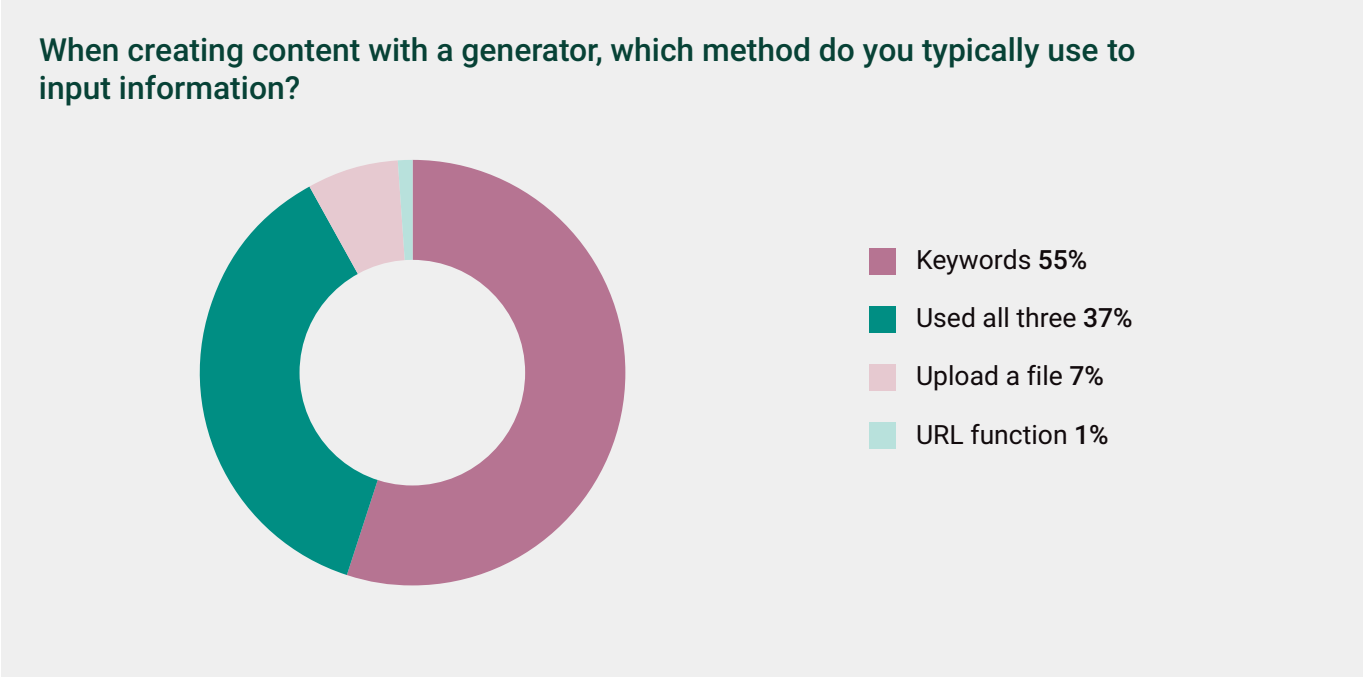


- On a sliding scale of 1 to 5 stars, participants were asked to rate the complexity slider based on the level of content generated for HE, the rating average was 3.7, with 52% rating it 4 out of 5
- Participants were asked to rate the Learner Needs function, which allows users to tailor generated content to different educational levels and learner profiles, on the suitability of the content for higher education. On a sliding scale of 1 to 5 stars, the average rating was 3.8, with 60% rating it 4 out of 5

How participants engaged with TeacherMatic

- When asked if TeacherMatic saved time when creating teaching resources, 51% of participants felt it had
- On average, users said they saved two hours per week by utilising TeacherMatic
- Feedback shows that 68% of participants reported that TeacherMatic helped them get started when creating resources
- On average, participants created 18.1 resources using TeacherMatic
- Feedback shows that when asked how often they use TeacherMatic: 37% of participants use it weekly, 37% use it monthly, 24% use it termly, and 2% use it yearly
- The most used generators were multiple choice questions, scheme of work, rubric generator and chat with TeacherMatic AI
- Some generators offer multiple input methods, and feedback collected showed the following usage patterns among participants: 55% used keywords, 37% used all three methods, 7% used the 'upload a file' function and 1% used the 'URL' function

Figure 5: A pie chart showing how participants input information into TeacherMatic to generate content.



- Participants were asked whether they had used the filter function to search for specific types of generators, categorised by sectors such as primary, secondary, vocational, and higher education. 70% of the respondents indicated that they had utilised the HE filter

Perspectives from pilot lead meetings

At the pilot phase conclusion in July 2024, meetings with each pilot lead were held to discuss their TeacherMatic experiences and gather feedback. Discussions initially focused on workload reduction, with some leads confirming its effectiveness, especially in tasks like creating multiple-choice questions and summarising content, although the degree of reduction varied. The tool was praised for generating additional resources such as plenaries and cover lessons, but the content depth often needed further refinement to meet HE standards.

The onboarding process was straightforward, with most participants finding it easy to set up their accounts, effectively supported by TeacherMatic.

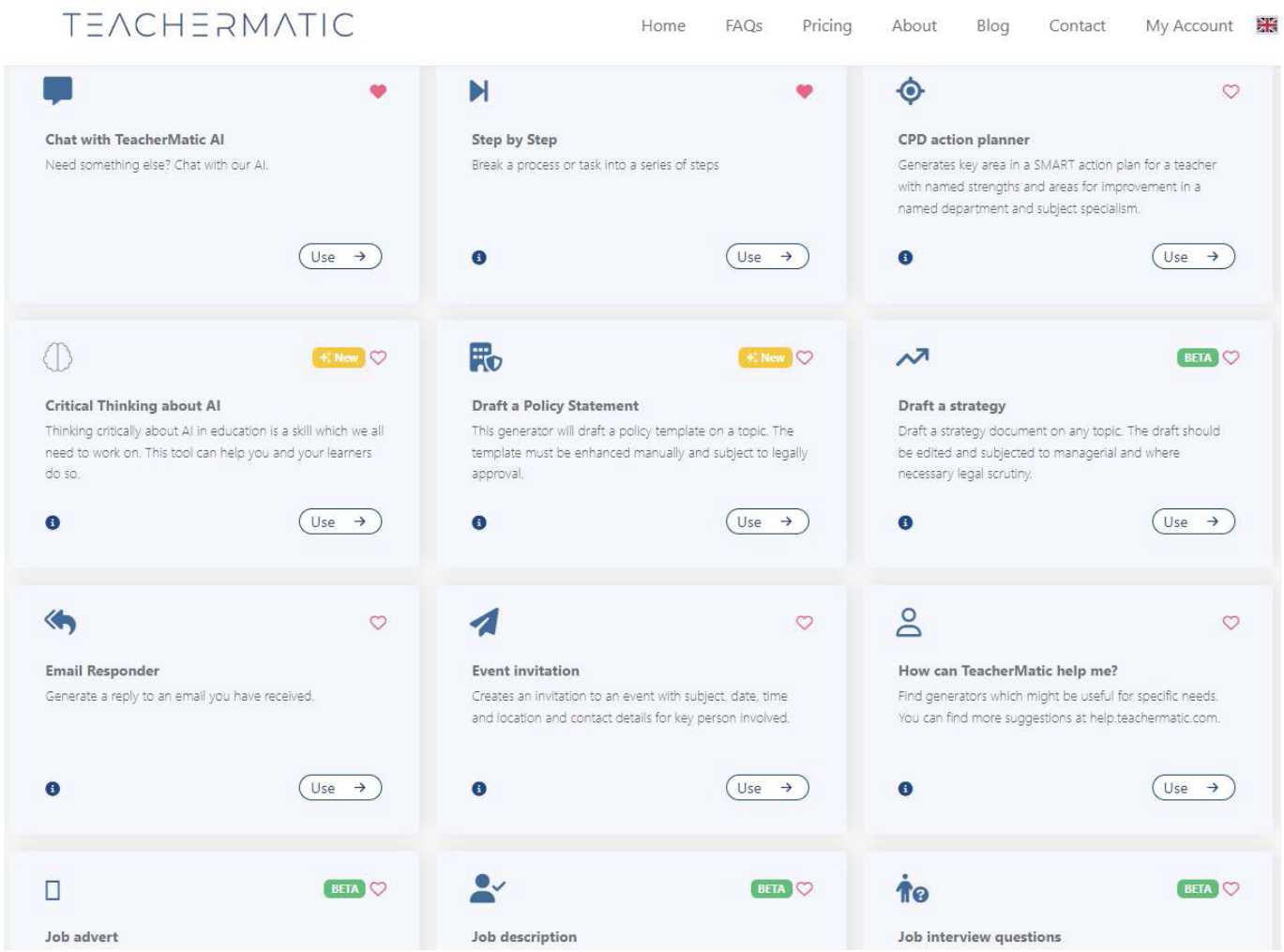
Feedback from these meetings highlighted the importance of active sharing and collaboration to fully utilise TeacherMatic's capabilities. Some institutions used dedicated sharing sites and held regular training sessions for pilot participants.

Feedback on TeacherMatic's content generation was generally but not entirely positive. Generators that were most well-received were those which generate more general content, such as discussion prompts and the analogy maker, but concerns were raised about its ability to produce content with the necessary intellectual complexity for HE, particularly in specialised fields such as law and advanced science. The summariser generator was praised for strong output when participants uploaded their own content. However, other features, like the PowerPoint generator, were criticised for limited image quality and content depth, and the ten-slide limit was seen as a drawback.

One institution allocated some accounts to student support services staff, who used TeacherMatic to assist with mentoring and supporting students. They utilised the coaching prompts generator to create goals and plans aligned with the GROW coaching methodology. Feedback highlighted how this approach accelerated the support process, enabling staff to better target resources.

Additionally, the platform's wide range of generators extended beyond student-facing content to include tools for drafting strategies, job adverts, job descriptions, and policy statements. Participants appreciated that each generator included reminders to encourage responsible use of AI, such as warnings that generated policy content might not meet statutory requirements.

Figure 6: An image of TeacherMatic's administration screen showing several generators.



Overall, sentiment towards TeacherMatic was optimistic, with its price point considered suitable, especially compared to other AI tools. While some staff preferred familiar tools like ChatGPT and Microsoft Copilot, others valued the structured support and data safety features TeacherMatic offered. The platform was particularly appreciated by those with lower AI literacy, who found it a useful stepping stone to more advanced AI tools.

4. Combining the feedback from both phases

The overall strengths and areas for development were as follows:

Strengths of TeacherMatic

- TeacherMatic was consistently praised for speeding up resource creation and idea generation, effectively addressing the challenge of a blank slate. The platform was commended for its user-friendly interface, which facilitated the creation of diverse educational resources including presentation outlines, rubrics, discussion topics, research methodologies, reading lists, and YouTube-based quizzes and summaries

- TeacherMatic proved especially valuable for remote educators, offering an effective way to generate and refine content when in-person collaboration was limited

- The feedback generator was recognised as a strong feature, reducing time and enhancing the quality of learner feedback

- TeacherMatic offers various generators that serve both student-facing needs and organisational support, using generative AI to tackle a broad spectrum of tasks

- Participants valued TeacherMatic for facilitating prompt engineering and content sequencing, simplifying the creation of relevant outputs, particularly when using the Chat with TeacherMatic AI feature compared to other AI tools

Areas for development

- Raise the academic level of the content generated by TeacherMatic to better meet the standards required for HE, ensuring it can meet the demands of HE courses

- While helpful in some contexts, Bloom's taxonomy feature and the complexity slider did not always meet the specific needs of HE

- Improving the PowerPoint generator by enhancing image quality, deepening content, and expanding the current ten-slide limit

These have been fed back to TeacherMatic, with a very positive response, informing the development roadmap, see the next section.

5. TeacherMatic's roadmap

The TeacherMatic team is actively working to address areas for development, as outlined in the roadmap:

The current complexity slider is being replaced with a more advanced system to better align outputs with the intended audience. This upgrade will include alignment with curricula by September 2024, with further refinement to match the level of study, including academic level, by October 2024. This enhancement is expected to be particularly beneficial for HE, allowing for a more controlled level of output. In the interim, it is suggested that users increase the complexity of keywords to prompt more sophisticated output.

In 2024, a new system is under development to replace the existing Bloom's taxonomy feature. This will include options to choose different pedagogical models, such as Rosenshine's instructional principles and SOLO, as well as the ability to select sectors such as HE or FE, aimed at improving the specificity of outputs.

The TeacherMatic team has also added a text-only presentation generator. An overhaul of the PowerPoint generator is scheduled for October-November 2024. The new system will feature a preview option for generated content, with the capability to regenerate specific slides and images. Additionally, AI image generation will be integrated to supplement subjects not currently well-represented in the image library.

6. Summary

In summary, feedback from the pilot highlighted TeacherMatic's strengths in resource creation, helping users to enhance their own creativity. TeacherMatic provided a useful sounding board for some tasks, particularly for remote educators. The tool was praised for its ease of use and its capability to generate a variety of teaching materials, which positively impacted teaching approaches across various subjects and levels.

However, participants noted areas for improvement, such as more sophisticated content generation to meet HE standards and adjustments to the complexity slider to align with HE level. Despite these challenges, the overall response to TeacherMatic was positive and the pilot has demonstrated there are potential benefits within the HE space.

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