Enhancing Student Support through AI: The PAC AI Agent Initiative

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Abstract

How can custom AI programs extend the reach of your peer-to-peer study support services? Murdoch University has created an out-of-hours AI agent to help students unable to access the Peer Academic Coach (PAC) program during designated 'office' hours. Using the Cogniti generative artificial intelligence (Gen AI) system, the goal was to retain the original PAC 'coaching' format of asking probing questions to empower students to develop their own understanding, thereby providing immediate assistance while maintaining academic integrity. Co-designed by high-achieving PAC students, for students, a product is ready for release to students after numerous versions and hundreds of test conversations. This presentation will discuss the project design features as well as the real-world learning impact on PACs and the expected impact on students accessing the new service.

Innovation & Problem Addressed:

Currently, students are constrained by the specific hours of operation for the PAC services. This restricts their ability to access help and support when needed, leaving students without real-time academic support outside of current operational hours. The AI agent seeks to bridge this gap by offering guidance on common academic queries, study skills, referencing, and learning management system (LMS) navigation. Unlike traditional chatbots, Cogniti is designed to integrate into the PAC workflows, providing tailored responses aligned with Murdoch's resources. Data privacy and security measures will be implemented to ensure student information is protected.

Building on Existing Good Practice:

This initiative builds on MU's existing PAC program by supplementing peer coaching with AI-driven responses. As Luckin et al. (2016) suggest, AI-driven educational tools can enhance student learning when properly integrated with existing pedagogical frameworks, which is what we aim to achieve using Cogniti. Additionally, previous studies on AI-based tutoring systems highlight their potential to provide scalable, personalised learning experiences (VanLehn, 2011). By embedding Cogniti into the PAC framework, this initiative incorporates the benefits of AI-assisted education while maintaining human oversight. PACs will verify AI-generated content correctness and appropriateness, ensuring that students receive reliable and contextually appropriate support. For example, if appropriate a follow-up email will be sent offering face-to-face support.

Rationale:

The immediate impact has been the real-world AI experience gained by the high-achieving students who are on the PAC team. Through four versions and over 300 test conversations, the PACs have driven this project. Other anticipated impacts include:

1. Extend PAC service hours without additional staffing costs.
2. Reduce PAC workload by handling common inquiries, allowing PACs to focus on complex cases (Holstein et al., 2019).
3. Improve accessibility to all students by extending hours of service.
4. Enhance student experience by offering on-demand, accurate academic guidance (Goel & Joyner, 2017).
5. Provide insights into AI integration in student support services for potential application in other university areas.

Methodology & Implementation:

Phase 1: Testing will be completed within the PAC team (January-June 2025) over three stages. PACs will assess and validate AI generated responses through real-world student scenarios. Feedback will inform iterative improvements to ensure accurate information is provided.

Phase 2: Deployment to select students for out-of-hours support (August 2025). Conversations will be monitored by PACs the following day for quality assurance and necessary follow-ups.

Once it has successfully completed Phase 2, the product will be ready to be launched to the broader student population.

Key questions for conference delegates:

1. How can AI be effectively integrated into peer support models while maintaining human oversight?
2. What best practices should be considered for ensuring AI-generated academic guidance aligns with institutional policies and pedagogical goals?
3. How can student engagement with AI support be optimised to ensure accessibility and trust?

References

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