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How EAL teachers harness a bespoke artificial intelligence tool to achieve personalised learning: A qualitative classroom-based study

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Abstract

Recent advancements in artificial intelligence (AI) have led to a surge in AI-powered English language tutoring applications, with promising features integrated into teaching and learning. This article reports on a qualitative study of teachers' leveraging AI to support pedagogical outcomes for adult learners of English as an additional language (EAL). The study involved five teachers from a Melbourne-based EAL provider, focusing on their use of a bespoke AI-powered application (app) in their superdiverse classrooms of adult migrant and refugee background students. Through classroom observations and teacher reflective conversations, the study examined how teachers were incorporating the app's features into curriculum through their lesson plans and scaffolded activities. Findings reveal that despite various challenges, EAL teachers want to explore with guidance more of the app's advanced features and expand their pedagogical use of the app to achieve and enhance personalised learning for students. This calls for increased opportunities for teachers to engage in classroom-based experimentation with the app and for professional development that boosts teachers' confidence and agency to use AI teaching assistance with adult students from diverse cultural and linguistic backgrounds.

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Introduction

Artificial intelligence in education (AIED) continues to be a much-anticipated research field unfolding the affordances and challenges of AI (including Generative AI, or GAI) for teaching and learning in tertiary education. Within this wide scope of literature, studies in the field of English language teaching (ELT) have been a welcome addition, particularly those that encompass teachers' roles and competence for teaching with AI. Such studies have predicted that AI tools for learning English will bring pedagogic benefits to both teachers and students along with challenges (Al-khresheh, 2024; Creely, 2024). As for teachers of English as an additional language (EAL) in Australia, an increasing "superdiversity" (Steele et al, 2023, p. 110) in their classrooms creates additional challenges to an already significant digital divide (Tour et al., 2022) amongst adult EAL learners. Nevertheless, the adult EAL sector is often under-represented in AIED research in Australia. There is a scarcity of classroom-based research (e.g., Slaughter et al., 2020; Steele et al., 2023; Tour et al., 2020) that foregrounds the day-to-day challenges of an EAL classroom in the digital era of AI. In cognisance of this gap, the present study investigated how teachers were using an AI-powered English learning app in adult EAL classrooms and how this AI-integrated practice may bring out the best pedagogical affordances of AI, such as personalised learning.

Grounded in a qualitative exploratory approach, this study was conducted at the end of 2024 with a small group of teachers at AMES Australia (AMES) who were attempting to integrate an AI-powered English learning application called MyAMES Chat (the app) in their culturally and linguistically diverse adult EAL classrooms. The adult students in these classrooms were from up to14 different first language backgrounds with varying levels of digital and linguistic literacy.

The app was developed as an AI English learning and communication coaching tool by a Melbourne-based start-up, GetMee, whose immigrant-background founder envisioned that AI had the potential to increase EAL learners' connection to and engagement with their learning. This is achieved through the app's tailored vocabulary, pronunciation practice and feedback, and role-play job interviews that are accessible to the students both in and out of the classroom. As such, a key affordance of the app is its potential to offer personalised learning support and individualised content and feedback, leading to improved students' digital competence and linguistic proficiency.

Since its launch in July 2023, the app had been used by around 4,000 students by the time of data collection of this study. Students' effective use of the app relies on their regular use which triggers the app to curate tailored vocabulary and pronunciation tasks based on students' performance on the tasks. This regular and effective use on students' part relies on teachers' readiness and skills to incorporate the app to supplement or augment curriculum content and to differentiate teaching by drawing on the AI personalised feedback to students' work.

One unique strength of the app is its administration dashboard where teachers can access and create new tasks for students, adjust performance thresholds, and generate data reports on students' task performance and completion. To make the best use of these teacher-facing features to support students' effective use of the app, teachers therefore need to not only be knowledgeable about how the AI works but also hone the practical skills to bring out the personalised affordances of the app.

Throughout 2023 and 2024, the developer provided regular app awareness sessions and training presentation for the teachers to help them navigate the app's administration functions. These practical sessions included the developer visiting each campus to support students and teachers to get started with the app. AMES also prioritised a series of AI training for teachers within their regular suite of professional development days (one day per term), curriculum meetings (one per term) and network meetings (twice per term). At these sessions, teachers were able to share their experiences of using the app.

Set amidst this unique case of the MyAMES Chat app, the study asks: How do EAL teachers use an AI-powered language teaching and learning application to differentiate teaching and personalise learning to accommodate the diverse linguistic and cultural diversity of adult migrant and refugee background students? Findings of the study reveal that supporting teachers' AI teaching agency is crucial to enlivening student's learner agency to use the app for personalisation benefits afforded by AI technology. This supports our argument that increasing expectations of teaching with AI are likely to be out of step with teachers' slower development of AI literacy and pedagogy. To mediate such discrepancy, we recommend tailored professional development designed through teacher-research collaboration that empowers teachers' AI experimentation and their confidence with exploring the more advanced pedagogical functions of the app with their students across EAL classrooms.

Literature review

The impact of AI on teachers, students, and classrooms

A wide range of academic journals have been publishing research on the use of Artificial intelligence in education (AIED) since the early 1990s. With the 2022 launch of ChatGPT, new research interest has sprung up about the impact that a more powerful content-generating version of AI, namely generative AI (GAI), will have on education. The focus of this new interest has expanded from exploring the affordances, risks and challenges for teaching and learning with AI to theory- and practice-based studies that reveal how GAI is being used in the real-world of classroom teaching. This includes research in English language teaching (ELT) and second language acquisition fields examining the significant impact of GAI on how English and second languages are taught and learnt (e.g., Creely, 2024). While the scope of these studies encompasses a wide range of ELT contexts, only a small number are now being published about EAL teachers (e.g., Barnes & Tour, 2025).

Within the literature of AI in ELT, there is debate about AI integration in terms of its pedagogical quality for ELT (Al-khresheh, 2024; Hockly, 2023). GPTs are argued to have benefits for generating content for conversation practice (Kohnke, 2024; Moorhouse et al., 2024; Xin, 2024) and fluency and communicative competence (Mabuan, 2024). These benefits are also accompanied by risks. For example, teachers need to be aware that AI's hallucinations, bias, and data privacy issues may impact negatively on students (Xin, 2024). The pedagogic uses of AI and GAI in ELT place teachers in a new instrumental role of ensuring that AI-powered apps and tools not only meet pedagogic and curriculum goals but protect their students from unwanted risks. As noted by Sankey (2020), it is the underlying belief whether pedagogy is driving technology or vice versa that may influence teachers' perceptions about the 'usefulness' of educational technology.

These findings underline the importance of understanding teachers' attitudes, perceptions, beliefs, and behaviours for teaching effectively with AI. Nevertheless, despite a focus on AI teaching efficacy, there has been limited attention given to the role of teacher agency as an enabler of efficacy. Therefore, the remaining part of the literature review goes beyond affordances of AI to look into the various factors that may affect teachers' integration of AI technologies in teaching practice, and the implications of these factors for teachers' professional development.

Expectations on teachers in transitioning to teaching with AI.

The impact of AI in education is often described in terms of a transformation. Teachers' role in this transformation is speculated to involve making a transition from traditional teaching to emerging models of teaching and learning with AI technologies (Al-khresheh, 2024). Teachers are expected to develop their knowledge of AI-driven educational technologies and incorporate them in their teaching (Liu & Chang, 2024), suggesting a pressing need for training and professional development. This perception of unavoidability (Moylan et al., 2024) is leading to a focus in the existing literature on teacher (re-)training (Chiu et al., 2024; Duan et al., 2023; Ng et al., 2023) with a concomitant demand for future empirical research centring on teachers' practical use of AI technologies in classrooms (e.g., Chou et al., 2023; Liang & Law, 2023; Prestridge et al., 2024). This demand has given impetus to our study investigating how the teachers were adjusting to a teaching transition involving a potentially transformative AI-powered app in their classrooms.

Teachers' AI literacy and competence affecting their AI teaching efficacy.

Digital literacy and competence requirements for using AI are likely to be of a higher level than for earlier educational digital technologies. Mishra et al. (2023) believe that teachers will need to be able to skilfully graft both their digital and AI competencies to their pedagogical and content knowledges to effectively use and integrate AI technologies in the classroom. In the meanwhile, teachers must have the knowledge to teach their students about ethical risks

and social and cultural impacts of using GAI technologies (Lodge, et al., 2023; Mishra et al., 2024). Because of these new demands on teachers, Mouta and colleagues (2024) argue that teachers' beliefs and attitudes also need to be considered when constructing professional development to increase their AI teaching efficacy. Additionally, teaching experience, age and qualifications may affect teachers' adoption of AI technologies. Teachers' preference for traditional or face-to-face teaching (Duan et al., 2023) may also be a factor of long teaching experience or because of discipline specific requirements (Prestridge et al., 2024). Thus, teaching with AI may conflict with teaching beliefs and manifest as change resistance.

Teacher agency and professional development

Facing the above factors, institutions are therefore expected to better prepare teachers by developing their AI-centred pedagogical knowledge (Al-khresheh, 2024), while also reassuring teachers that the transition to teaching with these tools will be carefully managed to assuage any concerns they have (Mouta et al., 2024). This will require thoughtfully designed professional development that is supportive, incremental, and adapted to the characteristics of their teachers. These research insights have informed our study that we should first attempt to ascertain how teachers responded to the AI-powered app's use in their classroom and what they believed they still needed to learn to use it effectively.

Considering the variations among teachers in responding to teaching with AI, researchers may need to recognise how teachers connect their "professional agency and… professional digital competence" (Moylan et al., 2024, p. 3). This recognition can be used as a precursor to teachers' professional development that upskills them for teaching with AI which requires both digital and AI literacy and competence. As such, flexible research designs using small-scale qualitative or mixed methods prioritising collaborations with teachers (e.g., Liu & Chang, 2024; Moylan et al., 2024) are promising. This is because such flexible designs can delve deeper into teachers' unique teaching environment when exploring the most effective professional development solutions for teachers to harness the pedagogical affordances of AI. This has informed the design of the present study as small-scale qualitative research in collaboration with teachers to examine their own experiences of teaching with AI in their specific classroom contexts.

Research design

The study reported in this article is part of a longitudinal case study exploring the implications for EAL teachers' professional development arising out of their use of an AI-powered English learning application (the app). We conducted this study with EAL teachers at AMES in September and October 2024 to understand teachers' pedagogical use of the app. The study serves as a precursor to a larger study involving co-design of professional development with the teachers.

Adopting a qualitative approach, this study explores how the teachers were using the app in classroom settings via two main data collection methods, classroom observation and reflective conversation with the teachers. We chose the classroom observation method as we wanted to be able to "see directly" rather than rely on what teachers reported (Spada, 2009, p. 192). The observations were guided by a purposefully developed checklist to record how the teachers incorporated different app features (pronunciation, reading, audio recording, AI feedback) into the lesson plan through pre-class or in-class activities or homework assignments. The checklist also captured the skills and strategies employed by the teacher, examples of student learning, and the way materials or resources were used to support learning objectives. The study collected examples of teaching that incorporated some of the personalised learning features of the app that might demonstrate how teachers used the app to differentiate their teaching for their students.

The purpose of conducting reflective conversations with the teachers was to give the teachers time to reflect on the approach they had taken to incorporate the app in a lesson and to allow the researcher to follow up issues from the classroom observations. The researcher used a semi-structured question design to allow for a free-flowing interactive conversation that led to a more natural environment where the teachers felt at ease to generate their own reflections (Rose et al., 2019). The conversation with each teacher was conducted and recorded on the Microsoft Teams platform and lasted for approximately one hour under the guidance of an interview protocol. The protocol set clear guidelines for the conduct of reflective conversations along with questions which were to be asked to the EAL teacher participants (Patton, 2015). Guidelines included for example, asking the teachers to respond to the same questions to ensure consistency even though follow-up questions may differ due to the spontaneity and emerging nature of teachers' responses. Main questions in the protocol included:

- What were the learning objectives or purpose of the task you created for the app?
- What did you expect to achieve by creating a task for the app?
- What type of students was the task suited for?
- What were the results of the task or the outcomes of the session involving the task and app?
- Did the students complete any pre- or post- tasks? If not, why do you think that was?
- What feedback did you receive from the students?
- How did the app help you to teach the students?
- What worked/didn't work well in the classroom using the app?

Although the questions were not pilot tested with the target population, they were pre-tested and modified using expert reviews (Creswell & Poth, 2024) from academic researchers and practitioners to enhance feasibility, validity, and reliability. Recordings of reflective conversations were transcribed into word documents, from which the identifiable information was removed before storage and data analysis.

Participants

At the time of this study, about 40% of the teacher workforce at AMES (i.e., 25-30 teachers) had made some attempt to use the app with students, however, only a few felt confident enough to use the app in the classroom. For this reason, our purposive sampling strategy yielded a small sample exclusive source of information (Creswell & Poth, 2024). This sample comprise the five teachers who felt confident enough to design and deliver a lesson that incorporated the app's vocabulary and pronunciation practice features. This sampling approach was the only logical and practical technique in this specific research context. It enabled us to enlist teachers as 'rich informants' (Patton, 2015) for this research who could provide deep knowledge and experience about the practical issues and challenges for using the app in diverse EAL classrooms. We were aware of the limitation of this small sample in that findings from this study may not be generalisable to the whole EAL teacher population. Nevertheless, being a small-scale qualitative study, we were able to limit disruption to classroom teaching and learning by conducting the study towards the end of Term 3, 2024 but before assessment deadlines became too pressing for the teachers. Anonymous tags (e.g., Teacher 1) were assigned to each participant as per Table 1.

Table 1. Teachers and their classroom details.

Teacher #	EAL Level	Classroom size	Students using app %
1	1	≈30	≈80
2	2	≈20	≈25
3	3	≈20	≈100
4	2	≈30	≈100
5	2	≈25	≈100

EAL levels: Level 1 (beginner), Level 2 (intermediate) and Level 3 (advanced).

Ethical clearance of this study was obtained from the researchers' university ethics committee prior to recruitment of the participants. Informed consent was provided by each teacher participant before data collection. To ensure confidentiality and data security, identifiable information was removed from the raw data before data storage and analysis. The ethics clearance recognised that students would be in the classroom during teacher observations but that no direct data would be collected from them. The teachers may have included student feedback about students' accessibility to the app when providing their reflective feedback on the lesson.

Findings

Classroom observations

The classroom observations revealed that four (of the five) teachers conducted an in-class activity using one or more features of the app, with three teachers identifying the app as a resource in their lesson plan linked to the curriculum topic of that week– e.g., numeracy and

transport. All the teachers encouraged students to use the app by providing reminders at key stages (when moving between activities and towards the end of class). Table 2 summarises how the teachers were observed to scaffold (i.e., Colum S) the app into the lesson plan at various intervals and integrate the use of the app with curriculum (i.e., Column C) or through pre-class (PC) or in-class (I-C) activities or homework (H) practice tasks. Each teacher's integration of the app is delineated in the next section.

Table 2. App usage during the classroom observation.

Teacher #	EAL level	S	C	PC	I-C	H
1	1	✓	✓	✓	✓	✓
2	2				✓	✓
3	3		✓		✓	✓
4	2	✓	✓		✓	✓
5	2	✓			✓	✓

Individual teacher's use of the app

Teacher 1 – EAL Level 1 Class – Week 9, Term 3 – numeracy topic.

The teacher emailed the students before the class to remind them of the numeracy topic and basic vocabulary they had already covered in previous classes. For this class, the teacher planned to expand students' vocabulary about money by using curriculum materials based on an internet resource for common vocabulary and idioms to talk about prices. The students practised pronouncing the new vocabulary under the teacher's guidance and modelling. Students then repeated the words, idioms, and their associated sentences as a group before practising on their own by using the app on their phone to record their pronunciation. Some of the words and sentences from the internet resource were difficult for the students to master, so the teacher wrote up simpler alternatives on the whiteboard (e.g., 'many' for 'numerous;' 'other shops' for 'competitors') they could practise on the app. The app provided feedback (Figure 1) by highlighting (and underlining) in red words that were pronounced incorrectly, which the student could click on to obtain tips for how to improve their pronunciation. In this example, the student achieved 62% for their pronunciation of the phrase 'it costs an arm and a leg'.

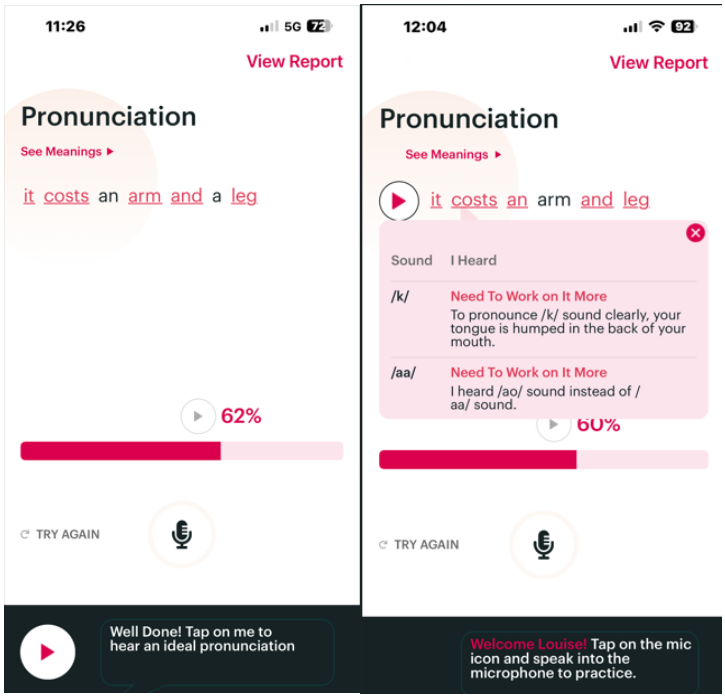

Figure 1. Feedback examples highlighting incorrect pronunciation in Teacher 1's classroom.

Although the app provides multilingual translation of instructions (in Chinese, Vietnamese, Hindi, and Spanish), the teacher preferred to provide instructions in both English and Chinese (as the class was mainly Chinese students) and translate idioms into their Chinese counterparts. The teacher also used two other technologies to help students practice: Google pronunciation, and WeChat. The latter is a Chinese instant messaging social media app on which students were asked to post new sentences using the vocabulary or idioms which would be then corrected by the teacher after the class. The teacher's choice of Google in this instance was prompted by preference for a visual illustration that showed a short video about where to place the tongue in the mouth (Figure 2), whereas the app provides a text description of pronunciation tips (as shown in Figure 1).

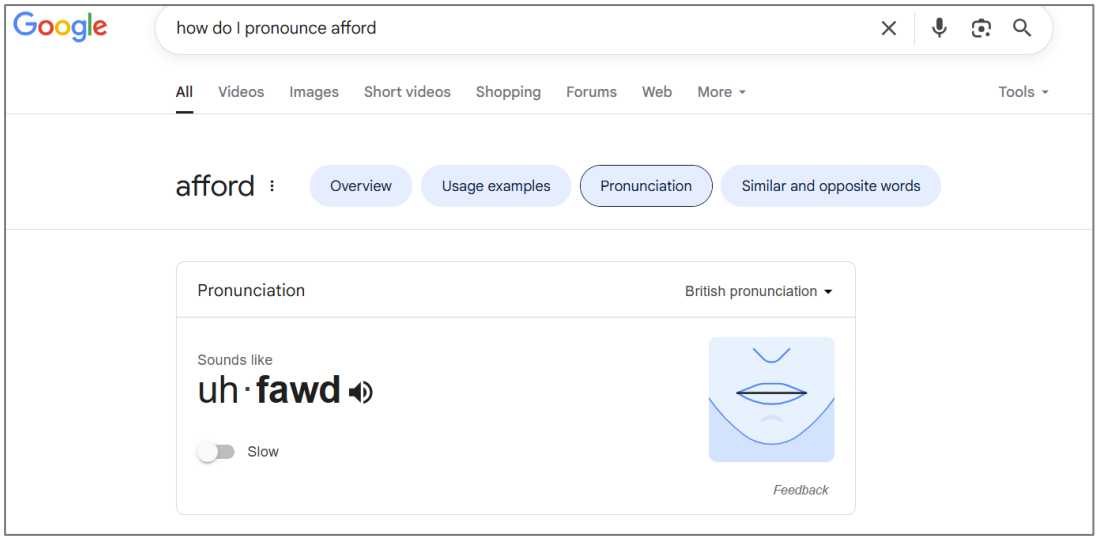

Figure 2. Google: "How do I pronounce?".

Teacher 2 – EAL Level 2 Class – Week 10, Term 3 – assessment task.

Teacher 2's class had the least number of students using the app at the time of data collection, because they were focused on completing an end of term assessment task. Although the teacher could have used the app to create a practice quiz, they preferred to use Quizlet (a proprietary quiz app) because of student familiarity with it. The students had previously expressed concern that the AI app could not recognise their "Asian" accent, therefore, the teacher was reluctant to try using the app without more preparation to build the students' acceptance of the app.

Teacher 3 – EAL Level 3 Class– Week 10, Term 3 – numeracy assessment.

The teacher created their own task for the app using the 'create task' feature on teacher administration dashboard (Figure 3).

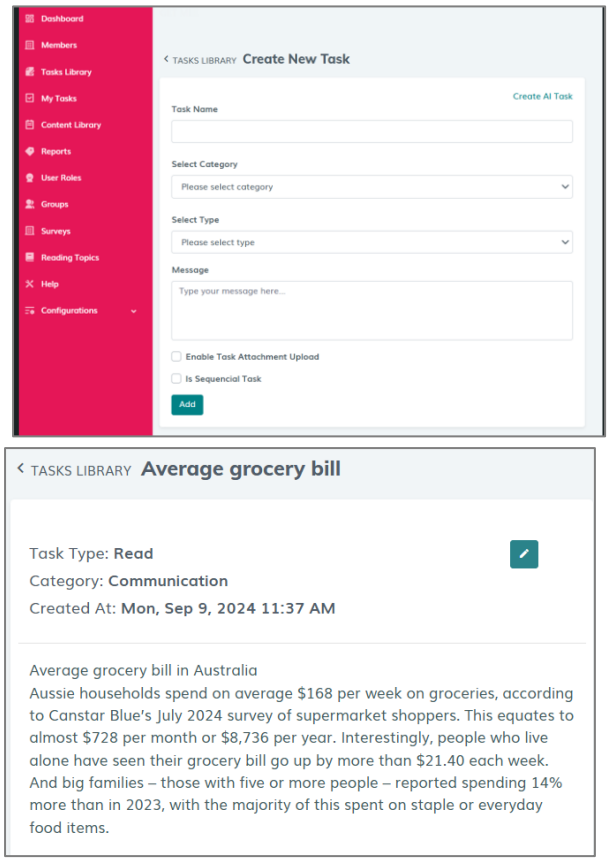

Figure 3. Task creation on teacher administration dashboard by Teacher 3.

Using this feature, the teacher was able to assign a task to the students which then appeared in the student's My Tasks section on the app. The task comprised a short passage of text for the students to practise reading aloud, record themselves reading it and then submit for feedback when they were happy with their performance. However, most of the students were unable to submit as their pronunciation accuracy did not reach the required level of 80%. This

is a default setting which teachers must change before assigning the task in the teacher administration dashboard, however, on this occasion, the teacher did not know how to do this. If the threshold level is too high for the students, the assigned task cannot be submitted to the teacher for review and feedback, even though the students may have attempted the task many times. Nevertheless, for each attempt, AI feedback is given (as shown in Figure 4).

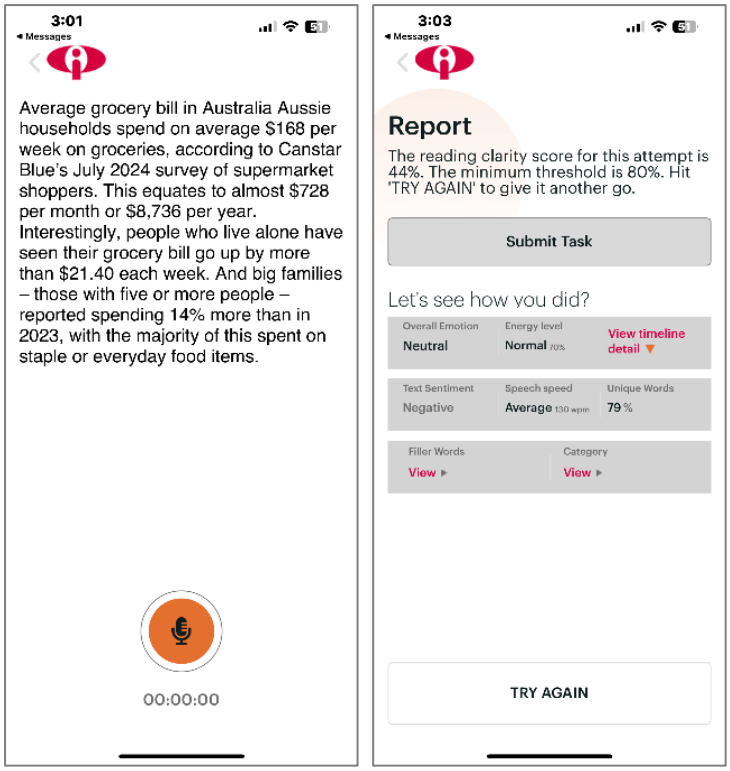

Figure 4. Task created in My Tasks folder in the app by Teacher 3.

Teacher 4 – EAL Level 2 Class – Week 10, Term 3 – Transport.

As can be seen in the lesson plan below (Figure 5), Teacher 4 purposefully integrated students' use of the app in the learning objectives and activities for the class.

Lesson Objectives:

- Students (Ss) can expand their vocabulary and understand the reading text on the topic of "Transport."
- Ss are able to use the MyAMES Chat App as a useful tool for improving pronunciation and fluency.

Lesson Plan:

1. **Warm-up Questions:** Ask Ss how they often travel in Melbourne/their country.
2. **Vocabulary Teaching:** Have Ss work in groups to answer questions using their existing knowledge and vocabulary. The teacher (T) writes the words on the board and has them repeat the words to reinforce meaning and pronunciation.
3. **Pronunciation Practice:** T asks Ss to use the MyAMES Chat app and select "Pronunciation" to practice all new words from the game. T monitors and provides help to Ss.
4. **Reading Text:** T asks Ss to look at the reading text and listen to the recording. T explains new words if asked.
5. **Comprehensibility Check:** T asks Ss to use the MyAMES Chat app again to read one sentence from the text to check comprehensibility and fluency.
6. **App Functions Summary:** T summarizes the functions of the app and encourages Ss to use the app at home.
7. **Reading Questions:** T asks Ss to continue with the reading and answer the reading questions, then T checks the answers.
8. **Speaking Practice:** T asks Ss to form two lines and gives each student different questions. They start to ask and answer the questions.

Figure 5. Example of Teacher 4 integrating the app into a lesson plan.

Working in small groups of 5-7 students, the students used the app to practice vocabulary and sentences about transport. The teacher strategically distributed at least one student with more experience (with the app) to each group of students so that students newer to the class (and the app) were able to get help from a more experienced student. This differentiation-based personalised lesson design made efficient use of the teacher's time and effort to maximise the pedagogical benefits of the app. There were a few words (e.g., motorist and pedestrian) where the app had difficulty understanding the student's accent. However, the teacher reminded students to speak slowly and clearly and also take turns in the group to avoid any incidental noise interference which sometimes occurs if the app overhears another student speak.

Teacher 5 – EAL Level 2 Class – Week 10, term 3 – Racism.

Teacher 5 used a different feature of the app that provides feedback on speaking tone and energy level, which the app defines as a mix of pitch, intonation, voice vitality, volume, and pace. In this scaffolded task, the students read an initial passage of text (Figure 6) as context for a video they would later watch in class (projected on an interactive white board).

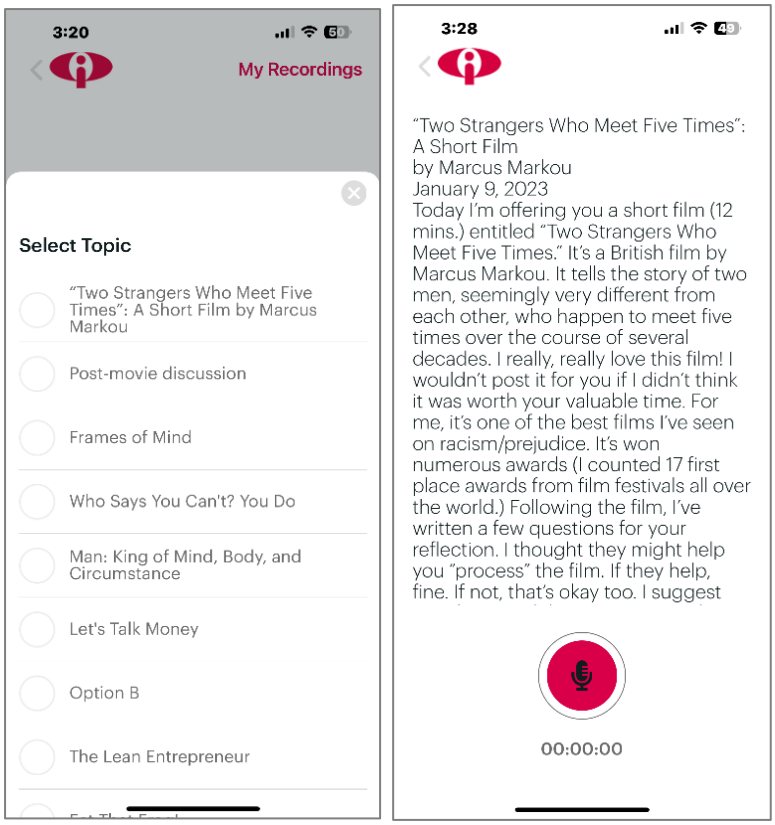

Figure 6. Teacher 5's scaffolded reading task.

After watching the video, the students moved to the post-movie discussion (See Figure 6, second option) to read a second passage of text (Figure 6, second screenshot) and answer some questions (see Figure 7).

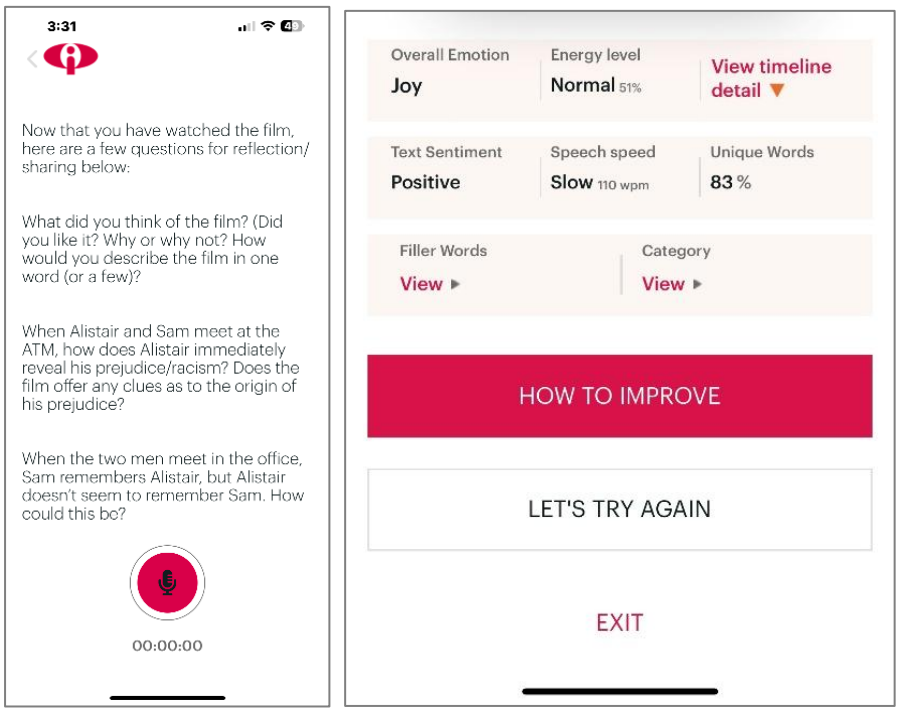

Figure 7. Reading task created by Teacher 5.

The teacher asked for volunteers to read the text aloud into the app in front of the class to demonstrate how the task is done using the app. This reading aloud practice feature of the app includes a function which provides AI feedback on the students' energy level, tone, and use of filler words (as shown in the second screen shot of Figure 7). This enables the student to receive personalised feedback about their speech which goes beyond just pronunciation. In this instance, the teacher used this function to demonstrate to the students how the app can help them to improve their speech by adjusting the tone and timing of their speech when speaking to different audiences (e.g., a large group of people, work colleagues or in an interview).

Reflective conversations

The second data source comprises de-identified transcripts of teacher-researcher conversations which were analysed thematically (Braun & Clarke, 2006). This involved an inductive approach to the analysis where a codebook was created based on patterns and themes as they emerged from the conversations, rather than a deductive approach requiring a pre-existing set of themes in mind. Our thematic analysis resulted in 72 individual coded items, adopting Braun and Clarke (2006) recommendation to "code for as many potential themes/patterns as possible …as you never know what may be interesting later" (p. 89). After checking for relationships or similarities, the coded items were categorised into six preliminary groups (as shown in Figure 8).

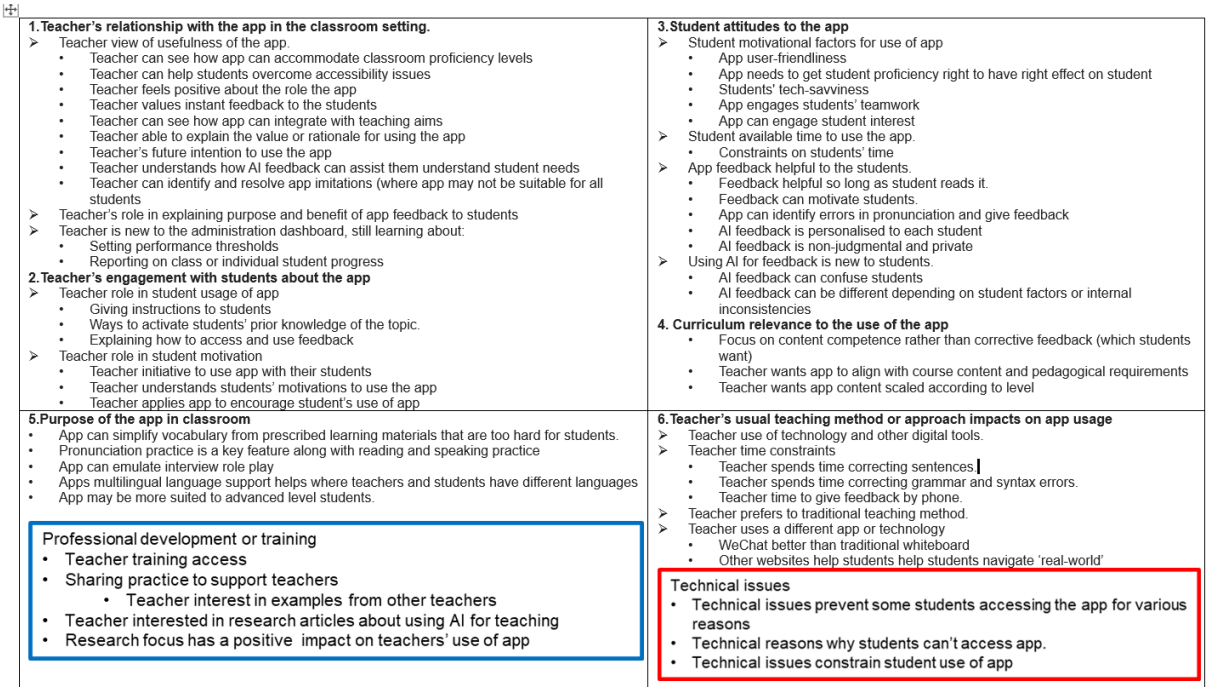

Figure 8. Thematic analysis of teacher interview transcripts.

The second author reviewed the coding and validated the coding and categorising, after which a check was conducted for "internal homogeneity and external heterogeneity" (Braun &

Clarke, 2006, p. 91). This resulted in further fine-tuning that resulted in five main themes of findings: 1) Pedagogical application of AI, 2) Role of teachers in AI teaching, 3) Student acceptance and accessibility of AI, 4) Motivation – teacher and student agentic relationship, and 5) Feedback – how AI-powered feedback works for personalised learning. Each theme of findings is presented below.

Pedagogical application of AI.

This theme represented the teachers' use of the AI app in the classroom to practice pronunciation that aligned with lesson objectives and topic content. Teachers reported that they could see how using the app could enhance, not replace, their usual teaching and assessment practices, with one teacher commenting:

> *"The app ... complemented my teaching, and it allowed me to provide interactive lessons and engage students in [a] more dynamic way…it wasn't a complete replacement for traditional instruction, but rather an enhancement."* (Teacher 1)

The teachers often commented on the app functioning as a teaching assistant, enabling their students to have more opportunities for timely and personalised feedback. This would not be possible with one teacher in a classroom of adult EAL learners with up to 14 nationalities and a wide range of language and digital literacy and proficiency. For example,

> *"Without this app, the students will have to wait for their turns. This will take a long time because we can only get one student to read at a time."* (Teacher 5)

Role of teachers in AI teaching.

The second theme describes how teachers were grappling with their responsibility for the use of the app in the classroom. Some teachers chose to integrate the app meaningfully in their lesson to augment teaching and learning, whereas others employed the app as an additional assistive technology which was not dissimilar to their use of other apps such as Google. The extent of teachers' use of the app in the classroom was found influential to students' use of the app both in and outside the classroom, as illustrated by the comment below.

> *"The good thing here is my students were really engaged in using the app and it's really established the habits…it's increased the participation and engagement of the [students]…"* (Teacher 4)

Supporting students' use of AI in a diverse classroom.

This theme reflects that managing a very diverse classroom can be a major challenge for the teachers. With ongoing and continuous enrolment throughout the term, new students could join classes where the app had already been introduced and practiced before. These students, often less linguistically or digitally literate than their classmates, may then request differentiated, personalised support from the teachers at different points of time so as to catch up with their potentially more advanced peers. This feature of 'superdiversity' generated considerable reflection from the teachers about the challenges of teaching with an AI app:

> *"In my class, there are students who are a bit older. They find it difficult to use the app because of their phone…[which] affects their experience when using the [app]."* (Teacher 4)

> *"Using the app for the students who are weaker, less familiar with new technology. They need a lot of help, and we can't provide that level of help to them right in that sort of environment."* (Teacher 5)

Motivation – teacher and student agentic relationships.

Teachers expressed strong motivations to help their students learn independently to counterbalance a reliance on teacher instructions and guidance. Teachers reflected that they were constantly seeking ways to increase their students' agency over their own learning:

> *"…teacher's initiative and teacher's encouragement [to use the app] … if we don't constantly remind them [students] or make them use it in the classroom, they are less likely…to use it at home."* (Teacher 5)

The teachers also believed that their own professional and human agency played an integral part in engaging the students' learner agency to make the best use of the app and achieve better learning outcomes:

> *"This app is helpful to students who want to practise more at home but not those who are not motivated to use it at home."* (Teacher 5)

This theme highlights that the quality of the teachers' agentic relationship with both the students and the app makes a significant contribution to the success of the app. It also illustrates that the use of AI as teaching assistance may require new forms of human teacher agency.

AI-powered feedback for personalised learning.

An emerging issue from the data related to the algorithmic, profiling, and prediction power of AI, in particular, the app's capacity to create individualised content and tailored feedback for each student. In the face of this new form of AI-empowered feedback, teachers were expected to educate students to develop AI literacy, for example, to help students unpack, decode or interpret the AI feedback, so they can make better sense and then better use of the feedback for their learning. One teacher acknowledged the app's advantage of providing objective and personalised feedback, which was private, thus reducing any embarrassment to the student. In contrast, teacher's feedback tends to be more generic and factors in students' feelings in the classroom setting, as the teacher commented:

> *"The…feedback [from the app]is very analytical. The feedback doesn't care about how the student might lose face in the classroom if the feedback's being given in the classroom in front of everyone…"* (Teacher 5)

The teachers also reflected that this new form of feedback can have significant benefits for their students. Nevertheless, for these benefits to happen, students need to know how to access, understand and take on board the AI feedback. For example,

> *"I feel like the feedback helps the students…if they read the feedback, some of the students just jump the feedback part."* (Teacher 1)

> *"[feedback] can encourage them to practice more."* (Teacher 1)

Discussion

This study collected and analysed data from classroom observations and teacher reflective conversations to identify how EAL teachers were using an AI-powered app with their adult migrant and refugee students. Being able to interweave digital and AI competencies with pedagogy and content knowledge is a necessary step to teaching with AI (Mouta, et al., 2024; Moylan et al., 2024). While we found that the teachers in this study were willing to experiment with the app as a digital tool, their weaving together of these competencies and knowledge was still at an early stage. Teachers were still 'finding their feet' with using the AI app even after one year of the app being launched. A low level of teacher AI literacy can diminish teachers' confidence to guide their students' use of the app (Liu & Change, 2024). This was evident when teachers were not confident to change app settings (such as performance thresholds) or extract, analyse and use the diagnostic data on students' performance provided by the app for additional personalisation benefits for students. Teachers' attempts to connect in-class session topics with students' self-directed learning using the app were not always successful, as this type of app use amongst students was still at an early stage. However, future efforts to link the app to curriculum or course requirements on their learning management

platform would support teachers' more effective use of the app for pre- and post-class learning. Nevertheless, the teachers reported broad satisfaction with their attempts to achieve other pedagogical affordances of the app, for example, linking their use of the app in the lesson to the week's course topic through substitution or augmentation of teaching resources they had sourced from their learning platform or the internet. They saw this as a manageable way to integrate the app in an in-class, face-to-face teaching mode to 'enhance' their teaching practice with their current level of AI competence.

It is clear from the findings that the EAL teachers' pedagogical use of the app was limited to the basic features of the app. This suggests a pressing need of building teacher confidence and skills in utilising the more advanced features of the app. Notably, teachers may perceive advanced use of the app as an additional or highly demanding task, which may then affect their agency in experimenting with the more advanced features of the app on their own without institutional support including training and professional development. Due to hard-wired teaching beliefs and practices (Prestridge et al., 2024), it is little wonder that some of the teachers in this study reverted to their usual teaching methods and app preferences when faced with challenges using the app. Consequently, training, and professional development that is practically oriented and tailored to the needs of specific teaching contexts (Mouta et al., 2024) is essential. This equips teachers with skills and self-efficacy to fully explore and use the pedagogical affordances of AI, especially in culturally and linguistically diverse EAL classrooms.

Furthermore, the EAL teachers' limited use of the AI app was also greatly affected by their students' perception and use of the app. This issue dominated their asides to the researcher during the observations and in their post-classroom reflection interviews. Teachers conjectured that low technology acceptance among some students was caused by their mature age, low language and digital literacy levels, motivation, and need, which aligns with findings from earlier EAL studies (e.g., Veliz et al., 2024). On the other hand, some students were observed in the classroom to be content with simple feedback responses from the app (e.g., the percentage showing their approximation to native English). Like Creely's (2024) prediction, these students appreciated the personalised content they could access over the more generalised whole-of-classroom level feedback that is more typical in the EAL classroom. However, there are additional feedback and tips on the app including an AI-generated individualised report of which students (and teachers) were often not aware. The observed disparity among students' perception and use of the AI app suggests a critical role for teachers to learn about and teach students how to make effective use of the app, particularly how to generate personalised learning for themselves.

Unsurprisingly, teachers' frustrations with technical glitches and teething problems may have overshadowed the potential administrative affordances (Creely, 2024) and productivity gains (Prestridge et al., 2024) of using the AI app in this study. At this early stage of teaching with AI, teachers may still lack a full understanding of how their effective use of the app can elevate their students' experience of the app. This is particularly true when it comes to bringing out the pedagogical benefits of receiving AI-powered instantaneous feedback and customised

learning (Al-khresheh, 2024). This insight signals a priority of improving EAL teachers' ability and agency to apply their pedagogical knowledge to the AI-powered app. This involves exploring how teachers can support students with low or no language or digital literacy to use the app. Targeted professional development centring on peer mentoring and microlearning (Kohnke, 2024), as well as sharing each other's experience in experimenting with the AI app for best practices in classrooms might be a practical way to achieve this priority.

Conclusion

The present qualitative study was designed to better understand how EAL teachers were using an AI English learning app to achieve differentiated and personalised learning while accommodating the cultural and linguistic diversity of their adult migrant and refugee background students. Teaching adult students to learn English with the support of an AI-powered app represented a considerable change in perception and practice for these EAL teachers. This is partly due to the 'superdiversity' (Steele et al., 2023) of EAL classrooms that needs to be factored into any transition between traditional teaching modes and teaching with an AI tool. Little wonder that the EAL teachers in this study were found to be slowly developing their AI literacy and pedagogy despite increasing expectation of a future that involves more teaching with AI. In addition, the identified technological challenges using the AI app in classrooms further discouraged the teachers from exploring the more advanced pedagogical functions of the app with the students. These findings suggest that supporting teachers' AI teaching agency development is crucial to enlivening student's learner agency to achieve personalisation benefits afforded by AI technology. This in turn will require additional support and resources that factor in the 'superdiversity' of the EAL sector in future professional development for these teachers.

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