

# **From Automation to Agency: Using AI to Strengthen Year 12 Girls' Critical Thinking**

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## **Abstract**

As generative Artificial Intelligence (AI) tools become increasingly accessible, the need for students to critically evaluate and interpret automated feedback has become more pressing than ever. Furthermore, concerns have emerged regarding students' tendency to engage with AI passively or treat its outputs as authoritative. This action research study investigated whether structured engagement with AI-generated feedback could strengthen evaluative critical thinking skills in Year 12 English students within a private all-girls school context in Brisbane, Australia. In response to growing concerns, this study implemented a structured framework in which a class of 23 girls were explicitly taught how to critique, reflect, and selectively apply AI-generated feedback to their own essay writing. Scaffolded reflective checkpoints and peer dialogue were embedded to support the development of evaluative judgement and independent learning. Data collection techniques included written student reflections, questionnaire responses, focus groups, interview clips and transcripts and lesson observations. Thematic analysis was used to interpret the data, with findings indicating that students demonstrated increased evaluative awareness, greater intentionality in their use of AI, and strengthened confidence in their own academic judgement. These findings are valuable for educators navigating AI integration in secondary classrooms and warrant further investigation, particularly in exploring the long-term development of evaluative judgement across year levels.

## Glossary

**Agency:** The ability for students to take intentional action, reflect on and critique their choices, and to take ownership of their learning.

**Critical Thinking:** Students' ability to self-evaluate rather than take AI as face value; being able to form their own judgement and conclusions after critiquing and self-reflecting.

**Confidence:** The ability to develop a growth mindset and resilience to learn from mistakes rather than fear them.

**Evaluation:** The ability to assess the credibility of statements and other pieces of evidence. From there, to draw valid or justified conclusions.

**Perfectionism:** A student's relentless pursuit of excessively high standards, often driven by a fear of failure.

**Thinking Partner:** An equal to the students who can foster independence and creativity rather than directly giving answers.

## **From Automation to Agency: Using AI to Strengthen Year 12 Girls' Critical Thinking**

Recent literature highlights both the potentials of AI in education and the risks associated with over-reliance, including cognitive offloading and diminished critical engagement among secondary students (Gerlich, 2025). Additionally, research also raises concerns about cognitive overload, such as an over-reliance on feedback and anxiety induced by hyper-monitoring (Chirayath et al., 2025).

Despite all the highlighted concerns, I wanted to challenge the prevailing narrative that AI diminishes critical thinking. When I knew that the theme for the 2025 Global Action Research Collaborative (GARC) was "Navigating the AI Frontier", I began reflecting on my journey as an English teacher at an all-girls' school. The word 'navigate' suggests an active learning journey that my students would partake in, one that requires discernment rather than avoidance. Teaching in the digital age, I wanted to design a learning experience that supported my Year 12 students to use AI with intention, autonomy, and critical awareness.

My goal was to challenge the girls to shift their perspective of AI from an authoritative source to a tool whose feedback requires critique and discernment. Thus, these reflections led me to create my research question: How does the use of ChatGPT to generate feedback boost girls' critical thinking skills in Year 12 English?

Through structured checkpoints and opportunities for peer discussion, my project sought to equip girls with strategies to critique AI feedback, refine their own ideas, and retain ownership of their learning. These skills are vital beyond the classroom, as students increasingly encounter AI-mediated feedback in academic, professional, and everyday decision-making contexts.

This project followed Mertler's action research model (2025), which emphasises continuous reflection by the teacher in order to refine practice and respond to emerging needs within the classroom.

### **Literature Review**

Critical thinking is widely recognised as a key contributor to effective learning and academic success. Facione (2013) defines critical thinking as the ability to evaluate

information, reason logically, and explain and reflect on one's thought process. Bloom's taxonomy (Bloom et al., 1956) first introduced critical thinking under the category "evaluate," defined as the ability to "examine information and make judgments" (para. 1). It was later refined by Facione (2013), who reconceptualised it as multi-dimensional and explicitly teachable. He emphasises that effective thinkers not only explain their reasoning but also improve upon it. More importantly, notes Ku (2009), successful critical thinkers want to think well, and recognise the power of evaluation. A study involving over 1100 US students found that performance on critical thinking assessments significantly correlated with academic performance – otherwise known as a grade point average (GPA) – especially when students received explicit instruction in critical thinking skills (Facione, 2013). The Australian Curriculum, Assessment and Reporting Authority (ACARA) (ACARA, 2026) also identifies critical and creative thinking as one of seven general capabilities essential for developing "successful learners, confident and creative individuals, and active and informed citizens" (para. 1).

While critical thinking benefits all students, it is particularly transformative for girls (Aizikovitsh-Udi & Cheng, 2015; Bagheri & Ghanizadeh, 2016; Gonzalez et al., 2022). It not only supports better self-regulation and study habits, but also promotes greater confidence and self-efficacy among female students, particularly in high-stakes academic environments (Aizikovitsh-Udi & Cheng, 2015). Furthermore, a study completed by Zetriuslita et al. (2016) found that for most levels of mathematics, female students showed a much higher level of critical thinking than male students. Similarly, a study on student nurses found that Socratic-style interventions improved their perceived critical thinking, with one participant noting reduced anxiety (Gonzalez et al., 2022). Though findings may vary across disciplines, they converge on one key insight: critical thinking, when nurtured, can be especially transformative for girls. Beyond improving academic outcomes, evaluative thinking also fosters independence and confidence—helping girls "gain control of their own lives and be less dependent on others" (Bagheri & Ghanizadeh, 2016, p.142).

It is evident from the research that critical thinking has the ability to transform all students. If this is the case, then what is getting in the way of academic success? In today's rapidly evolving society, new technologies such as AI and other Large Language Models (LLMs) play a major role in many students' lives. Despite their educational potential, researchers have raised concerns about the impact on students' cognitive development, particularly on their ability to engage in critical thinking and problem-solving (Binny et al., 2025; Çela et al., 2024). Central to these concerns is the fear of cognitive offloading, which refers to the use of external aids – such as AI and other LLMs – to achieve cognitive tasks. While AI-powered tools are easily-accessible, researchers highlight they also reduce the opportunity for students to engage in any kind of problem-solving evaluative thinking (Çela et al., 2024). A study conducted on students in Nigeria found that AI posed significant threats to students as they may passively accept AI-generated information without critical scrutiny (Ododo et al., 2024). Zhang et al. (2024) shares the same concern; using LLMs like ChatGPT allow students to obtain direct answers by simply asking questions. Consequently, this may lead to students resorting to obtaining these quick responses rather than taking the time to solve problems independently. This results in “students with low academic self-efficacy...[overusing] AI” (Zhang et al., 2024, p.4).

While critiques of students' AI use are current and important, most often overlook the psychological pressures that drive AI use. Framing AI reliance as laziness glosses over the deeper emotional landscape many students, particularly girls, face in academic environments. Despite the earlier criticism on AI, Zhang et al. (2024) admits that “students with low academic self-efficacy...rely on AI when they are under academic pressure” (p.9). This pressure is especially evident amongst girls, and studies show that girls often feel intense pressure to match or exceed the academic performance of their peers, a pressure that may be heightened in an all-girls school setting (Stentiford et al., 2023).

Through the research by Stentiford et al. (2023), it is evident that students may choose to lean on AI as a 'safety net', not a shortcut. Furthermore, for the high-achieving girls, the desire to be correct can override the willingness to think independently. Sand et al.

(2021) describe this as “socially prescribed perfectionism” (p.2), where girls perceive high expectations from their peers and others within their environment, leading to inner pressure to achieve these expectations. Sand et al. also found that girls were more prone to perfectionistic traits than boys; thus, when girls fear being wrong, they may favour safe, AI-generated certainty rather than engaging in risk-taking learning.

Given these emotional and psychological factors, the classroom becomes an integral space for reframing students’ approach to and interaction with, AI. To prevent AI from diminishing students’ capacity for critical thinking, it is important that educators are providing explicit guidance on how to collaborate with AI instead of allowing students to become passive learners.

Previous research highlights how teachers can enhance, rather than suppress, cognitive engagement and critical thinking by encouraging girls to take intellectual risks (Shubina & Kulakli, 2019). Within feedback-rich learning environments that encourage girls to engage in intellectual risk-taking (Archard, 2012), feedback becomes a critical mechanism through which confidence, self-efficacy, and connectedness are developed. Not only does feedback play a role in developing a student’s understanding of concepts, it also teaches them how to engage in deeper learning (Isaias et al., 2014). Girls, in particular, treat feedback as the key to successful learning (Ahmed et al., 2022). In a systematic review done on elementary and lower secondary school students, Brandmo and Gamlem (2025) found that feedback can positively impact students’ emotional responses while also creating a safe environment that reduces stress and fosters confidence. As such, feedback functions as a key mediator between the environment and student agency, shaping how girls engage and develop the evaluative skills required to engage productively with feedback, especially when it is AI-generated.

Explicit teacher guidance is, therefore, essential in helping students move from passive consumption to active, reflective collaboration with AI. Binny et al. (2025) advocate for a structured implementation roadmap that includes explicit instruction, monitoring, and feedback. They also emphasise the importance of building in reflection opportunities, where

students articulate and evaluate AI-generated responses in their own words. Yet, limited research has been directed towards looking at how AI can be used to teach critical thinking to students. It is at this intersection between AI's capacity to generate feedback and the facilitation of teachers in guiding girls to critically reflect and evaluate feedback that my study is situated.

### **Research Context**

Established in 1861, All Hallows' School is a Catholic girls' school in Brisbane, Queensland, priding itself on its academic excellence and its commitment to raising girls to become strong, independent leaders following the Mercy traditions. With around 1800 students ranging from Years 5 to 12, the school embeds digital pedagogies within teaching and learning practices, allowing students to engage regularly with emerging tools such as generative AI.

Since the introduction of the Australian Tertiary Admission Rank (ATAR) system in Queensland in 2019, heightened pressure surrounding assessment has contributed to increased anxiety, particularly among senior students. For many girls, feedback is closely tied to performance outcomes, which can encourage risk-averse learning behaviours and an over-reliance on external validation—conditions that make the use of AI particularly precarious in this context.

The participants in my project were 23 Grade 12 girls (aged 17-18 years old). This group was an ideal cohort as they were eager to take on strategies on how to better their learning, yet they were also willing to question feedback, articulate disagreement, and critique ideas. I taught the class for 200 minutes per week over a 12-week period. After previously observing their engagement with AI during a Term 1 assessment task, I was familiar with the girls and had built a strong rapport with them.

Working with this cohort was particularly meaningful, given their proximity to final external exams and post-school pathways. Whether they were heading to university or straight into the workforce, I wanted to ensure they left with the ability to think critically and

make informed decisions, especially in a fast-paced and highly-technological society, where AI-mediated tools like ChatGPT are embedded in everyday life.

As Mertler (2025) notes, “making sure that action research adheres to ethical standards is a primary responsibility of the practitioner-researcher” (p.111). To ensure the transparency and ethical integrity of my project, school-approved permission forms were emailed to the girls’ parents at the beginning of the term, outlining the purpose and the goal of the research and the option to opt out of the project. Throughout the process, student consent was also sought prior to the recording of any audio or video material. Students who appeared on camera received a separate permission form that required additional parental consent. To protect student confidentiality, all the girls were assigned pseudonyms. Most interviews were conducted and recorded during class time, while some individual interviews were either recorded by the girls at home or with me during their tutorial times.

### **The Action**

As mentioned in my review of the literature, an over-reliance of AI like ChatGPT may stem from a student’s lack of confidence in their task. Over my years of teaching, not only have I found the steady increase of AI use in girls’ assessments, but also a reluctance to admit to the use of AI due to embarrassment. Many students recognise the social stigma that comes with using AI and become fearful of being automatically labelled as “lazy” and “incompetent” by their teachers. In response, the intervention in this action research project involved structured, scaffolded engagement with AI in a reflective and evaluative framework. In preparation for their external exam at the end of the year on *Macbeth*, the class had been working on writing practice analytical paragraphs responding to essay questions. Students knew that upon completing these writing tasks in class, using AI for feedback was a requirement, and the expectation was that all students should be actively engaging with ChatGPT. Additionally, students completed weekly iterative checkpoints to log their feedback given to them by AI, and the girls also had numerous opportunities to discuss and critique ChatGPT with their peers.

During the first two to three weeks, explicit scaffolding of the checkpoint (see Figure 1) was modelled for the girls. This was to combat the suggested challenges noted by Chiang et al. (2024), who suggest that if not carefully managed, students may become too dependent on AI-generated suggestions, leading to reduced independent thinking. Therefore, prompts were given to students to help them request targeted and specific feedback from ChatGPT that could then be critically evaluated, with blank spaces to paste in their own written paragraphs. In their checkpoints, the girls then completed a guided reflection, explaining how and why they agreed or disagreed with the feedback (see Figure 2).

**Figure 1**

*Example of AI Checkpoint Table*

Here is the question I responded to:

**[The question you responded to]**

<b>Your original analytical paragraph</b> 📄 <i>Paste in the paragraph you wrote below:</i>
<b>Round 1: ChatGPT feedback</b> 🗨️ The prompt/question you entered into ChatGPT: <i>[What did you ask AI? Eg. 'Can you give me dot-pointed feedback on my Macbeth paragraph?' I want to focus specifically on _____]</i> <b>Hi Chat. Can you please give me some general dot-pointed feedback on my Macbeth paragraph? The analytical essay question I answered was: [question] I would like all types of feedback, but specifically, I want to look at my analysis of representations, cultural assumptions and VABs, and aesthetics. Please do not rewrite the paragraph.</b>
<b>ChatGPT's feedback:</b> 🗨️ <i>Paste in the dot-pointed feedback from Chat:</i>
<b>Your critiquing and reflecting:</b> 🧠 <i>Write a short sentence addressing some of the following questions:</i> <ul style="list-style-type: none"><li>• What was one thing that you found the most useful or thought-provoking?</li><li>• What was one thing that you found to be unclear, vague, or irrelevant (even if it's just for the time being)?</li><li>• What was one thing that you found yourself to disagree with or felt like you needed more clarification on?</li></ul>
<b>Round 2: ChatGPT feedback</b> 🗨️ Your follow up question: <i>[Eg. 'You mentioned drawing on more cultural assumptions, but can you explain what kind of cultural assumptions I'm missing without writing the sentence?']</i>
<b>ChatGPT's feedback:</b> 🗨️ <i>Paste in the feedback from Chat:</i>
<b>Your critiquing and reflecting on the key insight:</b> 🧠 <b>What were your thoughts about what Chat said to help you understand more? Was it still vague?</b>
<b>Final decision-making</b> 🤔 <i>Write 1-2 sentences explaining what you'll change or keep in your paragraph, and why:</i>

**Figure 2**

*Example of Completed Checkpoint Table*

ChatGPT's feedback: 🗨️

Paste in the dot-pointed feedback from Chat:

### How to apply this focus to your current paragraph

- **Topic sentence vs. evidence mismatch:**
  - Your topic sentence says "the most righteous characters... are the most loyal... shown through the character of Macbeth."
  - But the evidence you use (murdering Duncan, Banquo, breaking the Great Chain of Being) shows **Macbeth's disloyalty**, not his loyalty.
  - Options:
    - Reframe the topic sentence to highlight Macbeth as the *antithesis* of loyalty (disloyalty exposes the value of loyalty).
    - OR replace evidence with examples of genuinely loyal characters (Banquo's integrity, Macduff's loyalty to Scotland, Malcolm's loyalty to his father).
- **Choice of quotes:**
  - "Bleed, bleed, poor country" is powerful but is more about Scotland's suffering than Macbeth's disloyalty.
  - Stronger alternatives:
    - Macbeth: "He's here in double trust" (Act 1, Scene 7) → shows his betrayal of Duncan's trust.
    - Banquo: "So I lose none / In seeking to augment it" (Act 2, Scene 1) → loyalty to Duncan even when tempted.
    - Macduff: "O nation miserable" (Act 4, Scene 3) → his loyalty to Scotland drives him to overthrow Macbeth.
- **Contextual tie-in:**
  - Keep your Great Chain of Being point — that's a great Jacobean VAB — but anchor it with **direct evidence of Macbeth's betrayal of divine/natural loyalty** (e.g., Duncan's murder as an attack on God's order).

### How to improve this focus for future paragraphs

- **Check alignment early:** Before writing, ask: *Does my evidence directly support the representation I've claimed in my topic sentence?*
- **Choose loyalty-specific quotes:** Avoid ones that only show violence or ambition unless you clearly tie them back to loyalty/disloyalty.
- **Balance your evidence:** If the paragraph is about loyalty, include both sides: disloyalty (Macbeth, Lady Macbeth) and loyalty (Banquo, Macduff). This contrast strengthens your analysis.
- **Zoom in on wording:** Pick quotes with loyalty-focused language (trust, allegiance, duty, betrayal). These make your argument much sharper.
- **Contextualise with VABs:** Always tie back to Jacobean values → divine right of kings, loyalty as a Christian virtue, treason as the ultimate crime.

Your critiquing and reflecting: 🗨️

Write a short sentence addressing some of the following questions:

- **What was one thing that you found the most useful or thought-provoking?**  
It gave me several ways I could implement my feedback not just one, which helped me understand what I was required to fix. It also told me that my links to VAB's and CA's were good but could be used to make stronger points if better evidence was used.
- **What was one thing that you found to be unclear, vague, or irrelevant (even if it's just for the time being)?**  
The quotes it gave me that relates more closely to loyalty as a theme. It also told me to talk about multiple contrasting characters in the same paragraph, rather than just focusing on Macbeth.
- **What was one thing that you found yourself to disagree with or felt like you needed more clarification on?**  
If there are more general quotes I could use and then tie into loyalty so that I'm not trying to memorise too many specific quotes for my exam. There was also no feedback on the way in which I analysed the aesthetic features of the used quotes.

Final decision-making 🗨️

Write 1-2 sentences explaining what you'll change or keep in your paragraph, and why:  
I will rewrite my topic sentence so that my argument and overall point is clearer. I would also find a better quotes relating to loyalty that I could replace of my pieces of evidence with so that there are stronger links to loyalty.

As students became more confident evaluating AI feedback independently, what I noted to perhaps be the most fruitful part for the girls was when they had their weekly discussion groups. During the last lesson of every week, the girls entered their small groups with their completed checkpoints and shared their reflections of the AI feedback they received. In those groups, they compared insights and decisions with peers, encouraging collaborative critical thinking and allowing students to test and refine their evaluative decisions through dialogue with peers.

## Data Collection

Throughout the action research, I collected both qualitative and quantitative data, adopting a mixed-methods approach as suggested by Mertler (2025). Although quantitative data provided useful insights through questionnaire responses from the class, my focus was predominantly qualitative, as this approach offers a descriptive narrative that captures student voice and individuality. This approach allowed for a more comprehensive understanding of how the girls engaged with AI-generated feedback and developed evaluative critical thinking skills. As Mertler notes, qualitative data is valuable in classroom-based research because it reveals the richness of student perspectives and the nuances of learning in action. Accordingly, I collected data through questionnaires, classroom observations, semi-structured and unstructured interviews, and girls' reflective checkpoint work.

The same short student questionnaire was administered before and after the project to investigate shifts in students' confidence when using AI tools and evaluating feedback. Though mostly open-ended questions, there were some questions that required students to respond using a Likert Scale, which Mertler (2025) notes has the potential for students to opt for the "neutral" option without much thinking. Therefore, I chose to only include four options: "strongly disagree," "slightly disagree," "slightly agree," and "strongly agree." The quantitative data from the Likert scale questions helped track growth over time and support patterns that emerged in the qualitative findings. To ensure credibility, the questionnaire included open-ended items that allowed respondents to "provide a seemingly limitless number of responses" (Mertler, p.147), preventing questions from being misleading or controlling.

Across the intervention, the girls completed reflective checkpoints, which were used to document how they engaged with AI to generate feedback on their analytical writing. Additional data were collected through classroom observations (field notes), informal discussions, and group interviews. This triangulated approach enhanced the credibility and trustworthiness of the findings.

Students participated in small focus groups of around five members, ensuring all had the opportunity to share their perspectives (Mertler, 2025). Small focus groups were also

used to encourage collaborative dialogue and alleviate the pressure some girls felt when responding to questions individually. These discussions were held every two weeks, providing space to reflect on the checkpoints and share authentic experiences and opinions on using AI for feedback ethically. The interviews were recorded and transcribed for accuracy.

Additionally, I conducted informal interviews with students who provided interesting responses in their reflection journals. The interviews were either filmed or their reflections recorded on audio. These spontaneous, conversational interviews were valuable for capturing authentic, in-the-moment insights throughout the data collection process.

Ultimately, using a mixed-methods approach enabled me to triangulate my findings and gain a balanced, credible picture of how my students used teacher-taught strategies to critique ChatGPT feedback, thereby strengthening their critical thinking.

### **Data Analysis**

I analysed my data to ensure validity and credibility. After analysing, I made sure to triangulate different data sets to enhance my interpretation of the participants' experiences. Comparing multiple sources of evidence from the same student provided a more reliable and holistic understanding.

Following Mertler's (2025) recommendations to "organise, describe, and interpret", I conducted an inductive analysis to identify recurring patterns and themes surrounding the development of critical thinking in the English classroom. Data collected at different stages of the intervention were compared to track shifts in student perceptions and critical growth. The thematic analysis enabled me to draw connections across data sets and develop key findings grounded in student agency and classroom experience.

Through this intervention, I aimed to capture not only evidence of skill development in the girls' use of ChatGPT, but also evidence of the evolving confidence and evaluative thinking of my students.

### **Discussion of Findings**

From the analysis of data, the following four themes were identified:

## **“Using AI as a Confirmation of What You Know”: The Strategic Use of AI Develops Girls’ Agency**

Initially, the girls appeared to view AI as an authoritative source rather than a thinking partner. When asked what they used AI for, one student responded, “I get it to do EVERYTHING!!!” while another student reflected that she struggled to move beyond AI-generated ideas because “[She] couldn’t come up with anything better ... like, Chat has the best ideas.” This uncertainty aligns with research suggesting that high-achieving girls are more likely to rely on academic “safety nets” such as AI under pressure (Stentiford et al., 2023; Zhang et al., 2024). This pattern was also reflected in the pre-intervention survey, where six students indicated that AI could diminish critical thinking. Through the data, I found that perhaps students initially lacked the strategies to regulate their use of AI effectively.

Across the intervention, however, most of, if not all, the girls were able to shift from dependence to discernment. Through reflective checkpoints and small focus group discussions, students began to demonstrate greater metacognitive awareness, particularly in how they framed and constrained their AI prompts. As an observer in the classroom, I noted most students eagerly shared their strategies during these discussions, suggesting that students increasingly positioned AI as a tool to support, rather than replace, their thinking.

The girls’ enthusiasm was evident in their responses in the final questionnaire, where many articulated specific strategies to avoid cognitive offloading. One student noted that she asked AI “not to rewrite the paragraph but provide some ideas on how to improve.” This suggested a clear increase in agency, with students exercising greater control over both the purpose and limits of AI use.

While nine students reported in the post-intervention questionnaire that AI diminished critical thinking (compared to six pre-intervention), this shift suggests increased awareness of AI’s cognitive risks rather than increased dependence. When asked what they learnt from the unit, one student reflected that, “you have to rely more on yourself, and use [AI] more as a confirmation of what you already know.”

## **From Acceptance to Critique: A More Intentional Use of AI Encourages Girls' Self-Reflection and Critical Thinking**

Through their newfound agency, students shifted from outsourcing their thinking to actively negotiating with and critiquing AI-generated feedback. While students were explicitly taught how to use the AI checkpoint table to seek feedback, my early classroom observations revealed initial uncertainty and reliance on AI authority—evident in students fidgeting and staring off into space. In the first week, two of the 21 students directly asked ChatGPT to write their entire paragraph, while only one student initially referred to the checklist when prompting the tool.

As students became more familiar with the routine, their behaviour and language shifted noticeably. During focus group discussions, students grew increasingly confident in identifying limitations in AI feedback. One student commented that ChatGPT “goes off on little tangents,” while another noted that some responses “didn’t relate to what I had learned [in class].”

The language used during these conversations also reflected the girls’ increased confidence to share their ideas; towards the start of the unit, the girls were more reserved, needing cues and prompts from me before sharing their thoughts. As the weeks went on and they gained more experience with these checkpoints, the conversations became more animated. Students were often automatically leading the discussions with prompts like, “What did we find helpful from our first [checkpoint]? What did we like and didn’t like from ... the feedback that Chat [GPT] gave us?” The girls were confident in questioning specific AI feedback while aligning it with their own understanding of the task, with a student saying, “[ChatGPT] said ... that I needed to go beyond and say ‘this shows loyalty instead of x’ and ‘this reflects Jacobean audiences because of x’, which made no sense because how are you supposed to do that without becoming repetitive and not concise?” These moments depict a developing capacity to evaluate AI feedback against disciplinary knowledge rather than accepting it uncritically.

While a few girls disengaged from the checkpoints, this disengagement did not extend to collaborative discussion. Most students actively participated in group conversations, offering critiques of AI feedback and responding to peers' ideas. I reflected on this observation and noted that students demonstrate critical thinking in diverse ways, and through engagement with their peers, girls were able to become more discerning in their use of AI.

This shift was reinforced in post-intervention interviews, with one student reflecting, "I used to think that ChatGPT was always right ... what I've learnt is that you have to critique AI because it's not ... obviously human, and it doesn't always know 100%." Collectively, these responses demonstrate growing self-reflection and evaluative judgement, positioning AI as a tool to be questioned rather than an authority to be followed.

### **Passive Acceptance to Active Engagement: AI Can Help Reframe Girls' Understanding of Feedback**

Throughout the intervention, students not only developed greater confidence in critiquing AI feedback but also reframed their understanding of feedback itself. Early interviews revealed that many students experienced feedback as overwhelming and anxiety-inducing. An interesting observation was that students found that AI-generated feedback often did not align with teacher expectations, with one student reflecting that while ChatGPT "can be helpful to consider [teacher] feedback, [it] doesn't understand the scope of the assessment like I do." This insight reinforced my goal to bridge the gap between students' understanding of assessments and their engagement with feedback.

The literature highlights the importance of teacher-led "AI implementation roadmaps" (Binny et al., 2025, p.4) where explicit instruction and structured monitoring support effective AI use. Consistent with this research, as students became more confident in asking targeted and purposeful questions, I noted that they began to use AI as a first point of feedback before confirming their thinking with me. This behaviour signals a shift from passive reception of feedback to active engagement, observed both in-class and during exam preparation.

The girls' confidence was evident in their final practice essays, where most were able to interpret dot-pointed feedback and identify specific areas for improvement. Rather than approaching feedback with apprehension, students demonstrated confidence in using feedback to guide revision.

In post-intervention interviews, one student reflected, "Before Year 12 ... feedback was a bit scary ... But now ... I can use both [ChatGPT] and my teacher's feedback to enhance my work." This response encapsulated the shift in students' outlook on feedback and the resulting confidence in their learning.

### **"It's Not Like a Person": Girls Value the Role of the Teacher Alongside AI Use**

One notable finding was that students consistently expressed greater trust in teacher feedback than in AI-generated responses. This aligned with Archard's (2012) assertion that teachers play a critical role as trusted role models for adolescent girls. Although more than half the class reported using ChatGPT during the assessment process, many students indicated that AI feedback was limited in its usefulness. During a student-led group discussion, one student stated a preference for teacher feedback, while another reflected that "sometimes it's just hard to trust [AI] because it's not, like, a person."

However, this did not reflect a lack of critical engagement with AI. Rather, I noted that most students demonstrated the ability to evaluate AI feedback independently and identify when my help was required. This was evident during the exam study period, when a student requested a meeting to further discuss feedback generated by ChatGPT, seeking clarification and confirmation from me.

This sentiment was echoed in post-intervention responses, with one student explaining, "I would prefer teacher feedback as I have little trust ... that AI knows what the exam markers are after." These responses suggest that while AI supported students' critical engagement with feedback, teacher presence remained central to students' confidence and learning.

## **Conclusions**

This action research found that structured engagement with AI-generated feedback strengthened evaluative critical thinking in Year 12 girls, particularly when AI is positioned as a collaborative thinking partner rather than an automated authority whose feedback is perceived as definitive. However, access to AI-generated feedback alone did not strengthen critical thinking; growth occurred when students learned how to interrogate, critique, and selectively apply that feedback.

The findings also reaffirm the continued importance of the teacher in the classroom. Explicit instruction in evaluative thinking—including modelling how to prompt and question AI responses, identify flaws and limitations, and refine feedback—not only strengthened students' analytical skills in essay writing, but also nurtured confidence in their academic judgement. Thus, this study was particularly significant within a Year 12 cohort navigating the heightened pressure and anxiety associated with high-stakes assessment. In an era defined by rapid technological advancement and increasing access to generative AI tools, such structured guidance is essential if AI is to enhance, rather than erode, students' critical thinking.

Perhaps the most valuable part of this study was the way it reshaped my teaching pedagogy. I initially planned for students to complete the structured checkpoints in order to articulate their thinking. However, I later found that gradually spacing the checkpoints out while incorporating more opportunities for peer dialogue fostered a greater sense of independence and agency within the girls. Students began to engage with AI feedback more intentionally, with one student independently documenting and critiquing feedback she generated from AI for one of her practice questions during the external examination preparation period, demonstrating the transfer of evaluative skills beyond structured classroom requirements.

The limited time of the study, along with a smaller cohort and specific context within a senior girls' classroom, meant that I could not fully capture data from the beginning to the end of the term. Future research could extend over a longer period and also explore whether similar scaffolding of AI-generated feedback would have the capacity to strengthen

evaluative thinking in younger year levels; earlier intervention may contribute not only to critical thinking development but also to increased academic confidence over time.

### **Reflection Statement**

It has truly been a joy to partake in this action research; having the opportunity to experiment with AI and implementing it as part of the Year 12 resources has not only been valuable to the Year 12s, but also to me as the teacher in the classroom.

Of course, there have been many meaningful moments throughout this process, but perhaps the most significant has been witnessing the way my students began to see themselves not as passive recipients of AI-generated answers, but as critical thinkers capable of evaluating and critiquing those responses. As a teacher who strives to equip my students for an increasingly complex and technology-rich world, this GARC project required me to confront my own uncertainties about AI and to model the very evaluative thinking I hope to cultivate in my students.

Being an English teacher, I was originally concerned about the potential erosion of critical thinking in an increasingly automated world. However, through observing the girls thrive during this process, I now leave it convinced that AI, when thoughtfully used, can become a tool for deeper evaluative engagement. The research has transformed the way I teach other classes, as I now make sure to embed reflective checkpoints for all year levels, as well as creating space for peer dialogue and discussions during assessment preparation periods.

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