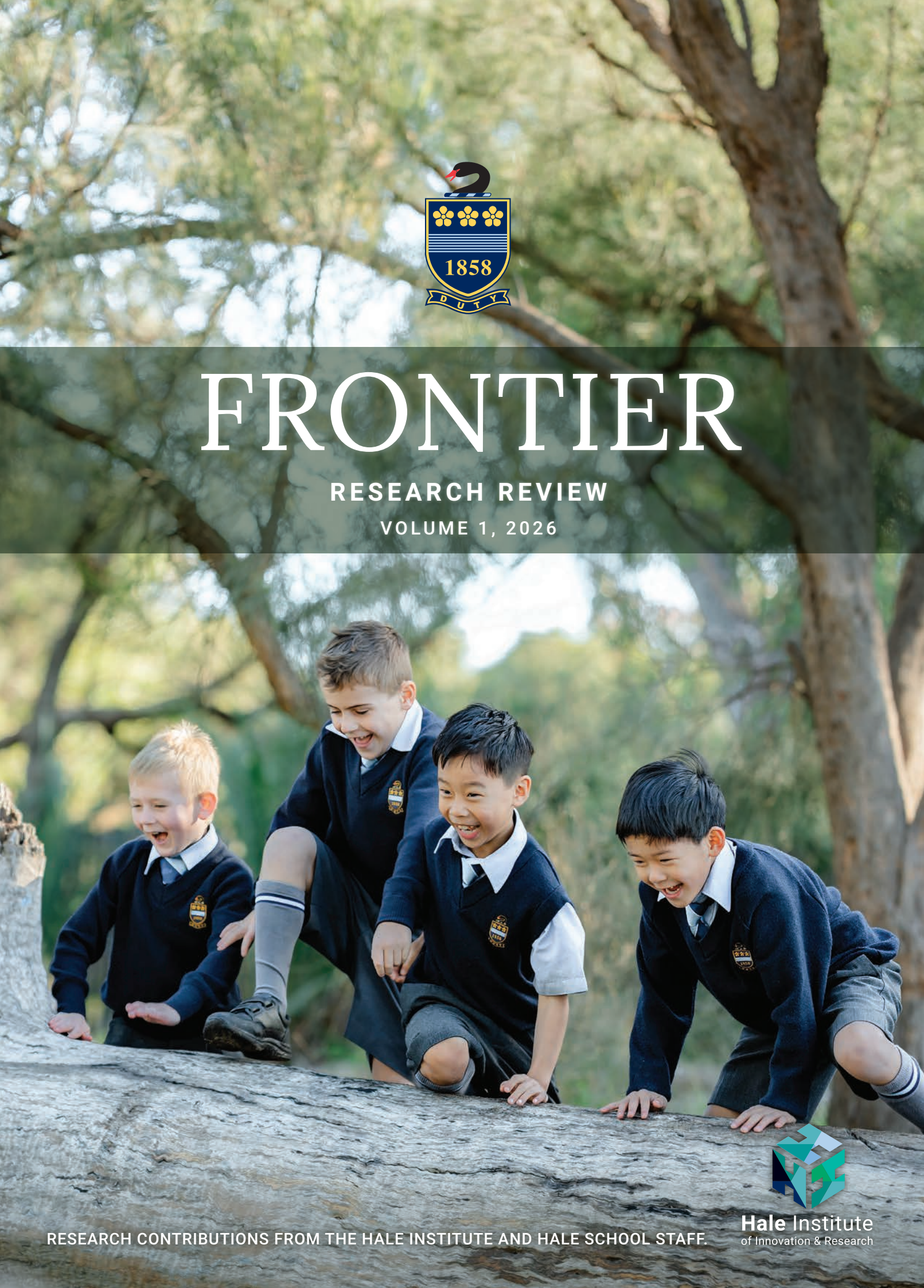


FRONTIER

RESEARCH REVIEW

VOLUME 1, 2026

RESEARCH CONTRIBUTIONS FROM THE HALE INSTITUTE AND HALE SCHOOL STAFF.

Hale Institute
of Innovation & Research

Contents

‘Together, these works reflect the intellectual curiosity, professional skill and shared purpose that underpin teaching at Hale.’

Introduction

The *Frontier Research Review* is a publication that celebrates the research, reflection and professional practice of our teaching staff. It has been developed to showcase the diversity of educational inquiry taking place across Hale School and to provide a platform where teachers can share findings, innovations and insights that contribute to improved student learning and wellbeing.

This review brings together examples of classroom-based action research, curriculum innovation and reflective practice. Each contribution highlights the commitment of Hale staff to evidence-informed teaching and the pursuit of continual improvement. The articles demonstrate the depth and breadth of inquiry across the School and reflect how teachers engage with evidence, reflection and collaboration to strengthen learning outcomes and support student development.

Together, these works reflect the intellectual curiosity, professional skill and shared purpose that underpin teaching at Hale. They highlight how teachers use research to guide practice, test ideas and evaluate their impact on students' academic and social-emotional growth.

The *Frontier Research Review* also serves a broader purpose: to encourage professional dialogue across departments, to celebrate collaboration, and to strengthen our collective understanding of what works in our classrooms. It supports Hale's strategic goals around learning, innovation and staff development, reinforcing our commitment to being a community of learners as well as educators.

By engaging in and sharing their research, staff contribute to a culture where teaching is informed by evidence and guided by curiosity. Their work demonstrates that meaningful improvement in education begins within the classroom through teachers who seek to understand their students more deeply, refine their practice, and share what they discover for the benefit of others.

We thank all contributors for their willingness to explore, reflect and share their learning. Their work not only celebrates professional excellence but also strengthens Hale School's ongoing commitment to purposeful, innovative and evidence-based education.

Toby Trewin
Director of the Hale Institute of Innovation and Research

1

The moral purpose of education

Fr Tom Couper, Chaplain

At the first chapel service of the year, I showed the boys a picture of the beautiful bronze statue of Bishop Matthew Blagden Hale on St Georges Terrace in the city. The statue stands on the threshold of The Cloisters building; Bishop Hale is looking back over his shoulder with his right arm extended and his palm up as if beckoning others to join him. It's a wonderful image. I showed it to the boys because I wanted them to consider why Bishop Hale invited those first students to join him. What was his ultimate purpose for opening a school for boys in the freshly minted colony of Perth? I suggested, provocatively, that he didn't beckon those first boys into the school because he wanted them to learn. As an Anglican Bishop, he would have been aware of the words in 2 Peter 1:4 that suggest the telos of human flourishing is to be "partakers in the divine nature". Put simply, he would have been deeply invested in the kind of human beings these boys were going to become.

The Italian theologian and educator Luigi Guissani wrote, "All education is moral formation" (Guissani 2019). In other words, everything we do at school has the potential to shape our students for good or for ill. The idea that some forms of education are neutral and others biased (i.e. faith versus secular) is a chimera. All our curriculums, syllabuses, programs and pedagogy necessarily reflect the values and visions of the designers. As Robert Dissaix once said: "You can't have a vision for education without having a vision for life." The key question for educators then is this: What is our vision for life? Everything flows from that.

A good place to start when formulating a vision for life and education is to consider what we believe human beings truly are. After all, it is human beings who come to our schools to be educated. Sadly, as a society, we have unwittingly embraced a rather bleak anthropology that views humans as little more than 'thinking things' (McGilchrist 2021: p.5) or 'brains on a stick' who, to be educated, only need the necessary knowledge, beliefs, skills and ideas encoded into the computers in their heads. Some have referred to this as the 'banking' model of education; a model that ultimately views students and parents as machine-like consumers who know what they need in advance and merely come to school to collect. Thus, teachers are no longer mentors passing on wisdom, knowledge and a passion for their subject, but rather resemble shop assistants guiding students to the right part of the shop to find what they seek. In this picture, teachers are deemed effective to the extent that they can give parents and students what they ask for, which is always the correct answers to exam questions. How depressing!

Aside from the huge levels of anxiety this causes everyone (parents, teachers, students), it also creates a rather thin view of education. Students cannot help but see their schooling as just a means to an end, and teachers' freedom to actually teach and make professional judgments in the classroom is curtailed as they are forced to become experts in coaching students to pass tests. It's no surprise that with the explosion of AI in education, some argue that it's only a matter of time before traditional teachers become obsolete. They are right if education is simply about filling kids' heads with knowledge and skills. If that's the case, why bother with expensive schools? Surely, sending our kids straight into the workforce or using online learning platforms would be a much cheaper and ultimately more effective way to achieve this goal. Recently, a cheeky but thoughtful Year 11 student said to


THE CLOISTERS
Anglican Diocese of Perth

‘Education is what remains when we have forgotten what we learnt in school.’ What remains, of course, is the people we have become.

me in passing: “I guess with AI, you guys aren’t going to be needed much longer!”

But human beings need more than mere transaction to be educated. Education, at its best, is not transactional but transformational. It is about becoming. In the future, the pressing issues we are facing today around peace, justice, the environment, inequality and care will not have gone away. Consequently, those of us in education must endeavour to cultivate our students’ moral imagination and give them a vision for the world that takes values seriously. Educating students within a moral order helps them develop a sense of their place in the world and a sense of meaning. With the rise of social media and the decline of community groups and churches, schools will need to collaborate with families to assist with this task. The author of *The Anxious Generation*, Jonathon Haidt (who is a secular Jew), expressed this recently on *The Ezra Klein Show* (2025):

> “When you say all that matters is what feels good or all that matters is rights or all that matters is some measure of material success, basically what you have is what Émile Durkheim called ‘anomie’, or normlessness… kids need moral formation. They need a structure, a shared moral framework. Morality works like language. You can’t have your own language, and you can’t have your own morality. It only works as a shared system and order. And once kids move on to social media, it’s just a million little fragments of nonsense. There’s no moral order.”

Of course, all schools talk about values and the kind of people they want their students to become. The tricky part is moving this talk beyond the tokenistic to the golden thread that runs through the entire school. A broad liberal curriculum, weekly assemblies, community events, daily rituals, service opportunities, creative traditions, camps, regular chapel services, and good teachers help to embed this golden thread deeper into the school. It needs to be connected to everything the school does. Invariably, the challenge for those in school leadership is that taking this purpose seriously means time given to it will have to come from somewhere (i.e. the curriculum). This is difficult with the growing pressures schools face to ensure their students get the results they need. But what if the well-worn dichotomies between moral formation and academic learning, the real curriculum and hidden curriculum, are false? Here's a fascinating quote from a recent discussion paper by Dr Chris Duncan for the Association of Heads of Independent Schools of Australia (2025, p.5):

> "Seven years of research involving 50 academic researchers, hundreds of schools, thousands of teachers, and tens of thousands of students concluded that values education enhances academic focus and academic diligence, raising the thorny question that academic success may best happen for students when it is not the primary focus of their learning. "

Later in the article, Duncan argues that good practice pedagogy must be directed to the whole person and relies upon the brain being stimulated in a "morally ambient environment". I would argue that a morally ambient environment is always one where the students feel like they belong and where their educational experience is about more than their learning and their results. It must also include the profound realisation that they are a valued part of something much bigger than themselves.

For education, we should recast the Cartesian axiom from "I think therefore I am" to "I relate therefore I am" or, better still, "We relate therefore we are". Are humans just brains on a stick that require the correct information to succeed in life, or are they something different? The social psychologist Erich Fromm once wrote: "Understanding and loving are inseparable; if they are kept separate, the door to essential understanding remains closed." (McGilchrist 2021: p.1130). Perhaps before humans are beings that think, we are beings that yearn, we are beings that love. Education is the point at which we decide whether we love the world and our children enough to pass on what we love and value, and what those before us have loved and valued. The time we give them to discover their loves, values, habits of mind and friendships, which will nourish and sustain them in their lives, especially when their lives get difficult.

Schools need to focus on academic rigour. Undoubtedly, the world needs highly skilled doctors, scientists, economists, politicians, farmers and teachers. But, even more than that, the world needs imaginative, compassionate, empathetic, open, generous, loving, moral… doctors, scientists, economists, politicians, farmers and teachers. In the years to come, I hope that schools will be brave; brave enough to trust their instincts about what education should be. Brave with curriculums, assessment policies, classroom configurations, teacher formation, service, traditions and rituals. Einstein was spot on when he said, "Education is what remains when we have forgotten what we learnt in school" (Einstein 1954: p.60).What remains, of course, is the people we have become.

2

Emotional intelligence and house culture: exploring the impact of Hale School's house system on boys' emotional development

Lisa Woodyard, Assistant Head of Parry House

Does a boy's house culture at Hale School impact his emotional intelligence (EI)? This research investigated whether the structured environment of the house system in an all-boys school contributed to the development of EI, a key predictor of personal and academic success.

At Hale School, the house system is central to student life, fostering mentorship, peer interaction and shared activities. The system supports emotional and educational growth through leadership roles, house activities, and pastoral care. This study explored how house culture influences EI development, particularly in boys who often struggle to articulate emotions due to societal expectations. While school culture and EI is well documented, the specific role of house culture in all-boys schools remained underexplored.

METHODOLOGY OR PROCESS

The action research project followed a cyclical model of planning, acting, observing and reflecting. A mixed-methods approach was used, combining quantitative data from the Adolescent Swinburne University Emotional Intelligence Test (SUEIT) and qualitative data from interviews with Heads of House. The study focused specifically on four day houses, sampling Year 8, 10 and 12 students. Data collection spanned July 2023 to February 2024, with analysis and reporting completed by November 2024.

KEY FINDINGS OR OUTCOMES

Student EI profiles

The EI profiles of students across four day houses at Hale School revealed consistent patterns and areas for development. The most dominant descriptor across all houses highlights a need for improvement in emotional vocabulary and the ability to identify and label emotions in both self and others. This suggests that many students struggle with foundational emotional awareness, a critical component of EI.

Other significant descriptors included:

- Emphasising empathy and teamwork. This was notably present in two houses, indicating a need to foster interpersonal connection and collaborative skills.
- These relate to decision-making and emotional control. Students in two houses showed a tendency toward analytical decision-making and emotional inhibition, suggesting a need for more intuitive and emotionally open approaches.
- Emotional regulation, including managing stress and anxiety. This was less prevalent but still present, particularly in one house.

Support strategies

To address these findings, data for individual students was provided to pastoral staff in each house and a range of targeted strategies were proposed:

- For emotional vocabulary: Use of emotion wheels, feelings charts and role-playing to expand emotional language. Journaling and art-based activities (e.g. mood boards) to encourage emotional expression. Group discussions and mindfulness practices to build self-awareness and empathy.
- For decision-making and emotional control: Structured frameworks like the DECIDE model and SWOT analysis to guide decision-making. Scenario-based learning, debates and reflective journaling to practise emotional reasoning. Mindfulness, role-playing and workshops on identifying emotional triggers and reframing thoughts.
- For empathy and teamwork: Team-based projects and service learning to promote collaboration and understanding. Peer mentoring and buddy systems

to model empathetic behaviour. Recognition of empathetic actions during house meetings to reinforce positive traits.

- For emotional regulation: Guided meditation, breathing exercises and progressive muscle relaxation to manage stress. Lessons on emotional triggers and constructive responses to challenges. Restorative practices and peer support networks to foster resilience and emotional stability.

REFLECTION AND IMPACT

The house system at Hale School does play a significant role in shaping EI, especially through vertical group structures and mentoring. Older students benefit from leadership roles that foster empathy and emotional regulation, while younger students often felt disconnected unless actively included. Rituals, traditions and symbols (e.g. bell ringing, mascots) reinforced cultural identity and emotional security. However, reliance on extrinsic rewards (e.g. food, drinks) suggested a need to balance with intrinsic motivators like personal growth and connection.

CONCLUSION

House culture influenced boys' EI, particularly when inclusive, supportive and relational. Leadership roles and mentoring enhanced EI, but more inclusive strategies were needed to engage all students. Schools should prioritise emotional development alongside academic achievement, using house culture as a vehicle for fostering resilience, empathy and meaningful relationships. Further research is recommended to refine these practices and ensure sustained emotional growth across diverse student experiences.

3

Expanding emotional vocabulary in Year 7 boys: a classroom-based inquiry into emotional granularity

Andrew Rich, Year 7 Pastoral Care Leader

How can a targeted emotional intelligence unit improve emotional vocabulary and differentiation in Year 7 boys, and what impact does this have on their emotional granularity?

This inquiry was prompted by a recurring classroom observation: many boys struggled to articulate their emotional states beyond broad descriptors like 'happy' or 'sad'. This limitation not only affected their ability to reflect and regulate emotions but also hindered meaningful peer interactions and teacher-student communication.

Emotional granularity – the ability to identify and label emotions with precision – is increasingly recognised as a key component of emotional intelligence and wellbeing. Research shows that individuals with higher emotional granularity experience fewer emotional difficulties, use more effective coping strategies, and enjoy better mental health. In educational contexts, emotional vocabulary development has been linked to improved emotion regulation, empathy and academic performance (Barret et al 2001, Wilson-Mendenhall and Dunne 2021).

METHODOLOGY OR PROCESS

This was a classroom-based action research project conducted during Term 1, 2025. The process involved:

- Pre and post surveys: Students completed the Ecological Momentary Assessment (EMA) every day for one week before the Emotional Intelligence unit and for one week after the unit.
- Lesson sequence: A series of lessons focused on emotional vocabulary, self-awareness and emotional differentiation. Activities included emotion word walls, practising emotional check-ins, journaling, mindfulness activities and reflection exercises.
- Data analysis: Quantitative and qualitative analysis was conducted on the survey responses to assess changes in vocabulary use and emotional granularity.
- Collaboration: The project was supported by Hale's Year 7 team and informed by Brené Brown's work on vulnerability and emotional literacy, as well as contemporary research on emotional granularity (Brown 2021).

KEY FINDINGS OR OUTCOMES

Quantitative insights:

Emotional granularity:

Pre-program: 5.15% of emotion words were nuanced.

Post-program: 21.95% of emotion words were nuanced.

This represents a fourfold increase in emotional specificity.

Qualitative insights:

- Students moved from general terms like 'happy' and 'sad' to more specific descriptors such as 'energised', 'hopeful', 'anxious' and 'relieved'.
- Reflections indicated increased confidence in articulating emotions and greater emotional awareness.
- Students demonstrated more intentional and precise emotional expression, even when using fewer words.
- Increased use of emotionally-rich vocabulary suggests deeper engagement with emotional literacy.

Student voice:

"I feel energetic and happy because I'm looking forward to sport."

"I'm nervous and excited for camp."

"I'm feeling disappointed but also proud of how I handled it."

"I used to just say I was fine, but now I think about what kind of fine I am."

"I used to just say I was fine, but now I think about what kind of fine I am."

Due to the variety of classes, timetables, curriculum demands and student absences, data collection was inconsistent throughout the two sampling weeks. While the findings are promising, they reflect a snapshot rather than a longitudinal view. Further research should explore similar programs implemented over longer periods and across multiple year groups to better understand the sustained impact of emotional vocabulary development.

This inquiry has had a meaningful impact on classroom culture and student wellbeing. Students are now more equipped to name and navigate their emotional experiences, which supports better peer relationships, self-regulation and engagement. From a teaching perspective, the project reinforced the value of embedding emotional literacy into academic and pastoral contexts. It also highlighted the importance of modelling emotional vocabulary and creating safe spaces for expression.

The hope would be that pastoral care providers can feel more equipped to empower their students to identify and name their emotions as an initial step toward improved self-regulation in all years.

CONCLUSION

This research demonstrates that emotional granularity can be taught and cultivated in boys through intentional, classroom-based strategies. By expanding emotional vocabulary and encouraging reflection, educators can foster greater emotional intelligence and wellbeing.

The findings invite further inquiry into how emotional literacy can be integrated across subjects and year levels, and how it might support broader goals of resilience, empathy and self-regulation.

4

AI as a differentiation tool: boosting student learning, lightening teacher load

Dr Melanie Hindley, Year 7 Pastoral Care Leader and English Coordinator

This article explores how artificial intelligence (AI) tools, such as ChatGPT and Microsoft Copilot, have been used to differentiate learning in secondary English classrooms. The focus is on practical implementation and experimentation rather than formal research, showcasing three strategies that have been used to support diverse learners while significantly reducing teacher workload.

STRATEGY 1

Resource creation: differentiated spelling and grammar booklets

Using AI and referring to the current WA English Curriculum, differentiated grammar and punctuation booklets were generated for use in the Year 7 English program. Printed booklets were created at the Years 5, 7 and 8 curriculum levels. These corresponded to Year 7 students requiring support (Year 5 level booklet), Year 7 students working at level (Year 7 level booklet) and Year 7 students who would benefit from extension (Year 8 level booklet). These resources were deliberately created to appear virtually indistinguishable to students regardless of the level they were working on. This approach is central to supporting students' self-esteem and reinforcing their identity as capable and successful learners. In contrast, many commercially available grammar and spelling resources differ significantly in both content and visual presentation across levels, making it immediately apparent to students when they are working at a lower level, often negatively impacting their confidence and motivation. While it is important to acknowledge that generating these resources required careful review, formatting and typesetting by human hands, the AI-generated content of definitions, models and tasks took less than an hour to create, including the answer keys for teachers.

This resource:

- supported foundational skill development
- enabled early success for students transitioning to secondary school
- provided printed resources for classrooms without the need for or access to electronic devices
- avoided reliance on commercial texts that do not suit all learners

These AI-generated booklets enabled equality of access, meeting students in their current zone of proximal learning. Students engaged with tasks that were appropriately challenging, allowing them to build skills incrementally and experience success early in the school year. The booklets were particularly useful in the Hale School context where digital access is intentionally limited at the beginning of the school year.

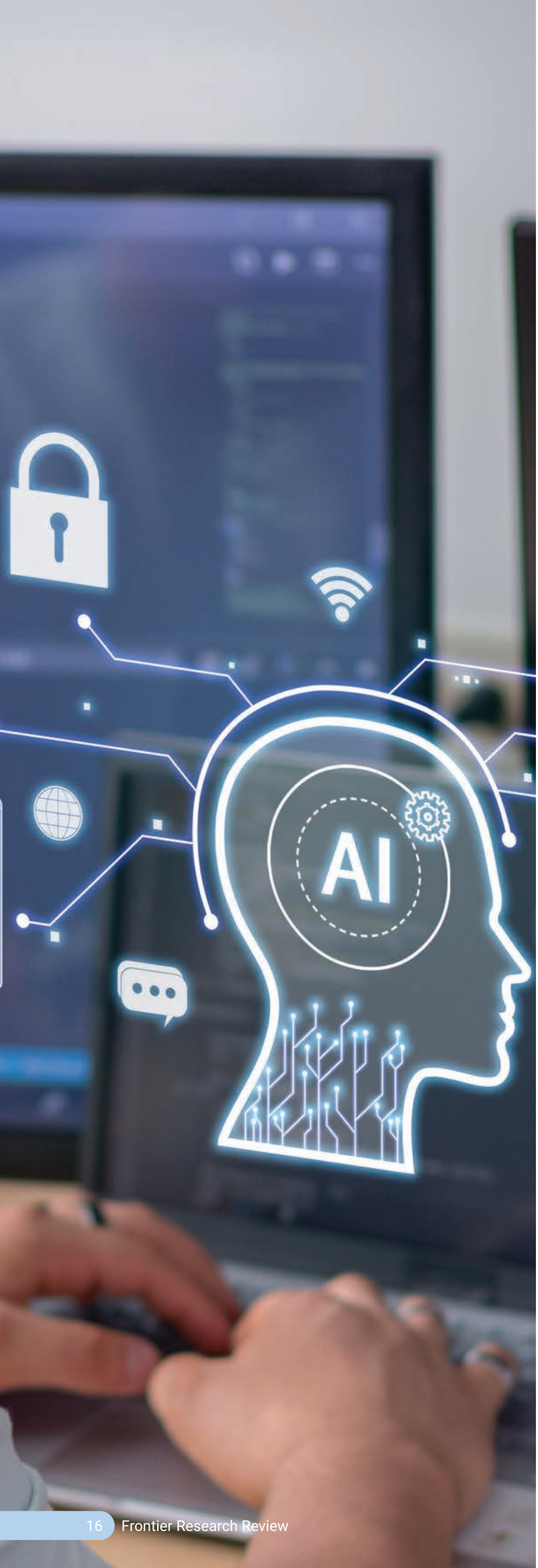
STRATEGY 2

Text creation: differentiated samples

AI was used to generate developmentally appropriate Gold (extension level), Silver (at level) and Bronze (support level) paragraph samples based on the TEEL structure. Year 8 English students were tasked with using it to answer analytical questions relating to their studied text. While any responses created using AI require review and moderation by teachers, the time taken for these platforms to generate samples is significantly less than the time it would require a teacher to create them.

These differentiated paragraph samples:

- modelled quality writing at different levels
- helped students self-assess and identify next steps to their writing practice
- supported each student at point of need, ensuring accessibility for students at a variety of stages in their writing practice



- could be easily adapted for other subjects requiring a paragraph or extended response to written texts or information (e.g. History, Science)

This approach allows teachers to provide specific examples aligned seamlessly with current titles, topics and tasks. Whether students are analysing historical sources, explaining scientific theories, or interpreting literary texts, graduated samples offer a scaffolded pathway to improvement.

STRATEGY 3

Personalised feedback: student writing

As part of their preparation for an essay writing assessment, Year 8 students composed practice paragraphs and subsequently engaged in a structured peer-editing process. They exchanged work and provided feedback focused on TEEL structure, cohesion and content accuracy. After reflecting on and incorporating peer feedback, students revised their paragraphs before submitting them to the Hale Chatbot (under beta testing). Teacher-generated scripted prompts were used to request targeted feedback, a score out of 10, and specific suggestions for improvement. This process provided feedback to learners in less than a minute.

Upon receiving personalised feedback, students were required to revise their work accordingly and resubmit to see if they could improve their score. Conversations were held with students by the classroom teacher during the lesson to ensure accuracy and relevance of AI responses. This iterative process proved highly motivating and offered a clear, accessible way for students to track their progress and growth as writers.

This process:

- encouraged and modelled the value of peer review and interaction
- presented targeted, actionable, individualised suggestions for enhancing the quality of their writing
- provided marks for both original and revised responses, motivating students through measurable improvement

This strategy models a dynamic and interactive use of AI, where students are not passive recipients of information but active participants in the feedback process. By engaging with AI to revise and reflect on their work, students learn how to use technology as a tool for individualised learning rather than a shortcut or answer generator. This fosters metacognition, agency and ownership of their own learning. Further, the use of AI provides an immediacy that is simply not possible for teachers to provide to a whole class at one time.

5

Visible belonging: using images to improve academic belonging for Year 11 boys on vocational pathways

Toby Paul Wright, Head of Career Development

Hale School historically has between 80 to 90 percent of its Year 11 and 12 students successfully complete an ATAR pathway, leading to university as their post-school destination. Unfortunately, this culture of success can have negative impacts on academic belonging for the remaining 10 to 20 percent of boys who follow an alternative vocational pathway.

Some General/VET pathway students shared feelings of the stigma associated with being on this pathway, including comments from other students and a sense of underrepresentation within the school context, noting that institutional focus and recognition were predominantly oriented around the ATAR pathway.

Brown (2019) highlights studies that illustrate several advantages of VET, emphasising its role as a practical alternative for some students to traditional academic subjects aimed at university entrance. VET offers students hands-on experience and the opportunity to explore careers and work experience while still at school and assists students with transitioning into employment-based training.

Despite the acknowledged benefits of VET pathways, students enrolled in these programs are frequently marginalised and perceived as less capable due to their classification as non-academic learners (Dalley-Trim et al., 2008).

The theme 'equity pedagogy' was studied by Barraza (2021) to assess how aesthetics in classroom and school design could create equitable and engaging learning environments in high schools. By using symbols and images that represented marginalised groups in their classroom design, Barraza found that students' perceptions of their environment had a positive influence on their learning experiences, achievements and sense of belonging.

Visuals create first impressions for marginalised groups as they fill the classroom with imagery and messages affirming their identity, which creates a safe space for these students.

PROCESS

A total of nine participants voluntarily engaged in this action research project. These boys had applied to study a VET certificate and/or Authority Developed Workplace Learning (ADWPL) program.

The boys participated in an eight-lesson program (see Table 1) from their pre-action understanding of belonging and design themes to collaboratively designing aesthetic inclusivity General/VET pathway images to be displayed in the classroom and school spaces.

Table 1

Outline of the activities completed by the boys **Lesson**	**Activity**
1	Pre-action survey
2	Focus group
3	School walk-around and ratings
4	Guest presenter (design themes)
5	Design phase
6	Sign off and installation
7	School walk-around and ratings
8	One-on-one interviews

KEY FINDINGS OR OUTCOMES

Analysis of the data indicated that aesthetic inclusivity of General/VET pathway images increased the boys' sense of academic belonging, heightened their academic motivation, and reduced some negative perception surrounding the General/VET pathway in the school community.

Student G said, “I feel like I belong a lot more ... showing General occurs at Hale School makes us a part of it.” Similarly, Student I stated: “I think my belonging at Hale School has increased ... areas of the School now represent the General pathway, which is really important.” Articulating his emerging sense of belonging to General/VET pathway, Student C commented: “My sense of belonging has changed. I feel more belonging especially to the library foyer area because that’s the most noticeable for me.... it’s like the School’s recognising the VET and General pathway students in a heavily ATAR-focused school....”

The boys’ feelings of having an increased sense of academic belonging were supported by the quantitative data. They rated their sense of academic belonging at each school location based on a set scale (see Table 2). Figure 1 displays the graph showing the mean ratings before and after the General/VET pathway images were installed and indicates that at each of the six locations where a General/VET pathway image was installed there was a positive effect on students’ sense of academic belonging by either a one or two-scale increment from the boys’ original rating when there was no General/VET pathway image. These data demonstrate the General/VET pathway images had the desired effect of increasing the boys’ academic belonging.

Table 2

Rating scale for academic belonging at each school location

Rating	Rating description
-3	"Very strong sense of NOT belonging"
-2	"Strong sense of NOT belonging"
-1	"Slight sense of NOT belonging"
0	"Neutral"
1	"Slight sense of belonging"
2	"Strong sense of belonging"
3	"Very strong sense of belonging"

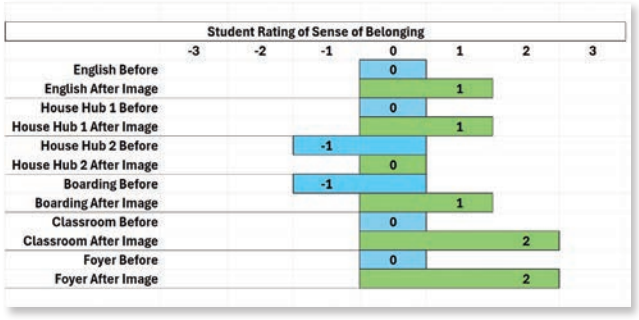


Figure 1. Mean Ratings before and sfter the General/VET Pathway images were installed.

Within some of the General/VET pathway images there were photos and narrations of past SCSA, World Skills and Hale School VET prize academic award winners and their stories. There was also an honour board representing the past 26 years of VET prize winners dating back to 1999,

that had never previously existed or been displayed (see Figure 2). It was specifically because of these images that most of the boys developed a heightened academic motivation to perform in their General/VET pathway.

Figure 2. Hale School Vocational Education and Training Honour Board.

When asked if the General/VET pathway images reduced the derogatory comments and negative perception of the General/VET pathway, six out of the nine boys stated they believed it had. Other students felt the General/VET pathway images had a similar effect, with Student A sharing, "I think boys now have more of an insight to what we do and they're a bit more understanding..." Student B mentioned, "I'd say definitely [negative comments reduced] by showing the actual hard work that goes into being a General VET pathway student. It's not as easy as you think." This shows that most boys felt that the General/VET pathway images have had a positive effect on reducing these negative perceptions.

REFLECTION AND IMPACT

This project also highlighted other needs of the boys beyond belonging. Future research could include revising the General/VET pathway offerings, investigating the effects of rebranding the General/VET pathway, and using data-driven early intervention to promote the General/VET pathway and the positive benefits for the boys for whom it is most appropriate.

CONCLUSION

Analysis of the data indicated that aesthetic inclusivity images could be used for a variety of marginalised students to increase their sense of belonging.

6

Redesigning learning: creating impact through entrepreneurial education

Gaile Racey, Head of Year 7 Student Engagement

At Hale School, we began to notice something: even with a strong curriculum, our Year 7 boys were not always as engaged, creative or socially aware as we hoped they could be. The lessons were well structured, but for many students, they did not see the connection between what they were learning and the world around them. This led us to a key question: What if learning felt more real, more meaningful, and more connected to life?

We sharpened our focus on the Economics and Business unit and asked: How can we teach economic concepts in a way that inspires students and prepares them for life beyond the classroom?

Our vision was to create a program that:

- builds entrepreneurial thinking
- encourages ethical decision-making
- develops financial literacy
- instils purpose-driven learning

We wanted students to see themselves not just as future workers but as changemakers, innovators, collaborators and socially-conscious contributors.

Our response was the creation of The Duty and Passion Program, a bold reimagining of learning designed with the whole student in mind. Drawing on neuroscience, entrepreneurial education and research into how boys learn best, the program blends business skills with social impact. It is also deeply connected to our School's motto, 'Duty', reminding students that education is not just about achievement but about character and service to others.

The program is built on constructivist theory, which believes that students learn best through hands-on experiences and reflection. Inspired by educational thinkers like Piaget, Vygotsky and Dewey, we designed a student-led, real-world learning journey.

We also embed metacognition, teaching students how to think about their own thinking. Supported by the Science of Learning and the work of neuroscientist Dr Jared Cooney Horvath, we apply principles such as Cognitive Load Theory (managing mental effort), spaced repetition (reviewing content over time) and active retrieval (recalling information to strengthen memory).

Even small changes embedded in our everyday teaching practices, such as using consistent PowerPoint designs or explicitly teaching students that the brain cannot multitask (therefore no writing when teacher is talking or they are watching a video etc.) help create a shared, evidence-based approach to teaching.

By integrating constructivism, metacognition and neuroscience, we establish a framework where students are active participants in their learning. With these principles in mind, we crafted a program that brings theory to life.

PROGRAM DESIGN

The Duty and Passion Program runs for 10 weeks within the Year 7 Economics curriculum and is fully aligned with the Western Australian syllabus. Its purpose is simple: to foster social awareness through connection with students' personal interests.

All Year 7 students (approximately 200) participate at the same time. In teams of four, they receive a startup loan of $80 (to be repaid), drawn from a $4,000 seed fund. These funds are used to establish student-led businesses, ranging from handmade products to service-based enterprises.

During the program they move through the design thinking process:

- **Ideation** – exploring passions and identifying problems.
- **Market research** – understanding audiences and market gaps

- **Design and prototyping** – using design thinking to test and refine ideas
- **Mentoring** – learning from guest speakers and staff mentors
- **Marketing and branding** – crafting messages and campaigns
- **Sales and operations** – Once businesses are approved, trading starts immediately, culminating in a public Market Showcase Day.

All profits from this event are donated to Anglicare WA, a powerful lesson in purpose-driven entrepreneurship.

After Market Day, students can choose to keep their businesses running and keep the profits. This provides a real-world extension beyond the classroom, where students start to see themselves as genuine business owners.

OUTCOMES AND IMPACT

Surveys conducted every year before and after the program show clear benefits of embedding real-world, purposeful learning into the curriculum.

- **Financial literacy:** Students improved in budgeting, money management and economic understanding.
- **Confidence and communication:** Boys who once feared public speaking now pitch ideas to large audiences.
- **Ownership:** Over 85% of students reported feeling more motivated than in regular lessons.
- **Resilience:** Students faced real challenges such as supply issues, marketing setbacks, low sales and learned to adapt and problem solve.
- **Agency and leadership:** Many boys found their voice through pitching and selling. Quiet students often emerged as unexpected leaders.
- **Community impact:** Linking all profits to Anglicare WA gave students a sense of purpose.

CHALLENGES AND LESSONS LEARNED

Of course, no innovation journey is smooth sailing; we of course faced some challenges:

- Initial staff buy-in, as change is always daunting.
- Keeping students consistently motivated across a long-term project.
- Balancing project time with other academic commitments.
- Ensuring all students feel included and supported.

But these challenges have taught us important lessons:

- The value of structured reflection and feedback processes. Microsoft Forms and Teams were a game changer in this process.
- The importance of scaffolding for students.

- The importance of collaboration between staff; integrating this into the broader curriculum, not treating it as an add-on.

We are always refining, evolving and improving based on student voice and staff feedback.

This program has reshaped our understanding of engagement. When boys are given responsibility, relevance and the chance to make a difference, they rise to the challenge.

Since 2022, The Duty and Passion Program has become a defining feature of Year 7 at Hale School. Every year, all students have repaid their startup loans and raised significant funds for charity, over $36,000 to date, including $16,578 in 2025 alone.

The program and Market Day are now a highlight of the school calendar, displaying student innovation and reinforcing the power of entrepreneurship as a tool for social good. For many boys, The Duty and Passion Program is a transformative experience; one that builds resilience, executive function and social awareness. It shows them that their ideas and actions can make a real difference. It equips boys with the mindset and skills to thrive not just in school, but in life.

7

Transition + wellbeing = academic motivation + engagement?

Heath McCabe, Assistant Head of Brine House

Research highlights the social and emotional benefits of being part of a boarding community: socially, boarders are tight. There is an increased sense of cooperation and belonging when you are a boarder as you learn to live and work together. We also know that boarders have 24-7 access to the amazing facilities of their school, including teachers and tutors who live and work with them in the boarding house, as well as structured study routines and access to peer support. However, these potential advantages of life as a boarder do not always translate into higher academic motivation or achievement. This tension formed the starting point for an action research project focused on this question: Which strategies support the academic engagement of our boarders?

For most young boarders, motivation and engagement towards their studies can only come when they have grown a sense of connection to their new school, feel confident that they can adjust to the routines in the boarding house, and know they will not be making this journey alone. The Hale@home boarding transition program began in 2013 and uses technology to bridge the gap between students living in rural/regional areas and their future school. It provides academic support and instruction to boys who must negotiate a significant transition to their first year of boarding life. The program is designed to build boys' confidence about their academic prospects at the School, as well as introduce them to technology and thinking tasks whilst they remain at home and in their existing school. The premise is to give incoming boarding students fun and interactive opportunities to get to know each other and Hale staff the year before they begin boarding so that when they arrive they can hit the ground running.

METHODOLOGY AND TIMELINE

Qualitative data was gathered from observations and conversations with boarding staff and students, as well as quantitative data using the Professor Andrew Martin developed Motivation and Engagement Scale (MES). The key areas relating to our students' wellbeing that were identified using the MES questionnaire included: anxiety, persistence and uncertain control. The results indicate that our youngest boarding students (Years 7 and 8 were included in the survey) think positively about their learning and want to do well academically, but there is a gap between their motivation and the behaviours of engagement like planning and persevering. Some of this gap is caused by anxiety around assessment performance and comparisons with others, but also a lack of understanding about how to study and use prep time productively.

KEY FINDINGS OR OUTCOMES

As a result of the study, some new strategies were introduced to the Hale@home boarding transition program,

including:

Connection:

- The Hale@home teaching team visit the boys in their regional areas at the start of the program, allowing for a face-to-face meeting and smoother introduction to the computer.
- The camp was moved to the middle of the year, a month into the pre-boarding program. The boys have already met each other online and are ready for the next step of getting to know the school and boarding house together.

Engagement:

- The platform for online lessons has transitioned through several videoconferencing tools over the years. The stability and user experience of tools like Microsoft Teams enhanced synchronous sessions.
- Engaging parents through more frequent opportunities to meet, socialise, ask questions and provide feedback on the program. They share the journey with each other and feel they are part of a team preparing their sons for life as a boarder.

Academic progress:

- The curriculum is designed, taught and reported upon by the Hale@home teachers, who also become key pastoral carers, guiding the boys in their first and second years in boarding.
- The introduction of a pre-start numeracy program designed and coordinated by a mathematics specialist to assist students with gaps in their understanding to start bridging these with extra support.

In parallel, several strategies were introduced or modified to support students during prep time in the boarding house. Wellbeing check-ins, study skills workshops and goal-setting activities were designed to build confidence and maintain a focus on personal improvement.

REFLECTION AND IMPACT

Near the end of the research project, I observed from a distance a conversation between Year 11 mentors and Year 7 boys. Amongst topics ranging from sport and friendships to boarder's recreation and leadership opportunities, there was some talk about academic routines prompted by one of the Year 7 boys' questions. The older boys emphasised the importance of getting help from teachers and tutors in the boarding house, making the most of class time, and goal setting. One of them said, "Don't worry if you're not the best in the class, just have a go and keep moving forward." Coming from their fellow boarders, the impact of these positive messages was significant.

8

Concept mapping research sprint summary

Jacques Steyn Le Roux, Chemistry and Physics Teacher

A growing body of literature has positioned concept mapping and mind mapping as powerful tools in science education. Studies by Novak & Cañas (2008), Markow & Lonning (1998), and more recent meta-analyses argue that these strategies support deeper learning by helping students visualise relationships between concepts, reinforcing understanding beyond rote memorisation. In the context of constructivist pedagogy, mapping strategies give students a structure for building their own knowledge networks rather than passively receiving information. This is particularly relevant in Chemistry, especially Organic Chemistry, where understanding requires both hierarchical organisation (functional groups, types of reactions) and lateral links between processes (identifying tests, reaction conditions).

Empirical evidence consistently shows that concept mapping can improve retention and comprehension, and support metacognitive awareness of what one knows and does not know. However, a recurring theme in the research is that students often resist the method initially. While measurable learning gains are reported, students frequently describe mapping as cumbersome or unnecessary. This tension between effectiveness and mixed reception provides the backdrop for this classroom-based research sprint.

METHODOLOGY

This research sprint focused on a Year 12 Organic Chemistry unit. Students were introduced to concept mapping using Cmap Tools, beginning with partially structured templates based on recommendations from the literature. These templates provided key nodes and linking phrases to reduce cognitive load while students learned the process. As the program developed, students were expected to generate their own maps, with teacher-provided exemplars available for reference. This scaffolded approach allowed weaker students to rely on a model while encouraging others to work independently.

Performance was tracked using the Organic Chemistry assessment for 2024 and 2025 cohorts. Students also completed a survey, which asked them to predict their performance, evaluate the usefulness of mind mapping, and provide open-ended feedback. Predictions allowed for analysis of metacognitive calibration (alignment of expected and actual performance). This was an important lens, given that mind mapping is itself a metacognitive tool. The Organic test was chosen for analysis because it involves relational knowledge rather than simple factual recall, making it an ideal site for evaluating the effect of mapping strategies.

PERFORMANCE OUTCOMES

From a data standpoint, the intervention correlated with a significant lift in test scores. The class average rose sharply from 2024 to 2025, nearly closing the gap with the broader cohort. Moreover, the distribution of results became more consistent, suggesting that gains were not isolated to the strongest students.

	2024 Organic Test	2025 Organic Test
Class performance	60.7%	73.9%
Cohort performance	63.6%	74.4%
Difference	-2.9%	-0.5%
Standard Deviation	14.3	13.8

The class shifted from performing below the cohort average to near parity, with a 13.2 percentage point gain compared to a 10.8 point gain in the broader cohort. The standard deviation narrowed slightly, indicating greater consistency across the group.

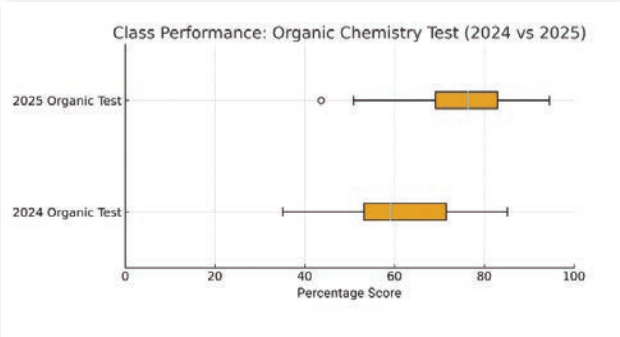


Figure 1. Distribution of class performance in the 2024 and 2025 Organic Chemistry Tests.

SURVEY FINDINGS

Student feedback revealed a spectrum of responses, often leaning negative or mixed. Many described mind mapping as boring or unhelpful, others found it useful for linking ideas and clarifying weaknesses. Direct responses included comments such as "Not really" and "Boring", contrasted with more positive remarks like "It helped me link different areas together" or "It was a fun way to revise."

Predictions of test performance showed a moderate correlation with actual results ($r = 0.67$), suggesting that while students had some awareness of their preparedness, miscalibration was common. Overestimation was especially prevalent among students critical of the method. For instance, some predicted marks in the high 70s or 80s but fell short by 10 or more percentage points. This suggests a lack of robust metacognitive skills: specifically, the ability to judge one's own mastery accurately. By contrast, neutral and positive students tended to predict more accurately and sometimes even outperformed their expectations.

DISCUSSION AND CONCLUSION

The findings mirror what the literature has long indicated: concept mapping is academically effective, but its reception among students is uneven. The strongest resistance came from those who lacked the metacognitive skills to accurately self-assess (students who overestimated their performance were also most likely to dismiss the method). This is not surprising, given that mind-mapping itself requires students to reflect on what they know and identify gaps. For those unused to such reflection, the exercise can feel uncomfortable or unproductive.

This points to a deeper developmental issue: metacognitive strategies like mind-mapping ideally need to be modelled and reinforced earlier in schooling, so that by Year 12 students are already comfortable with reflective practices. Introducing them only at the senior level risks resistance, especially from students who have already developed entrenched study routines. In this sense, the negative feedback seen here may reflect not the weakness of the strategy, but the timing of its introduction.

Despite this resistance, the hard data shows that every student improved, and the class closed the performance gap with the cohort. Gains were broadly shared, as evidenced by the reduced spread in scores. The implication for practice is clear: while teachers may encounter pushback when implementing mapping strategies, persistence is justified, as the academic benefits are real. Moreover, this study underscores the importance of embedding metacognitive approaches throughout secondary schooling, so that students are better prepared to engage with them in their final years.

9

The art of collaboration: using digital storytelling to craft a conversation on the migrant experience with Year 6 boys

Louise Kennedy, Year 6 Teacher

At Hale School, Year 6 students traditionally research the migration stories of family or friends, presenting their findings through written narratives and curated artefacts. While this project fosters empathy and historical understanding, its format limits opportunities for broader sharing and deeper collaboration.

Through a scholarship from the Hale Institute of Innovation and Research, I undertook action research with the International Boys' School Coalition (IBSC), allowing me to reimagine this project to better align with boys' learning preferences and interests. Recognising their enthusiasm for performance and technology, I redesigned the experience as a digital storytelling initiative, where students collaboratively scripted and performed conversations based on their migrant's journey.

Inspired by a museum installation at Boola Bardip, this approach integrated role-play, media production and group work, engaging students in empathetic storytelling while developing digital and interpersonal skills. Grounded in research on boys' learning preferences (Reichert and Hawley 2009), the project leveraged drama, technology and teamwork to enhance engagement. Students worked in small groups to produce meaningful digital conversations using Adobe Premiere Rush, combining historical research with creative expression. This shift from individual to collaborative storytelling fostered deeper understanding, peer learning, and a stronger sense of community, aligning with constructivist and sociocultural learning theories.

ACTION RESEARCH METHODOLOGY

Following Mertler's (2019) recommendation that observation is a powerful tool for understanding group dynamics, I adopted the dual role of participant and observer, facilitating key aspects of the project such as filming and editing, while also documenting student interactions through photographs and video. This allowed me to capture genuine moments of collaboration and communication.

THE ACTION

While interviewing migrants and crafting personal narratives is a familiar Year 6 activity, these stories have traditionally remained within each student's family. Action research provided the opportunity to expand the project's reach and impact, integrating elements that boys find highly engaging: drama, technology and teamwork.

The action phase was two-fold:

1. Collaborative storytelling – Students worked in small groups to script and perform conversations based on their migrants' experiences, using empathetic role-play to bring these stories to life.
2. Digital production and interaction – Using Adobe Premiere Rush, students created interactive digital stories designed to engage a wider audience, including peers and parents.

This methodology supported the development of collaborative skills through creative, socially-connected learning experiences.

KEY OUTCOMES

Data was collected using a qualitative approach, including:

- researcher observations
- photographs and video recordings
- pre and post project surveys via Microsoft Forms

Analysis of this data revealed three key outcomes that highlight how digital storytelling fostered collaborative skills among Year 6 boys:

1. **The art of conversation**

- Preparing for filming required costumes, script memorisation and rehearsal.
- Students supported each other: "If somebody didn't know their part, the rest of us helped them."
- Rehearsals encouraged active listening and turn-taking: "Listening to each other was extremely important because during filming we had to know when to speak."
- Body language and responsiveness created engaging dialogue, deepening connection with each other's migrant stories.

2. **Collective accountability**

- Collaboration was essential at every stage – costume planning, scripting, filming and editing.
- Students recognised the importance of teamwork:

  "If we did not do it as a team, we could not have done it."
- Editing with unfamiliar software (Adobe Premiere Rush) required peer support and whole-class collaboration:

  "We had to gather our knowledge because no one had used it before."

3. **Wider perspectives**

- Sharing stories in a group setting broadened students' understanding of migration:

  "I found out a lot about my dad and everyone else's parents."

  "We got to hear more about what really happens when you migrate."
- Role-play and digital storytelling helped students connect emotionally and intellectually with diverse migrant experiences.

These outcomes demonstrate that digital storytelling not only enhanced engagement and empathy, but also strengthened collaborative skills through shared responsibility, peer learning and collective problem-solving.

REFLECTION

This action research project opened a valuable opportunity to explore new approaches to teaching and learning in my classroom. By integrating drama, technology and collaboration, I was able to design a more engaging and meaningful learning experience for Year 6 boys.

One of the most striking outcomes was how much the boys enjoyed working together toward a shared goal. The challenge of creating a digital conversation required persistence and teamwork. Their willingness to support one another, problem-solve and celebrate shared success highlighted the power of structured collaboration in fostering deeper learning and stronger relationships.

This experience has inspired me to continue designing learning tasks that:

- encourage student agency and creativity
- integrate technology in meaningful ways
- promote collaboration and peer support
- provide opportunities to share learning with real audiences

CONCLUSION

The culmination of the project was a proud moment: students showcased their digital conversations at a Junior School Assembly with parents, peers and even the migrants themselves in attendance. Watching students and audience members interact with the stories – pressing buttons to trigger conversations – was a powerful reminder of the value of sharing learning beyond the classroom.

Had this action research not taken place, these rich migrant stories may have remained private. Instead, they became a shared experience, fostering empathy and understanding across the school community.

Collaboration with the Senior School Media teacher and student mentors was instrumental to the project's success. Their guidance not only supported the boys' technical learning but also modelled positive cross-age collaboration. Future iterations of this project would benefit from continuing this partnership, further enriching the experience for all involved.

10

Coaching for impact: evaluating the effectiveness of instructional coaching at Hale School

Andrew Manley, Director of Teaching and Learning

In recent years, Hale School has made a strategic commitment to deepening professional learning through personalised, relational and evidence-informed approaches. Instructional coaching was introduced as one of the cornerstones of this commitment, aiming to move beyond traditional models of professional development toward more embedded, responsive and teacher-driven support.

The decision to adopt Jim Knight's instructional coaching model was deliberate. Knight's emphasis on partnership, dialogue and goal-setting aligns closely with Hale's values of collegiality and continuous improvement. His framework positions the teacher as the decision-maker, with the coach serving as a thinking partner; an approach that respects teacher autonomy while fostering reflective practice.

This research responds to a growing need to evaluate the effectiveness of coaching, not only in terms of teacher satisfaction but also in terms of tangible changes in classroom practice. By drawing on both qualitative and quantitative data, the study aims to provide a nuanced understanding of how coaching is experienced by teachers and how it contributes to professional growth.

SURVEY INSTRUMENT OVERVIEW

To evaluate the effectiveness of the instructional coaching program, a structured post-coaching survey was administered to participating teachers. The survey focused on the conditions of the coaching sessions, the quality of the coach-coachee relationship, the clarity and achievement of coaching goals, and the overall impact on teaching practice.

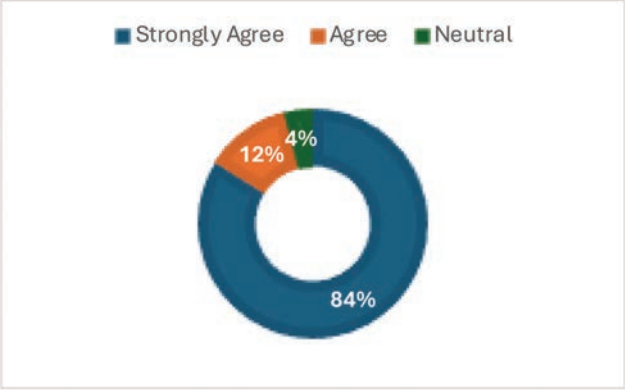
KEY FINDINGS

The analysis of post-coaching survey data demonstrates an overwhelmingly positive perception of the instructional coaching program across all measured dimensions.

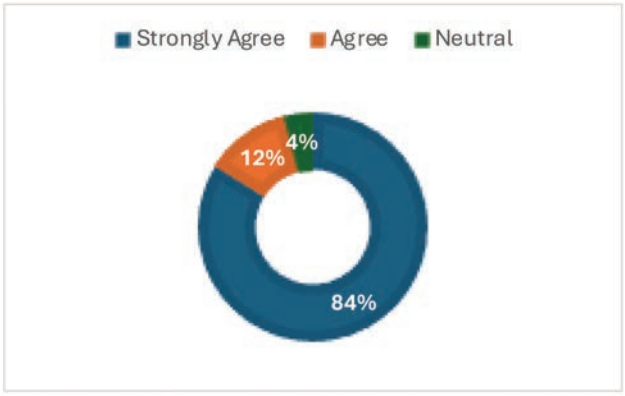
Teachers consistently rated the general conditions of coaching sessions at the highest level, with 100% of respondents strongly agreeing that the environment was pleasant, scheduling was easy and session length was appropriate. Similarly, the working relationship with the coach was universally praised, with all participants strongly agreeing that trust, mutual respect and teacher autonomy were maintained throughout the process. These findings indicate that the program successfully created a supportive and collaborative context for professional growth.

The results suggest that coaching not only met but exceeded expectations for goal achievement and practical application. A combined 96% of respondents agreed or strongly agreed that their goals were achieved, and 84% strongly agreed they were able to implement learning from the sessions. Furthermore, the willingness to re-engage with coaching and recommend it to colleagues was exceptionally high, with 84% strongly agreeing. These outcomes underscore the effectiveness of the coaching model in fostering teacher agency, improving instructional practice and promoting sustained professional development within the school context.

Satisfaction with method of coaching



Satisfaction with overall Iimpact



INSIGHTS GAINED FROM COACHING

Here are some of the most thoughtful reflections from participants:

- "Two things that were extremely powerful were the value of recording my teaching and watching it back and the knowledge that small changes can have a huge impact."
- "It was invaluable for me to spend time to focus on our core business of teaching and learning through a series of coaching conversations."
- "To refine my skills after 25 years of teaching is still as important as ever."
- "The coach helped me uncover my blind spots… Once you start seeing yourself clearly, you gain the power to choose differently."

While most feedback was highly positive, some constructive suggestions included:

- "I think it should be mandatory for every teaching member of staff to partake in the coaching program every three to five years... I think the experience is invaluable and so many would benefit from it."
- "We need to raise awareness of the coaching program with other staff. It is so good, more people should be doing it."
- "We should look to create opportunities for group coaching, integrated into the staff wellbeing framework."
- "Occasionally I forgot between sessions my points of action; minutes would be great but may take away the informal aspect of the process."

REFLECTION AND CONCLUSION

The instructional coaching program at Hale School has proven to be a highly effective and well-received professional learning initiative. The overwhelmingly positive feedback from teachers, reflected in both quantitative ratings and rich qualitative insights, demonstrates the program's impact on enhancing teaching practice, fostering reflective thinking and strengthening collegial relationships.

Teachers consistently valued the personalised nature of coaching, the trust and respect within the coach-coachee relationship, and the opportunity to set and pursue meaningful goals. Many reported increased confidence, improved classroom strategies and a deeper understanding of their professional identity.

While the program is clearly meeting its core objectives, several suggestions point to opportunities for growth: expanding awareness of the program, offering group coaching options, and improving continuity between sessions.

Further research could explore the long-term impact of coaching on student outcomes and the potential for integrating coaching into broader performance and appraisal systems.

11

Boys as relational learners

Dr Peter Coutis, Deputy Headmaster

Teacher-student relationships are of significant interest to educators and researchers alike because they are known to heavily influence students' experience of school and their learning outcomes. For example:

- Teacher-student relations are strongly associated with performance in mathematics, students' happiness and sense of belonging at school, and with reduced absenteeism (OECD 2015).
- "It is teachers who have created positive teacher-student relationships who are more likely to have above average effects on student achievement." – John Hattie (Coristine et al 2022)

Relational teaching is built on connection, trust, reflection, authenticity, exploration and hope (Damon 2018). Teacher-student relationships are especially critical in all boys' schooling contexts.

In 2008 the International Boys' Schools Coalition (IBSC) commissioned a global study involving nearly 1000 teachers and over 1500 boys in 18 IBSC member schools across six countries. The researchers identified three pillars for success in educating boys (Reichert and Hawley 2009):

1. **Boys are relational learners who learn their teachers before their subjects:** positive learning relationships between boys and their teachers are a necessary precondition for successful teaching and learning.
2. **Boys elicit the teaching they need:** ineffective teaching practices disengage boys, which prompts teachers to adjust their pedagogy until responsiveness and understanding improve. Put another way, boys provide feedback to teachers in actions not words.
3. **Successful lessons for boys have 'transitivity', an element (surprise, competition, role play, game etc.) that arouses and holds student interest:** the adrenal boost of the unexpected is transitive — it attaches to and carries along a specific learning outcome.

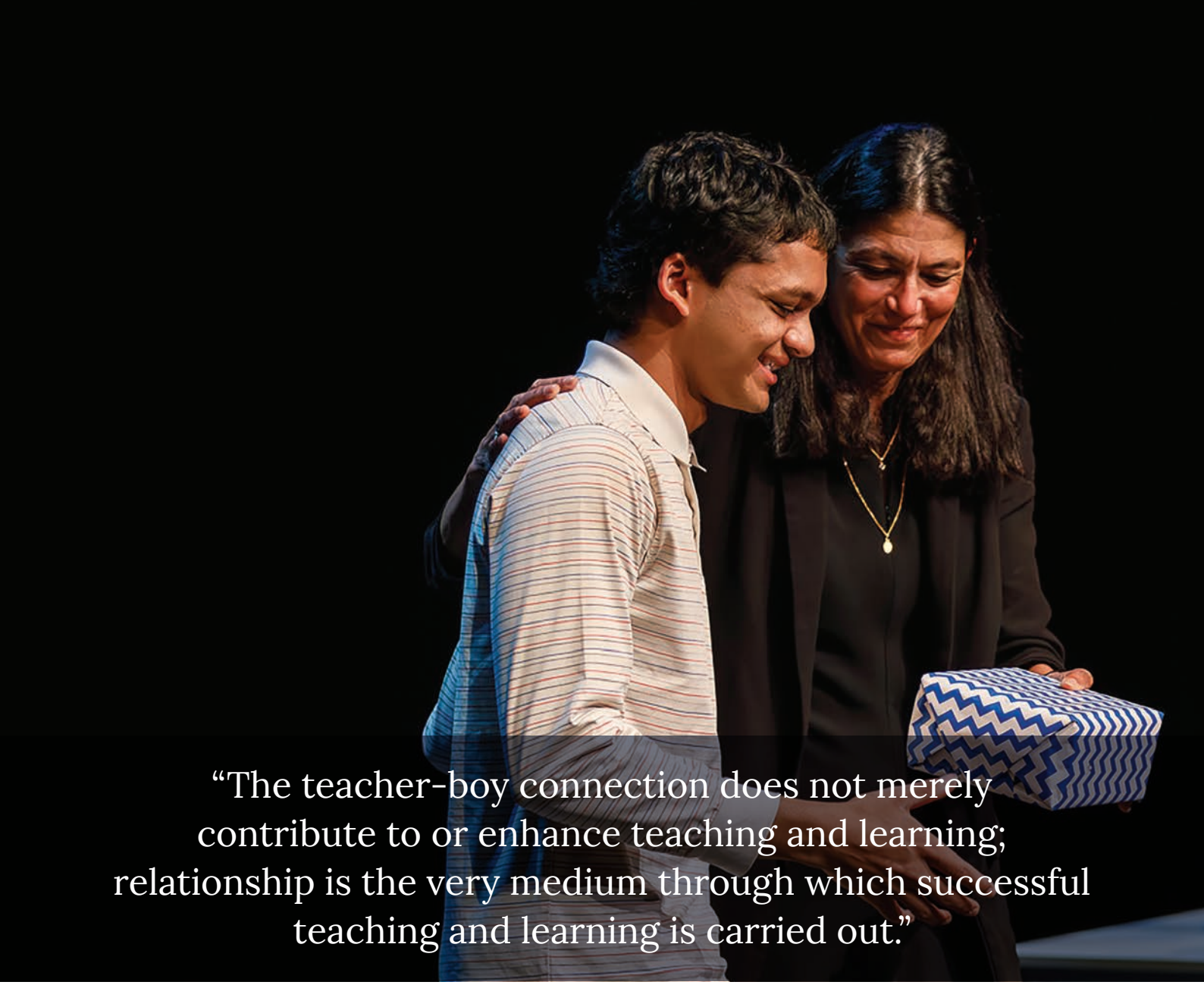
A follow-up study sought greater understanding of the ways in which teachers build, maintain and, if necessary, repair learning relationships with boys. It identified eight 'gestures' that teachers use to build constructive learning relationships with boys in their care (Reichert and Hawley 2013):

1. Reaching out, often improvising measures to meet a particular student's need.
2. Demonstrating mastery of their subjects.
3. Maintaining admirable standards.
4. Responding to a student's personal interest or talent.
5. Sharing a common interest with a student.
6. Sharing a common characteristic with a student.
7. Accommodating a measure of opposition.
8. Revealing vulnerability.

On the centrality of relationships in boys' learning, the researchers went as far as to say: "The teacher-boy connection does not merely contribute to or enhance teaching and learning; relationship is the very medium through which successful teaching and learning is carried out."

Interestingly, the study found that teachers' and boys' perceptions of the causes of relational (and therefore learning) breakdowns were markedly different. Teachers tended to assign cause to factors beyond their control (learning difficulties, domestic circumstances, cultural/language factors etc.) and sometimes surmised that they had done everything that could reasonably be expected and that some boys were just 'unreachable'. Boys, on the other hand, attributed relational breakdowns to:

- Teachers' perceived inability to present content and



"The teacher-boy connection does not merely contribute to or enhance teaching and learning; relationship is the very medium through which successful teaching and learning is carried out."

performance expectations in a clear, compelling way.

- The perception of teachers as aloof and uninterested in them personally.
- The perception of teachers as angry, judgmental, sarcastic and authoritarian.
- The perceived inability of teachers to maintain order and to establish a civil, emotionally-safe classroom climate.

The researchers concluded that boys' outcomes at school improve through exchanges between boys and teachers that make them allies in pursuing a common goal of improved learning, and that "positive relationships precede desired school outcomes, including the end of obstructive, resistant behavior, increased engagement in classroom process, and increased willingness to complete assigned tasks."

Importantly, the findings from the studies referred to above (undertaken in high school contexts) have been shown to transfer to upper primary contexts as well, although it was found that relational breakdowns are generally quieter and less noticeable with younger boys (Reichert and Nelson 2016).

Concerns over boys' emotional wellbeing, learning approaches and academic underachievement have been building for some time. A 2005 report out of the USA highlighted the importance of a relational approach to teaching boys for supporting their overall wellbeing, and the negative impacts of the heavy standardised testing regime, i.e. that 'teaching to the test' was limiting teachers' capacity to teach relationally and according to individual need (Froschl and Sprung 2005).

More recently, Richard Reeves' work has become prominent globally, highlighting the declining educational, mental health and workforce participation outcomes for boys and men (Reeves 2023).

Another useful and complementary reference frame for reflection on practice is John Biggs' 'hierarchy of teaching practice' (Biggs and Tang 1999), which identifies three levels of practice:

- Level 1: Who the students are (deficit model)
- Level 2: What the teacher does (teaching as accommodating)
- Level 3: What the student does (teaching as educating)

At Level 1, teachers attribute student outcomes to personal characteristics of students and take limited or no responsibility for modifying their approach in the light of evidence that suggests current modes of practice are not working for students.

At Level 2, teachers focus on improving their delivery of lessons. They undertake professional learning, participate in lesson observation rounds, spend additional time preparing. Practice at Level 2, however, is still teacher-centered: while it may be true that lessons are more polished and delivered with greater clarity and quality, there is limited reflection on how students are perceiving the lessons and whether they are learning what the teacher intends.

Level 3 teaching, on the other hand, builds on Level 2 through purposeful, curious and open-minded reflection on practice and a genuine desire to notice and understand what students are doing (and learning). Teachers operating at Level 3 are ambitious for all students, open to modifying practice in the face of evidence that their approaches are not having the desired effects, and not satisfied unless students in their care are progressing with their learning.

Strategies to build, maintain and repair learning relationships with boys have a significant impact on learning outcomes but are not teaching strategies per se. Rather, they form the foundation upon which every successful teaching strategy for boys is built.

12

Developing AI literacy through critical questioning in Year 10 English: from generative AI as a tool to generative AI as a learning partner

Toby Trewin, Director of the Hale Institute of Innovation and Research

As generative AI tools such as ChatGPT become increasingly embedded in secondary schooling, the question is no longer whether students will use AI, but how well they are equipped to question it. This research explores how critical questioning can be intentionally developed as a core component of AI literacy within a Year 10 English classroom. It highlights the pedagogical conditions that enable students to engage with AI thoughtfully, sceptically and productively, rather than passively accepting AI-generated content. .

RATIONALE AND CONTEXT

The rapid uptake of GenAI across schools presents both opportunity and risk. On one hand, students now have immediate access to responsive explanation, drafting support and contextual information. On the other, without explicit instruction, students can easily become over-reliant on AI as an authority, overlooking issues of inaccuracy, bias and surface-level understanding.

This classroom-based action research was situated in a Year 10 English program focusing on poetry and Shakespeare. The intention was not to improve speed or efficiency, but to strengthen students' ability to:

- question the credibility of AI-generated information
- refine their thinking through dialogue with AI
- develop metacognitive awareness of their own learning processes

METHODOLOGY AND PROCESS

The research employed a collaborative action research design, involving university researchers and a classroom teacher working alongside 15 Year 10 students. Two structured learning phases were implemented:

1. Poetry context research – Students used ChatGPT to research socio-historical contexts of prescribed poems.
2. Shakespeare character dialogue – Students prompted ChatGPT to respond in character (e.g. as Macbeth), then critically evaluated those responses.

Data was collected through:

- classroom observations and video recordings
- student ChatGPT chatlogs
- semi-structured interviews with students and the teacher

Analysis was guided by a modified critical questioning framework examining three interrelated domains:

- Context – teaching strategies, curricular design, assessment and classroom culture
- Competency – students' disciplinary knowledge, AI knowledge and metacognitive awareness
- Delivery – how questions were formulated, refined and sustained through dialogue

KEY FINDINGS AND OUTCOMES

1. Context: Classroom conditions shape questioning

Several classroom-level factors strongly influenced the quality of student questioning:

- **Teacher disposition** – A positive, critically informed stance towards AI created a safe environment for experimentation and challenge.
- **Teaching strategies** – Explicit modelling of effective prompting, verification and refinement was essential.
- **Curricular content** – Fact-based research tasks produced deeper critical questioning than highly interpretive or creative tasks.
- **Peer interaction** – Group-based AI use supported discussion and challenge, although it required


AI

deliberate structuring to avoid over-reliance on stronger peers.

- **Assessment design** – Using the same summative assessment as the previous year (pre-AI) revealed stronger and more consistent student performance when AI-mediated learning was carefully scaffolded.

2. Competency: Three interlocking knowledge domains

Students' capacity to question AI effectively relied on three core forms of knowledge:

- **Knowledge of discipline** – Subject expertise enabled students to recognise inaccuracies and superficial explanations.
- **Knowledge of AI** – Students who understood that AI generates predictive language rather than 'knowing' facts were more sceptical and evaluative.
- **Knowledge of self (metacognition)** – Students who actively reflected on their own understanding asked more precise, layered, follow-up questions.

High levels of general digital literacy further supported students' ability to cross-check AI responses using independent online sources.

3. Delivery: How students ask matters

Three delivery conditions shaped the depth of questioning:

- **Personalised inquiry** – One-to-one AI interaction removed fear of judgement and encouraged intellectual risk-taking.
- **Prompt refinement** – Students naturally engaged in iterative questioning cycles (clarifying, verifying, elaborating).
- **AI design features** – The conversational interface encouraged sustained dialogue rather than single-response questioning.

Students averaged three to four successive prompts per interaction, indicating genuine inquiry rather than surface use.

REFLECTION AND IMPACT

This study reinforces a critical insight: GenAI does not automatically promote deeper thinking. Without careful instructional design, students tend to default to convenience and content generation. However, when learning is intentionally structured around critical questioning, GenAI becomes a powerful learning partner that extends rather than replaces thinking.

Observed impacts included:

- increased student scepticism of algorithmic authority
- more frequent cross-verification of sources
- improved understanding of prompt engineering as a cognitive skill
- strengthened critical literacy through comparison and evaluation

Importantly, students began to view AI not as an 'answer provider' but as a dialogic collaborator requiring interrogation, testing and refinement.

CONCLUSION

This action research demonstrates that AI literacy is fundamentally a pedagogical challenge rather than a technological one. Students develop critical questioning with GenAI only when classroom environments deliberately cultivate:

- inquiry-centred task design
- explicit verification strategies
- metacognitive reflection
- teacher-modelled scepticism
- dialogic uses of AI

When these conditions are present, GenAI can meaningfully enhance learning without undermining cognitive engagement.

Future research should explore subject transferability, longer-term development of questioning habits, and the role of targeted professional learning in strengthening teacher confidence with AI pedagogy.

13

Enhancing intrinsic motivation through autonomy – supportive practice

Ethan Scaife, Mathematics Teacher

The need for intrinsically-motivated students is crucial to the longevity of a person's academic and vocational journey. With a rapid rise in technology and ever-changing careers landscape, today's students must be self-motivated to continue learning well past their schooling years.

Cultivating intrinsic motivation in high school is therefore a central pillar to developing a lifelong learner. Ryan and Deci (2020) created the framework of Self-Determination Theory (SDT), which states that intrinsic motivation is increased when the basic psychological needs of autonomy, competence and relatedness are met. Autonomy is best supported by providing meaningful choices in the classroom, providing rationale for task value and avoiding controlling language (Martin 2023, Yeo 2022). Competence is achieved when students believe they can succeed and grow, and relatedness is achieved when students have a sense of connection and belonging with the teacher and peers (Anderson 2021, Ryan and Deci 2020).

With these studies as a backdrop, this research sprint sought to implement small interventions that support these needs.

METHODOLOGY AND PROCESS

At the start of the research sprint, a Year 10 Mathematics class was surveyed using the Academic Self-Regulation Questionnaire (SRQ-A). Each response is linked to one of four regulatory styles along the taxonomy of motivation: external regulation, introjected regulation, identified regulated and intrinsic motivation. These four categories exist on a continuum of external to internal motivation according to SDT, and the SRQ-A collates this to create for each student a Relative Autonomy Index (RAI) score. A negative RAI indicates an externally-motivated student, while a positive RAI indicates an intrinsically-motivated student. The index is most useful when comparing to past scores for the same student as a measure of progress.

A series of autonomy-supportive interventions were included in classroom practice over a seven-week period. These interventions were to be small modifications that would have a large impact on motivation.

1. **Links to existing interests**

   The students were asked to give three occupations that they would like to pursue or were curious about. Every other lesson, five minutes were allotted to highlight one of these occupations and how mathematics would be used in that field. For example, an entrepreneur could model the profit of their business using a quadratic equation to determine the optimal product price. This modification allowed the teacher to give a meaningful rationale for the work the class would do, share a collection of real-world examples before presenting students with abstract definitions, and convey respect and care to students free from controlling language.

2. **Competence-affirming feedback**

   Small, portable whiteboards were allocated to students, allowing students to attempt to answer problems with minimal stakes and receive rapid, specific feedback from the teacher. Using whiteboards had additional benefits: students were able to choose how they would complete the work given, either on the whiteboard or their workbook, increasing their autonomy in the classroom. Rapid feedback on learning was also given to the teacher by the students on their grasp of concepts through the whiteboards, allowing for modification of the work to be at an appropriate level of difficulty to continue supporting autonomy.

3. **Gamification of learning**

   Worksheets and exercises were converted into competitions with minimal alterations. Each problem was worth an arbitrary point. The student with the highest number of points at the end of the lesson was deemed the winner, with no prize given. The goal of this was to connect the learning with the students' already innate motivation for success in the framework of competition without externally rewarding them with a physical prize.

KEY FINDINGS OR OUTCOMES

The pre and post results show that 67% of the class had a positive increase in the RAI result. The largest increase was +1.6 and there were two significant decreases.

Moreover, 75% of the students showed an improvement in their intrinsic motivation scores, with a mean increase of +0.2. Individual gains ranged from +0.1 to +0.6. These changes were modest but consistent over the short time period. This suggests the students increasingly engaged with tasks for interest, enjoyment, or inherent satisfaction. Students beginning with stronger external or introjected regulation tended to show the largest gains.

Pre-Test RAI	Post-Test RAI	Difference	Sem 1 Average	Sem 2 Assessment	Difference
-0.3	0.0	+0.3	64.14%	69.23%	+5.09%
1.2	1.4	+0.2	60.43%	53.85%	-6.58%
-2.4	-0.8	+1.6	42.86%	53.85%	+10.99%
-0.5	-1.8	-1.4	82.11%	69.23%	-12.88%
-2.4	-1.8	+0.6	65.89%	82.05%	+16.16%
0.9	-1.2	-2.1	60.85%	58.97%	-1.88%
-1.8	-1.1	+0.7	45.14%	35.90%	-9.24%
-2.6	-3.1	-0.5	58.47%	82.05%	+23.58%
2.5	3.6	+1.1	73.41%	53.85%	-19.56%
-2.5	-1.8	+0.7	66.10%	58.97%	-7.13%
-2.1	-1.5	+0.6	60.87%	79.49%	+18.62%
-0.1	-0.2	-0.1	82.75%	89.74%	+6.99%

In addition to the SRQ-A, at the end of the seven-week period, students sat a formal school-based assessment. Compared to the average score for Semester 1, there was an average of 2.01% improvement. However, the focus of this research sprint was on the difference in RAI.

DISCUSSION AND CONCLUSION

The findings of this research sprint agree with the theoretical framework it is based on, with an important insight to highlight: the interventions that support the needs describe in SDT need not be routine-shattering, classroom-breaking changes. Small changes — like how one starts a lesson (with a real-world example or an abstract skill) or how students are required to complete their work (whiteboard or workbook) — can have a positive impact on their disposition towards the subject.

Fostering intrinsic motivation is difficult to observe, because of its internal nature. However, over the short time frame that this research sprint occurred, there were obvious moments of enjoyment, satisfaction and engagement from the students because of the described interventions. It was also clear that some students were opposed to all attempts to make the subject interesting or relevant, despite relating it to professions they claimed to enjoy.

The SRQ-A is a valuable tool that lets teachers get an understanding of how motivated their students are in about five minutes. That is a powerful insight that enables teachers to adapt their teaching to fit the needs of their students. I highly recommend using this tool periodically as it is not easy to assess this simply through observation. Some of the most externally-motivated students were also the most polite and well-behaved and this tool identified where they most needed support.

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