

BACKGROUND & CONTEXT

✤We are a team of Middle College (Years 6-9) educators.

Our Strategic Plan identifies the action of 'supporting the growth of intellectual character and the development of dispositions and skills for the future'. Our project aligns with the Teaching & Learning Development Plan aiming to 'promote and support the development of the skills of metacognition in Middle *College students'* over the next three years.

Our collective mindset, drawn from the school's pedagogical framework Project Zero's Teaching for Understanding, is that '*learning occurs at the point of* challenge' therefore we wanted to covert that principle into practice.



Metacognition: Learning to learn

Productive Struggle Learning occurs at the point of challenge!

RESEARCH QUESTIONS

What metacognitive strategies do students employ at the point of productive Struggle?

Cromley, J. G., & Kunze, A. J. (2020). Metacognition in education: Translational research. Translational Issues in Psychological Science, 6(1), 15–20 Efklides, A. (2012). Commentary: How readily can findings from basic cognitive psychology research be applied in the classroom? Learning and Instruction 22(4), 290–295

What metacognitive strategies do students employ at the point of productive struggle?

Jo Belchamber, Melanie Percival, Linda Sydes, Michelle McMillan & Tiffany Harman

METHODS

Methodology	Mixed Methods
Participants	369 Middle College StudentsYear 6: 83%Year 8 73%Year 7: 81%.Year 9: 64%
Measure	Junior Metacognitive Awareness Inventory
Procedure	Students completed a challenging and unfa- routine (Seek to See) after reading a comp HASS lesson. They were reminded of the L to the task and were administered the Inve- thinking routine. Data was analysed.

ANALYSIS & RESULTS





- Preliminary findings confirmed that students in all year levels felt confident that they have metacognitive knowledge.
- In contrast, students in all year levels reported lower levels of metacognitive regulation.





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ANALYSIS & RESULTS

Strategies for Learning Regulation Metacognition in the MIddle College -Year6 -Year7 -Year8 -Year9 Planning 9. I think about what I need to Conditional Knowledge 14.1 nning 18. I decide what I need to get different learning strategies depend Conditional Knowledge 13. I use my learning strengths to make up for my best one weaknesses Conditional Knowledge 5.1 learn bes when I already know something about the topic Conditional Knowledge 2. I can make myself learn when I need to Procedural Knowledge 16. I sometimes use learning strategies without thinking Procedural Knowledge 3.1 try to use ways of studying that have worked for me before Declarative Knowledge 12. Hearn r when I am interested in the topic what I wanted to learn . Lask myself if there was Declarative Knowledge 4. I know what in easier way to do things after I finish the teacher expects me to learn

Students are most likely to:

Really pay attention to important information • Occasionally check to make sure I'll get my work done on time

IMPLICATIONS FOR TEACHING & LEARNING

- > Our results indicate that Middle College students report more confidence about knowing themselves as learners than they do about applying strategies to learn better.
- performance.
- > We hypothesise that Middle College students will benefit from an intervention phase, where metacognitive knowledge and metacognitive skills are explicitly taught.
- > The impact of metacognition and self-regulated learning (+7 months) could be actuated by explicitly teaching the strategies of metacognitive regulation to students of all abilities.

KEY LEARNINGS & RECOMMENDATIONS

Key learnings:

- The power of research and data to identify targets for teaching interventions.
- Learning Lab.

Our recommendations for other:

- Choose a project that is beneficial to the school and is easy to implement.
- \checkmark Make the most of the momentum at the start of the project.
- Enlist the help of others early on.
- Share your journey with your students. It is important for them to see you as learners and their input is thoughtful, insightful and helpful.

CONCLUSIONS & NEXT STEPS

- > We have been developing a Metacognitive Toolkit prototype in co-agency with Middle College teachers.
- \succ We are planning an intervention phase of our project for 2025.



> In line with research, students' metacognitive awareness was not correlated with their academic

The professional growth developed in a research-practice partnership with the UQ