

IMPLEMENTING METACOGNITIVE STRATEGIES TO IMPROVE LONG-TERM RETENTION IN FOUNDATION SUBJECTS

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Introduction

In international British schools, particularly within the British Schools in the Middle East (BSME) network, teachers face unique challenges: condensed curriculum delivery, culturally diverse classrooms and the need to deliver deep, meaningful learning within tight timeframes. These constraints are particularly apparent when teaching foundation subjects such as History, Geography, and Design Technology, which are often taught under cross-curricular umbrellas due to time limitations.

At the heart of a concept curriculum lies the integration of subject components under broad, transferable ideas. For instance, within a recent unit themed around Risk vs Reward, students explored this concept within: Historical, Geographical, Social, and Financial dimensions. From Boudica's revolt against Roman rule to volcanic risk zones and from civil rights activism to personal finance and resilience during outdoor expeditions, teaching in this way enables pupils to form composite, multi-faceted understandings, rather than isolated knowledge fragments (See **Table 1**).

Table 1
Risk Vs Reward Thematic Unit

Risk vs Reward				
The Roman empire and the invasion of Britain Boudica's revolt	Physical geography – how volcanoes are formed and where. Human geography – why people still choose to live in areas of high volcanic activity	Social risk – Rosa parks, Martin Luther King, Greta Thunburg. People who put the greater good of humanity above their own needs.	Financial risk – saving and investment, money management and budgeting.	Personal risks – resilience, linked to residential outdoor pursuits trip.

Literature Review

However, ensuring that this knowledge is retained, transferred, and applied effectively requires intentional strategy. This is where metacognitive tools become transformative. Metacognition, defined as the awareness and regulation of one's own thinking (Metcalf & Shimamura, 1996), supports students in developing their ability to plan, monitor, and evaluate their learning. In practice, this includes teaching pupils to predict outcomes, reflect on their understanding and self-assess their progress.

In primary education, research shows that teaching metacognitive strategies can significantly improve outcomes, especially in reading, problem-solving, and independent learning (Education Endowment Fund, 2018; Veenman et al., 2006).

The Education Endowment Foundation highlights metacognition as one of the most effective and low-cost strategies, offering up to eight months of additional progress per year. Even young children can benefit when teachers explicitly model strategies and encourage reflection (Whitebread et al., 2009).

Research methods and data analysis

Pupils in two parallel classes studying the same concept curriculum were compared. One class had regular exposure to metacognitive tools (Group A), while the other followed a more traditional instructional model (Group B). A triangulation approach was used to strengthen the validity of the findings by incorporating three data collection methods: pupil voice, teacher questionnaires and an assessment task.

The assessment focused on key concept words identified across subjects taught during a thematic unit on Risk vs Reward. Pupils were asked to recall (either verbally or in writing) as many relevant terms as they could remember. In the group taught using metacognitive strategies (Group A), the average number of keywords recalled was 15 out of a possible 21. In contrast, pupils in the non-metacognitive group (Group B) recalled an average of only 4 words.

Teacher questionnaires further supported this difference; teachers in Group A reported higher levels of pupil engagement, with 20 out of 24 pupils actively contributing (on average over the unit) through questions and responses, compared to just 9 out of 24 in Group B.

Results

Pupil Voice

The pupil voice responses highlight significant differences between Group A and Group B, particularly in their understanding, engagement, and approaches to learning within concept lessons.

1. Breadth and Clarity of Subject Understanding

Pupils in Group B largely identified geography as the only subject in concept learning, with some confusion evident. One pupil described history content as geography, suggesting a limited or unclear understanding of how different subjects connect. In contrast, pupils in Group A confidently listed geography, history, computing, and design technology as part of their concept learning. This indicates a clearer and more integrated understanding of interdisciplinary topics, likely supported by the use of metacognitive strategies that help pupils organise and connect ideas.

2. Engagement and Enjoyment

Group B pupils gave mixed responses about their enjoyment of concept lessons. Some described the lessons as boring or involving too much work, and their enjoyment often focused on the social aspects, such as group work. In contrast, all pupils in Group A expressed enjoyment. They valued the variety of topics, hands-on activities, the opportunity to try new things, and the collaborative nature of the lessons. This suggests that metacognitive strategies may enhance pupil autonomy and motivation by making learning more engaging and purposeful.

3. Challenges in Learning

Both groups found it challenging to remember facts and content. However, Group A pupils demonstrated more metacognitive awareness, describing specific difficulties such as recalling key vocabulary or applying knowledge in writing. Group B responses were more general and less reflective, with pupils mentioning challenges like working independently or sharing ideas, indicating a less developed understanding of their own learning processes.

4. Strategies for Overcoming Challenges

Pupils in Group B mostly relied on external support, such as asking teachers for help. In contrast, Group A pupils described a range of independent strategies, including referring to a glossary and applying learning techniques. This shows greater self-regulation and ownership over their learning.

5. Awareness of Current Learning

Group A pupils recalled specific and detailed content, such as historical figures, migration, and food systems. Group B pupils gave limited responses like "culture" or "where countries are," suggesting lower levels of engagement and understanding.

Overall, pupils in Group A showed greater conceptual clarity, deeper engagement, stronger recall, and more developed independent learning strategies. These findings suggest that metacognitive strategies can significantly enhance primary pupils' understanding, motivation and ability to manage their own learning effectively.

These combined methods provide compelling evidence for the positive impact of metacognitive strategies on both engagement and conceptual understanding. The metacognitive group demonstrated improved attainment in end-point tasks that required them to draw connections across subject disciplines. These pupils also showed higher engagement and wellbeing, evidenced by their willingness to ask deeper questions, initiate discussions, and conduct follow-up research at home. Teachers noted a visible difference in pupil engagement and willingness to participate in lessons.

Most notably, pupils became more attuned to their own learning processes. They could articulate what they understood, where their gaps were, and how they might address them, which are all core elements of Self-Regulated Strategy Development (SRSD). When learners are empowered to evaluate their own progress, they develop resilience and intrinsic motivation, which supports not only academic outcomes but also behavioral regulation and mental wellbeing (McGill, 2024).

Next Steps

The future implications of embedding metacognitive strategies into concept-based curricula are significant. Metacognitive sensitivity – students' ability to align confidence with actual performance – is increasingly recognised as a predictor of long-term academic success, self-discipline and even emotional health (Vaccaro & Fleming, 2018). In the high-paced, diverse context of BSME schools, this matters more than ever. It provides pupils from varied educational backgrounds a common language for thinking and learning, allowing them to make sense of their experiences, reflect with purpose, and build lasting understanding.

However, effective implementation depends on teacher confidence and training. Dignath and Büttner (2008) argue that sustained professional development is key to embedding these strategies across subjects. In a large multi-form entry school, establishing a community of practice (Lave and Wenger, 1991) offers a sustainable model for professional development. By bringing staff together to reflect, share, and refine their approaches, this collaborative structure enables both new and experienced teachers to deepen their understanding of metacognitive teaching and monitor its impact consistently across the school.

Conclusion

In conclusion, supporting teachers in implementing metacognitive strategies in foundation subjects, fosters deeper learning by enabling pupils to connect discrete knowledge into coherent wholes. As concept-based teaching continues to grow in international contexts, prioritising metacognitive development will not only improve retention and achievement, but it will also cultivate lifelong learners equipped to think critically, self-regulate effectively, and thrive within and beyond the classroom.

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