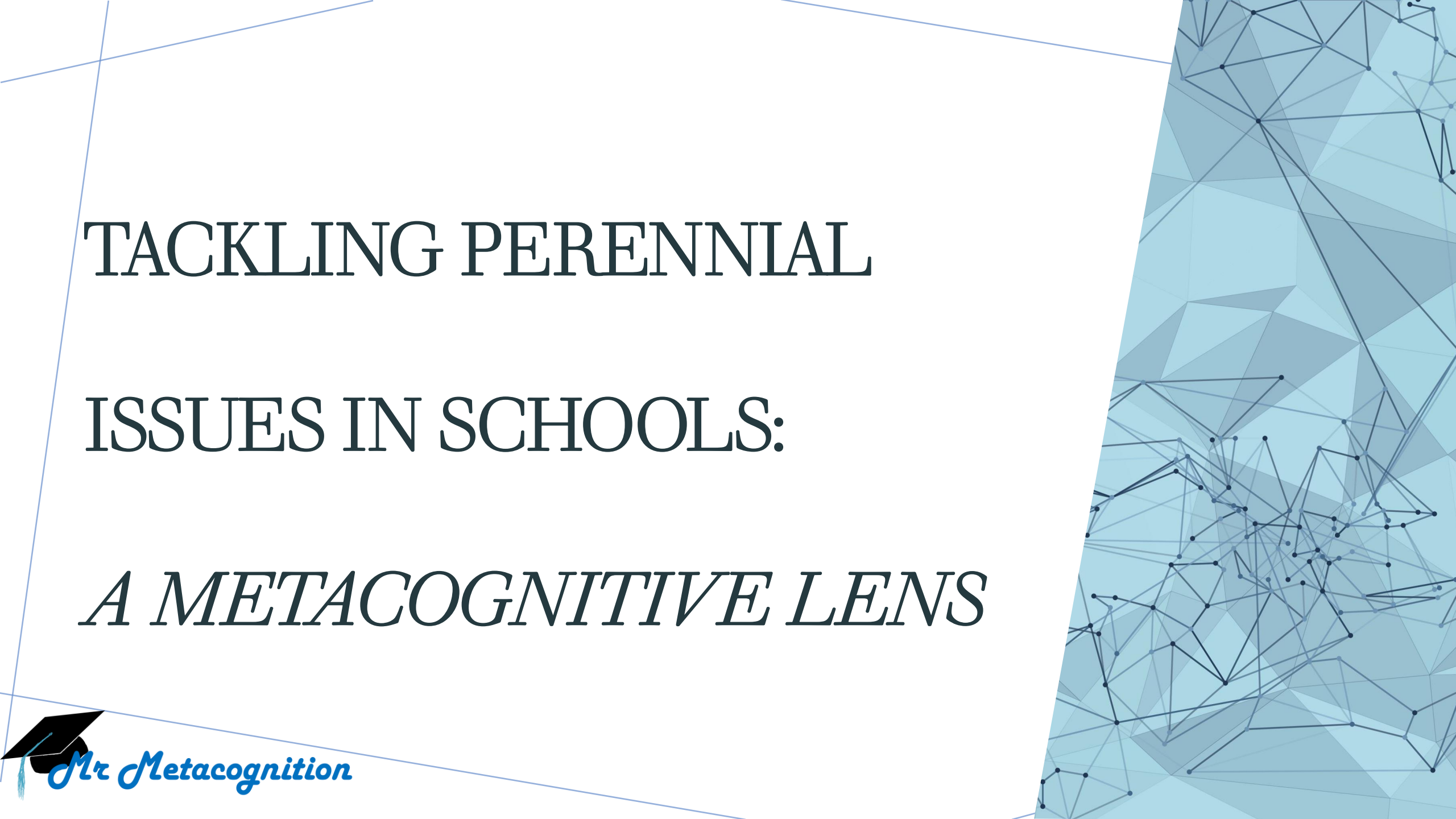
TACKLING PERENNIAL ISSUES IN SCHOOLS:

A METACOGNITIVE LENS



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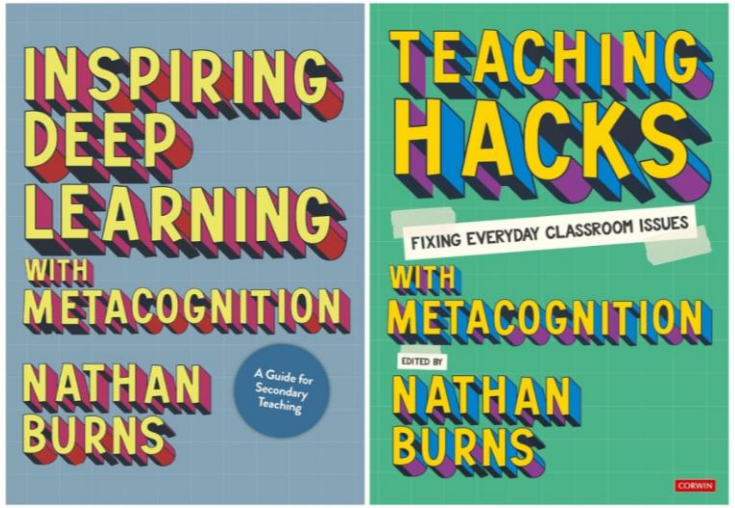
Who Am I?

- Nathan Burns
- Former Head of Maths/Pastoral Lead/MAT Lead
- Metacognitive researcher and author
- Full time training provider and consultant



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Session Aims

Driven by 'Teaching Hacks', and the expertise of 14 of the best educator-researchers...

- Identify 14 of the most common issues that we have in school.
- Explore metacognitive fixes to each of these issues

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The Issues...

1. Poor extended writing	8. Ineffective cognitive monitoring
2. Poor reading comprehension	9. Difficulties modelling (online)
3. Students lacking resilience and motivation	10. Limited oratory abilities
4. Poor study choices	11. Negative learner identities
5. Ineffective revision	12. Translating thoughts to paper
6. Low quality coursework	13. Limited retrieval skills
7. Feedback not utilised	14. Difficulties with implementing (MC)

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Jonathan Firth
Poor Extended Writing – Context

- Students often:
  - Have flawed planning
  - Have flawed monitoring
  - Fail to re-read and redraft
  - Do not understand that good writing impacts the reader
  - Do not understand the extent to which improved approaches and practice can improve extended writing (i.e. writing is not a fixed ability)

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Poor Extended Writing - Fixes

- Develop effective readers:
  - Reading critically/analytically
    - Understand and analyse what other writers are doing (and why)

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Poor Extended Writing - Fixes

- Focus on the nuts and bolts:
  - Explicitly draw attention to, and teach, the basic elements of writing
    - Grammar
    - Vocabulary
    - Spelling

- Where these become more automatic, the limited (cognitive) capacity can begin to focus on higher-level skills (e.g. linguistic style)

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Poor Extended Writing - Fixes

- Teach structure and style, for example:
  - How best to use paragraphs
  - Begin paragraphs with 'knowns' and more towards new and more complex ideas.
  - Utilise shorter sentences to improve reliability
  - Develop linking words

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Poor Extended Writing - Fixes

- Planning:
  - Identify clear goals (from task instructions and expectations)
  - Start small and build bigger
  - Plans as fluid and adaptable documents

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Poor Extended Writing - Fixes

- Re-drafting:
  - Build in habit of re-drafting
  - Get students to re-read with 'fresh eyes'
  - Read aloud
  - Avoid 'putting through a thesaurus'

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Debbie Tremble
Poor Reading Comprehension – Context

- The importance of reading comprehension:
  - All subjects rely upon it
  - Strong correlation between comprehension abilities and academic outcomes

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Debbie Tremble
Poor Reading Comprehension – Context

- The issues we face:
  - Expert blindness
  - Not identifying struggling readers
  - The 'infinite scroll' of SM leading to surface level reading
  - Reduction in reading enjoyment

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Poor Reading Comprehension - Fixes

- Looking to develop metacomprehension
  - (Self) assess understanding of a text
  - Identify areas of confusion/difficulty
  - Make adjustments to improve comprehension

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Poor Reading Comprehension - Fixes

12 stage process to achieve this:

1. Inform students of metacomprehension
2. Set comprehension goals
3. Develop monitoring strategies
4. Develop MC strategies
5. Think alouds
6. Journalling
7. Group discussions
8. Scaffolding
9. Receive feedback
10. Integrate into curriculum
11. Foster student autonomy
12. Teacher PD

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Poor Reading Comprehension - Fixes

- Use of questioning:
  - Prediction questions
  - Comprehension questions
  - Activating prior knowledge
  - Clarification questions
  - Summarisation questions

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Charlotte Findlay
Students Lack Resilience and Motivation – Context

- We can often be guilty of spoon feeding students:
  - Limited time
  - Pressure
  - Exams
  - Behaviour

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Charlotte Findlay
Students Lack Resilience and Motivation – Context

- Which can lead to:
  - Hindered progress
  - Passive learners
  - Surface level learning
  - Limited engagement
  - Learned helplessness
  - Limited creativity and innovation

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Students Lack Resilience and Motivation - Fixes

- We can be limited by the curse of knowledge
  - Greater expertise is shown to make it harder to break down and simplify concepts
  - Greater expertise is shown to reduce a teacher's ability to accurately predict a student's likelihood of success
- So...
  - Attempt to be conscious of the natural (instinctive) thinking processes that we are using
  - And share that inner monologue with students
    - Scaffold exploration of problems, before, during and after a task
    - Explain the why, not just the what

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Students Lack Resilience and Motivation - Fixes

- Walking talking exams:
  - Allows use of visualiser
    - Annotate; verbalise; dual-code
  - Narrate effective strategies (e.g. brain dumping, when to move on (and why) etc.)
  - Explicitly discuss thoughts (e.g. when to skip; how they (teacher) would approach task).

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Students Lack Resilience and Motivation - Fixes

- Critical reading:
  - Choose appropriate texts
    - Enhanced learning
    - Deepening connections
  - (Pre) determine critical questions

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Elizabeth Mountstevens
Poor Study Choices – Context

- Students often:
  - Are unable to identify strengths and weaknesses
  - Are ineffective and spend time on areas of strength
  - Are generally ineffective with revision and have poor study skills
  - Displaying overconfidence will have worse outcomes

NB: study choices a better predictor of student success than prior achievement

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Poor Study Choices - Fixes

- Look to work on developing a student's knowledge of their cognition
  - Self: awareness of their own knowledge, strengths and weaknesses
  - Task: types of question, how units interact, exam requirements
  - Strategies: effective study approaches

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Poor Study Choices - Fixes

- Develop feedback opportunities for students to compare their 'Ease of Learning' prediction with their 'Judgement of Learning' (how easy it will be vs how successful they've been)
    - Use of exam wrapper, where questions around preparation and relative confidence are answered immediately after the assessment and questions around a retrospective confidence judgement are made post marking.

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Poor Study Choices - Fixes

Improve study skills through:

1. Students reflect on the study choices they made (and self-determine the need to be more effective)
2. Teacher led modelling on new strategy, and the rationale for it
3. Guided practice with the new strategy

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Katie Holmes
Ineffective Revision – Context

- Students are all too often:
  - Poor independent learners
  - Give up too easily
  - Turn to Google
  - Revise ineffectively
  - Passive, rather than active (independent) learners

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Ineffective Revision - Fixes

Train students to use active, rather than passive, study and revision strategies:

1) Flashcards
2) Brain dumps
3) Mind maps
4) Self-quizzing

Ensures: consistency; equity and inclusion; clarity and simplification; improved outcomes

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Ineffective Revision - Fixes

Flashcards:

- Creating ISN'T revision
- Verbal or written testing (not internal monologue)
- Leitner Method

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Ineffective Revision - Fixes

Brain Dump:

- Effective retrieval method, recalling as much information as possible.
- Most effective where students know what to write (e.g. definitions, formulas, key points etc.)
- Not about 'perfect' writing

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Ineffective Revision - Fixes

Mind Maps:

- Visual aspects
- Short sentences
- Develop connections between information (schemata; mental model development)

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Ineffective Revision - Fixes

Self-quizzing:

- Can produce questions for students, utilise online platforms, or get students to self-create (knowledge organisers?)
- Supports development of Knowledge of Self

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Paul Carney
Low Quality Coursework – Context

- Significant difficulties in getting high grades in Art Externally Set Assignment (ESA):
  - Dare not allow significant freedom, due to teacher accountability
  - Students are ill prepared due to this tighter control
    - Defined by crib sheets, PPT guidance, starting artists etc.

- Students unable to (self) manage and execute the wide range of complex processes required for the ESA

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Low Quality Coursework - Fixes

- Develop knowledge of self:
  - Support understanding of strengths, aptitudes and capabilities
  - Help students identify strategies that they favour and which suit them best
  - Understand of an effective working environment

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Low Quality Coursework - Fixes

- Develop knowledge of task:
  - Improve decoding strategies
  - Improve comprehension strategies
  - (Teachers) learn from approaches in English/History etc.

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Low Quality Coursework - Fixes

- Develop knowledge of strategies:
  - Understand the range of approaches to an (ESA) brief
    - For example, the ways in which an individual can work through a design process

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Low Quality Coursework - Fixes

- Improve student planning and monitoring:
  - Move away from (nagging) deadlines and weekly to do lists
  - Support students in:
    - Identify time available (in classroom)
    - Identify (realistic) time (outside classroom)
    - (Hence) identify how much work can (realistically) be done

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Marco Narajos
Feedback Not Utilised – Context

- Issues around feedback include:
  - Students do not learn from feedback and repeat errors
  - Feedback can be devalued where it is a 'tick-box' exercise
  - Time spent actioning poor quality feedback could be better spent on alternate activities

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Feedback Not Utilised - Fixes

- Ensure that:
  - Feedback aims to cause further learning and improved performance
  - Strengths and areas for improvement are given, not just a raw score
  - Feedback focuses on verbal (rather than written)

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Feedback Not Utilised - Fixes

- Consider the type of feedback being given, and which is likely to be most beneficial:
  - Quality of performance (task level feedback)
  - Strategies used (process level feedback)
  - Planning and monitoring feedback (self-regulatory feedback)

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Feedback Not Utilised - Fixes

- Provide feedback in relation to:
  - Success criteria
  - Examples
  - Model answers

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Dr Sarah Dowey
Ineffective Cognitive Monitoring – Context

- Students are often very poor at monitoring:
  - Limited by (task) time constraints (speed vs accuracy)
  - Lack the knowledge about effective monitoring techniques

- And so the same mistakes keep occurring
- And so students are poor at altering or finessing their chosen approach where it is not working effectively

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Ineffective Cognitive Monitoring - Fixes

- Develop a culture of (metacognitive questioning) to focus attention on monitoring:
  - Prompt students on the stages that they need to work through
  - Build in 'metacognitive moments' or 'pause points' to tasks for students to monitor

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Ineffective Cognitive Monitoring - Fixes

- Model a range of appropriate and effective monitoring strategies
  - For example; provide visual prompts of monitoring questions
  - For example; model own monitoring processes

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Dave Tushingham
Difficulties Modelling (Online) – Context

- Online teaching radically different to the classroom:
  - Requires different type of focus
  - Modelling became a more crucial aspect of lessons
    - Explicit instruction imperative to successful teaching
    - Desirable difficulties crucial

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Difficulties Modelling (Online) - Fixes

- A number of different approaches:
  - I Do, We Do, You Do
    - Share expertise, knowledge and insight
  - Wait time
  - (Teach) self-quizzing
  - Reflect, Expect, Check, Explain
  - Narration of our own thoughts and decisions

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Michael Walsh
Limited Oratory Abilities – Context

- Metacognition is a hugely powerful approach, but effective development is underpinned through oracy/metacognitive talk
- Oracy gives a consciousness to inner, floating, half-formed thoughts

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Limited Oratory Abilities - Fixes

- Ensure appropriate challenge:
  - Ensure task/questions are sufficiently familiar to build on prior knowledge

  BUT
  - Thought provoking enough to require new ways of thinking

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Limited Oratory Abilities - Fixes

- Teacher input is crucial:
  - To question students and guide conversations:
    - "Can you explain what you mean by...?"
    - "Tell us a bit about..."
  - To provide consistent opportunity to monitor and reflect, rather than 'standalone' big metacognitive moments

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Limited Oratory Abilities - Fixes

- Place emphasis on talk for learning, rather than talk for performance:
  - So hesitancy, repetition and informality are fine!
  - Opportunities for critiquing and challenging own ideas and ideas of others.

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Genevieve Bent MBE
Negative Learner Identities – Context

- Developing a learner identity is crucial to improving reading, writing and overall outcomes
- A positive identity can mean an individual:
  - Sees themselves as a learner
  - Supports student engagement
  - Improves study efficiencies
  - Takes further opportunities to extend their learning (in and out of school)

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Genevieve Bent MBE
Negative Learner Identities – Context

- But far too many students have no, or worse, a negative, learner identify:
  - Where the student doesn't see themselves as someone capable of learning or improving

Students sit on an identity 'spectrum', and we must support them in developing a more positive identity.

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Negative Learner Identities - Fixes

- Provide opportunities for self-evaluation
  - What are your strengths?
  - What are your weaknesses?
  - What could you do to help you become a more effective learner?
- Link questions to the goals students have for themselves
  - Demonstrate that their voice matters
  - Demonstrate that multiple approaches and aims are important

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Negative Learner Identities - Fixes

- Explore the explicit aims of learning:
  - Why learn x?
  - Purpose of y?
  - What is the intended outcome?
- Provide opportunities to reflect on planning, monitoring and evaluation

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Negative Learner Identities - Fixes

- Provide opportunities for open-ended retrieval:
  - What did we learn?
    - Needs coaching and modelling
    - Variations in response
    - But develops reflective nature and self-awareness

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Negative Learner Identities - Fixes

- Consider opportunities for self-directed learning
  - Provide a 'big question' and possible approaches to explore.
  - Provide scaffolds where required.
  - Use student's self-evaluation to inform your own future teaching

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Negative Learner Identities - Fixes

- Ensure positive dialogue in your classroom:
  - Challenge negative language:
    - "I am so bad at Maths"
    - "I'm rubbish at science"
  - Re-frame these statements to be neutral/positive

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Kate Allen
Translating Thoughts to Paper – Context

- Students struggle to translate their thoughts down onto paper
  - 'Connection' lost in translation

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Translating Thoughts to Paper - Fixes

- Teacher led modelling an opportunity to demystify the thinking to writing process:
  - Verbalise our own thinking process
  - Demonstrate our own thought to paper process
  - Demonstrate making mistakes
    - Demonstrate proofreading

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Translating Thoughts to Paper - Fixes

- Effective use of WAGOLL:
  - WAGOLL focuses on the end result – the result of the thinking process
  - It fails, however, to illuminate this process
  - Live model to demonstrate how a response is produced, rather than just WAGOLL

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Translating Thoughts to Paper - Fixes

- Develop student's cognitive control (i.e. metacognition) through:
  - Increased thinking time
  - Task deconstruction
  - Front loading vocabulary
  - Ensuring a quality learning environment
  - Transcripts
  - Logical sequencing
  - Example answers
  - Providing success criteria
  - Scaffolding

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Patrice Bain
Limited Retrieval Skills – Context

- Students can revise incredible hard, but still not do well.
  - Ineffective retrieval and metacognitive tools are being used.
  - Students miss out on self-testing opportunities:
    - Skip hard material
    - Focus on what they know

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Limited Retrieval Skills - Fixes

Mini-Quiz

- Low/no stakes
- Questions based on learning in previous lesson
- Review quizzes to inform future re-teaching
- Provides student with a daily opportunity to verify what they know and areas to follow up on

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Limited Retrieval Skills - Fixes

Four Steps of Metacognition

- Students 'star' questions that they know, '?' those they don't
  - Students answer, then verify, 'star' questions
  - Students look-up the '? questions

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Limited Retrieval Skills - Fixes

Retrieval Cards

- Operate in similar manner to standard flashcards
- Variation is that students incorporate 'Four Stages of Metacognition (star/?) into process

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Daniel Muijs
Difficulties with Implementation (MC) – Context

- Implementation of key theories (MC) into the curriculum can appear difficult.
- It is possible across all key stages

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Difficulties with Implementing (MC) - Fixes

Key Principles of Implementation:

1. Teach students about what it is they are learning, and why
2. Teaching cognitive strategies (e.g. retrieval strategies)
3. Teach metacognitive strategies
4. Model these strategies
5. Scaffold these strategies
6. Remove the scaffolds
7. (Continue to) integrate MC

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Difficulties with Implementing (MC) - Fixes

Key Pointers

- Repetition necessary as students quickly forget to use strategies
- MC is context specific
- MC is not a 'box ticking' exercise
- MC lends itself at different time

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Difficulties with Implementing (MC) - Fixes

- Dialogical teaching helpful in developing MC:
  1. Reflect (on thinking processes)
  2. Question (deeper thinking; open ended questions)
  3. Self-regulation (monitor and control our thought processes)
  4. Collaboration (groups/pair-share thoughts; listen; constructive conversation)

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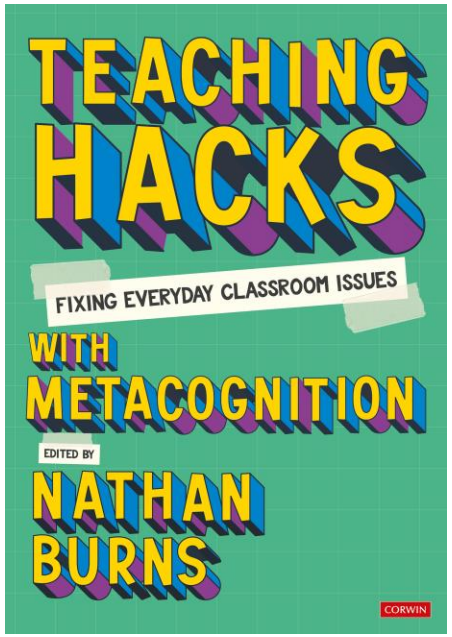
Teaching Hacks: Fixing Everyday Classroom Issues with Metacognition



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