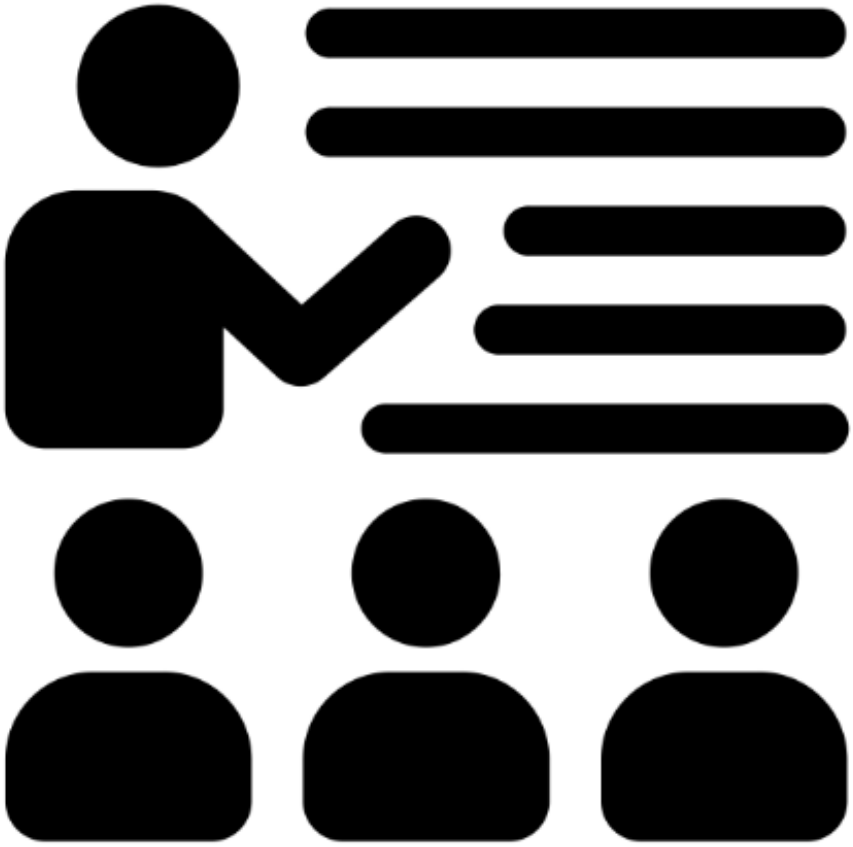
Grace Mary Teaching and Learning Handbook

Version 2



Learning and growing together,
hand in hand.

Contents Page

Alex Quigley

'Given the enormity of the curriculum, as much as we should ask questions about the substantive knowledge, sequence and schema of what is taught, we should ask at the same time, how are teachers aided with substantial professional development, coaching and follow on support to assimilate and enact these tricky habit changes'.

This handbook is designed to support all staff develop the skills and knowledge required to implement our robust curriculum effectively.

What is teacher expertise?

When we talk about developing teachers, we are really talking about moving teachers along the spectrum of proficiency and towards a mastery model of teaching. The problem is that we don't yet have a clear consensus around what this expert teaching entails. We do, however, have some best bets- the things that we think will make the most difference to pupils if done well, based on recent research.

Developing teacher expertise is largely a process of helping teachers build their mental models in four distinct, but related domains:

- **Path**- how to best represent and sequence knowledge to pupils.
- **Pupils**- what pupils know and do not know, as well as what motivates them.
- **Pedagogy**- how pupils learn and how to catalyse learning within the classroom.
- **Self-regulation**- how to evaluate and iterate their own practice considering their own biases.

Expert teachers' knowledge in the above domains is organised differently to novices. The knowledge is extensive, actionable, fluent and meaningful.

These sophisticated- yet domain specific- mental models allow expert teachers to 'represent problems in qualitatively different ways to novices' and also 'perceive more meaningful patterns'. Much of this activity is invisible to the outside observer. Helping teachers to develop these mental models is crucial. That is what this book has been written for.

Extracts taken from The Research-Ed Guide to Leadership

Rosenshine's Principles of Instruction

REVIEWING MATERIAL

Daily review

Review can strengthen previous learning and improve recall. It reactivates recently acquired knowledge, reducing cognitive load so pupils can then build on this knowledge more easily.

Weekly and monthly review

Students need to do extensive and regular practice in order for knowledge to become automatic. This enables knowledge to be transferred into the long-term memory, which then frees up working memory.

QUESTIONING

Ask questions

Ask more questions to more students in more depth. Ask how students work things out. Provide feedback and corrections.

Check for students understanding

Checking understanding can help students learn new material with fewer errors as teachers can identify any misconceptions.

'As a teacher, ask pupils questions in order to work out how you should act differently' Mark McCourt.

SEQUENCING, CONCEPTS AND MODELLING

Present new material in small steps

Due to limited working memory, pupils are unable to process too much material at once. We need to present information in small steps. Students practice each step before moving on.

Provide models

This gives students cognitive support. It may include:

-Worked examples.

-Explicit narration of thought processes.

-Physical manipulatives.

-Diagrams.

Provide scaffolds for difficult tasks

A scaffold is a temporary support that is used to assist learners. Once learners are successful, scaffolds are removed.

Barak Rosenshine

"One characteristic of effective teachers is their ability to anticipate students' errors and warn them about possible errors some of them are likely to make."

Rosenshine's Principles of Instruction

STAGES OF PRACTICE

Guide student practice

Rehearsal is needed to ensure that pupils do not forget new information, to allow for easier recall in the future and to ensure that pupils are fully prepared for working independently. It requires close supervision and feedback.

Obtain a high success rate

A high success rate during practice leads to a higher success rate when children work on their own.

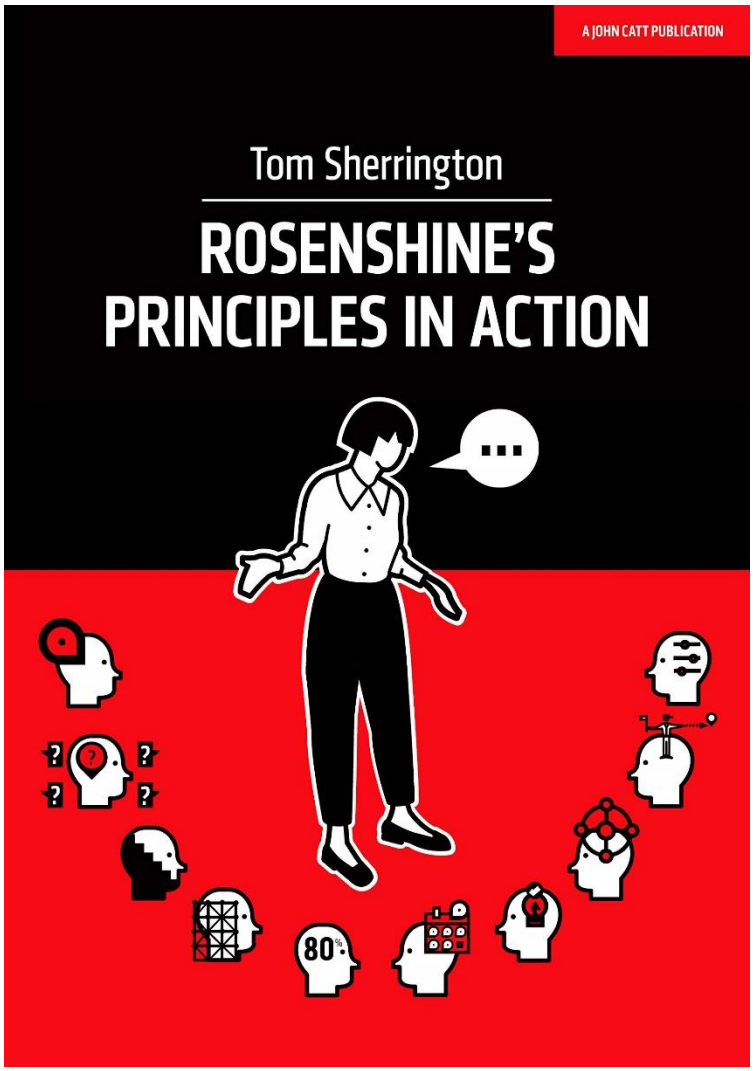
80% is the optimum rate (not too easy or not too hard).

Independent practice

Independent practice is needed in order for skills and knowledge to become automatic. When material is learned, it does not take up any space in the working memory and more attention can be devoted to comprehension and application.

Secure your understanding

Read…



Visit…

http://www.ibe.unesco.org/fileadmin/user_upload/Publications/Educational_Practices/EdPractices_21.pdf

https://www.aft.org/sites/default/files/periodicals/Rosenshine.pdf

https://teacherofsci.com/principles-of-instruction/

https://teacherhead.com/2019/10/02/rosenshines-principles-10-faqs/

Retrieval Practice

What is retrieval practice?

Retrieval practice is any strategy that involves pupils retrieving material that they have previously learned from their long-term memory.

Retrieval practice is a learning strategy, not an assessment tool; it is used to cement the learning, strengthen memory and improve long-term retention.

Retrieval practice principles

1

Involve everyone in the retrieval practice and review process. Good techniques involve all students checking their knowledge.

2

Make checking and correcting accurate and easy to do. The best person to mark the test is the person who has just took it.

3

Specify the knowledge. It is better if students know the set of knowledge any retrieval will be based on, so they can study, prepare and self-check.

4

Keep it generative. Students need to explore their memory to check what they know and understand. This means closing the books and making students think for themselves.

5

Vary the diet and mix it up. This will allow students to explore their schema in different ways, strengthening future recall.

6

Make it time efficient. A good technique can be used repeatedly in an efficient manner without dominating whole lessons.

7

Make it workload efficient. The best methods do not involve the teacher checking the students answers, creating unsustainable workload.

8

It doesn't have to be written. Retrieval practice is best done orally. Build on what the children know. Make links to what has already been taught. Know the curriculum you are teaching.

Kate Jones

'The benefits of retrieval practice for long-term learning are among the most secure findings in education.'

Retrieval Practice

Retrieval Practice Tasks to use in the Classroom

1

TRUE/FALSE QUESTIONS

Statements to be judged true or false

2

MULTIPLE CHOICE QUESTIONS

Questions with multiple options to choose from

3

SHORT ANSWER QUESTIONS

Questions that require a brief written response

4

FLASHCARDS

A method of self/peer-quizzing using a question on one side and an answer on the other (Kagan- Quiz, Quiz, Trade)

5

KNOWLEDGE ORGANISERS- THE LEITNER SYSTEM

A simple implementation of the principle of spaced repetition, where cards are reviewed at increasing intervals. Watch https://www.youtube.com/watch?v=d9u3KxGCio8

6

SELF QUIZZING

A technique for practising retrieval by testing oneself on previously learned material

7

ESSAY PLAN

Outlines are used to organise and plan essays

8

FREE RECALL TASKS

Recall as much information as possible without any specific prompts or cues

9

ESSAY QUESTIONS

Open-ended prompts that require detailed and supported written responses

10

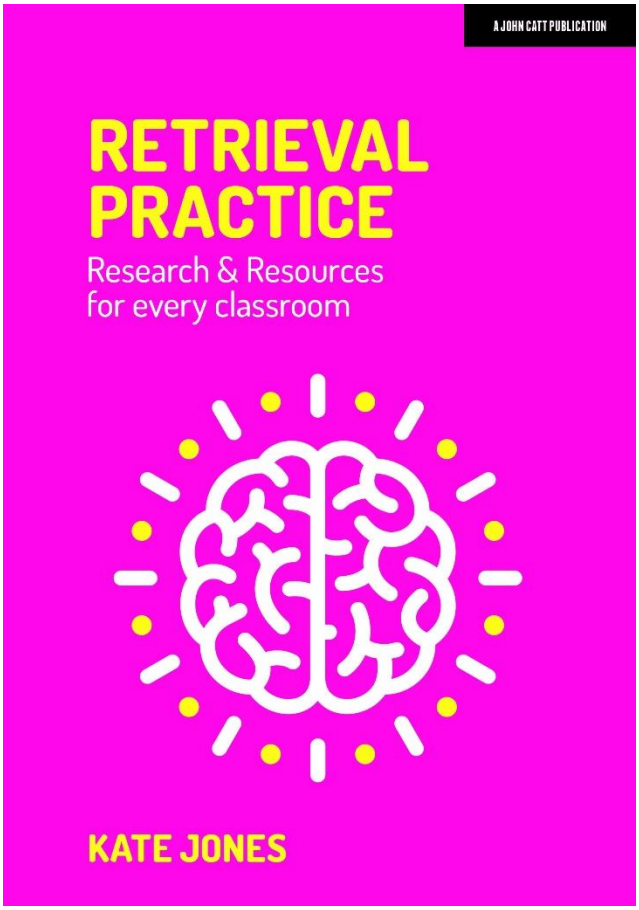
CUED RECALL TASKS

Retrieval tasks in which learners are given cues to help them remember previously learned information.

Retrieval Practice

Benefits of retrieval practice

Secure your understanding. Read this…



Visit…

https://www.retrievalpractice.org/strategies/2018/5/18/transfer-guide

https://teacherhead.com/2019/03/03/10-techniques-for-retrieval-practice/

https://www.learningscientists.org/blog/tag/retrieval+practice

https://teachlikeachampion.com/tag/retrieval-practice/

Questioning

How do we question effectively?

Questioning is a fundamental tool in the practice of most teachers. We ask questions for a variety of reasons, but most can be put under two broad categories: checking for understanding and deepening understanding.

Mark Enser

Questions types to check for understanding:

1 **HINGE QUESTIONS**

Hinge point questions should give you a clear quick indication as to where the learning is at for all students, but which direction to take next in teaching. An effective hinge question should be impossible for a student with the wrong idea to be able to give the right response. Hinge questions should take no longer than 30 seconds to respond to and give you a clear way forward or indeed, to revisit content not fully grasped.

2 **OPEN QUESTIONS??**

Asking open questions means it can be very difficult to know if **all pupils** have grasped any particular point.

With open questions is that you can generally only receive answers from one pupil at a time, as there are too many potential answers.

3 **CLOSED QUESTIONS??**

With closed questions, you can ask the class the question and provide multiple-choice answers and use mini-whiteboards to collect answers from the **whole class**. You can make a better whole class judgement about what has been understood.

4 **MULTIPLE CHOICE QUESTIONS**

Multiple choice questions are a time-efficient way of gauging student understanding of content. Include:

- Sentence stems to ensure clarity

- Avoidance of a) b) c) d) response patterns

- Plausible distractors that springboard discussion to clear up misconception

Secure your understanding. Visit…

How to use questioning more effectively in class

https://www.tes.com/news/how-use-questioning-more-effectively-class

Questioning: when and how to use it in the classroom

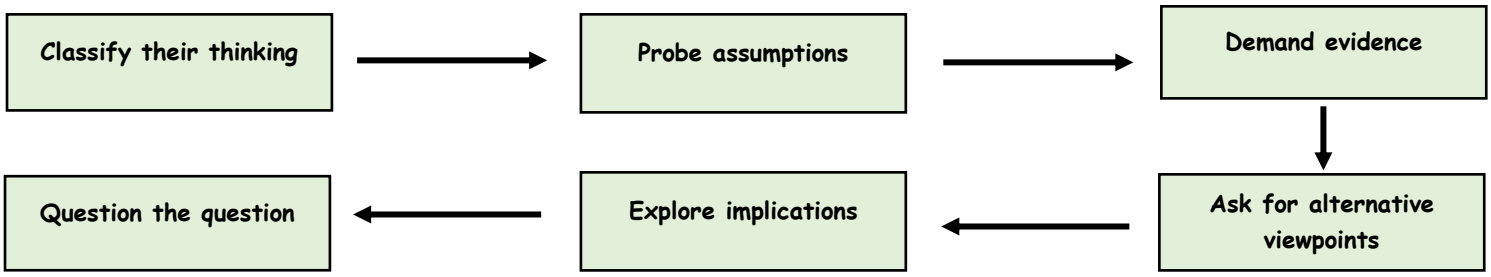
https://www.tes.com/news/questioning-when-and-how-use-it-classroom

Questioning

Deepening understanding:

Open questions can support us in trying to deepen a pupil's understanding and link together different ideas.

Use question stems to probe someone's response and lead to them thinking more deeply about their original answer.



Useful questioning strategies:

1 **COLD CALLING**

This keeps students on their toes, makes them think and allows us to chooses who answers. We can assess understanding via feedback. This keeps the whole class involved and gives you better information. Ask the question first, wait, then select who.

2 **WHITEBOARDS 'SHOW ME'**

These 'show me boards' are a great way of generating immediate, whole class feedback. They can be used for generating ideas, practising short sentences or making labelled diagrams.

3 **SAY IT AGAIN BETTER**

Answers lacking development are shallow and short. To encourage a deeper level, acknowledge the first response in a positive manner and then advise improvement. Ask the student to 'say it again better'.

4 **PROBE DEEPER**

Ask deeper questions to probe the students schema. This allows links between ideas to be made, rehearse and support long term memory. It also identifies misconceptions and more importantly knowledge gaps.

5 **NO OPT-OUT**

Students are invited to share what they think using encouraging language, but with kind persistence that they cannot opt-out. All students are expected to be active participants. No hands up enables us to practice this effectively.

6 **THINK, PAIR, SHARE**

Allow students to engage in a structured discussion, rehearsing and sharing their ideas and answers. Pose a question, allow thinking time before sharing. Students discuss answer with their 'talk partner'.

7 **POSE, PAUSE, POUNCE, BOUNCE**

Pose a question (no hands up). Pause for as long as you can before you take an answer. Pounce on one student for an answer and then immediately bounce this to another making sure they add their reasoning.

8 **ANSWER IN FULL SENTENCES**

Never accept a one-word answer. Students must always answer a question using a full sentence. This allows the teacher to get a better understanding of how much a student knows or doesn't know.

Metacognition and Self-Regulated Learning

"Metacognition is about planning how to undertake a task, then cognitively undertaking that activity, while monitoring the strategy to check progress, then evaluating the overall success."

Alex Quigley

Self-regulation is about the extent to which learners are aware of their strengths and weaknesses and the strategies they use to learn. It describes how they can motivate themselves to engage in learning and develop strategies to enhance their learning and to improve. It will look different for learners of different ages, and for different tasks, but teachers will recognise these characteristics in their most effective learners.

Components of self-regulation

1. **COGNITION**
   The mental process involved in knowing, understanding, and learning
2. **METACOGNITION**
   The ways learners monitor and purposefully direct their learning
3. **MOTIVATION**
   Our willingness to engage our metacognitive and cognitive skills and apply them to learning

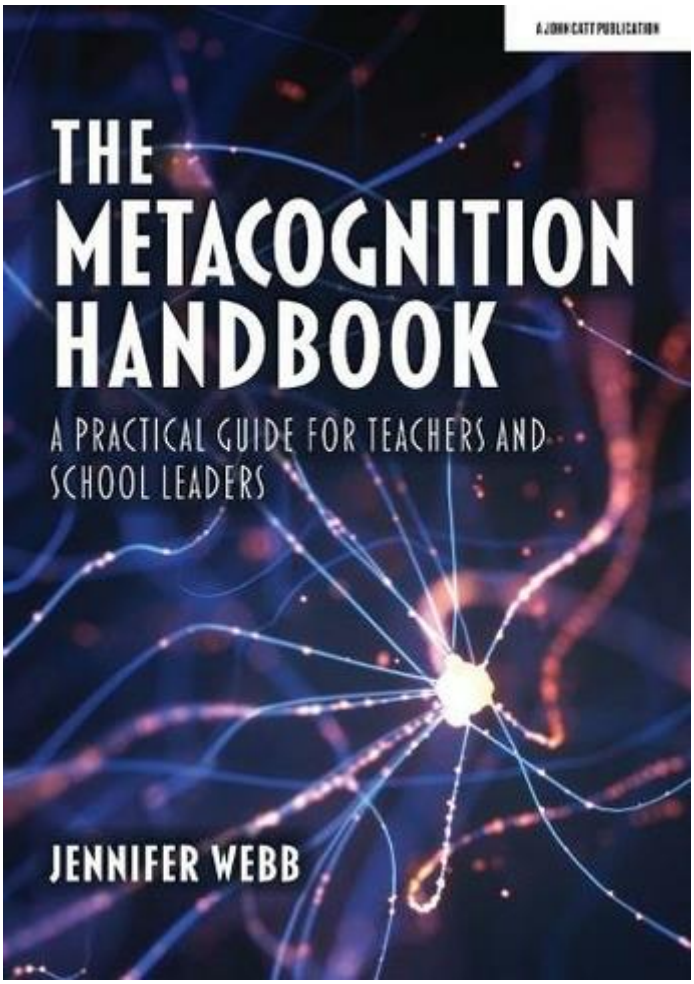
How we can develop student's metacognitive skills

1. **EXPLICITLY TEACH**
   Explicitly teach pupils metacognitive strategies, including how to plan, monitor, and evaluate their learning
2. **MODEL**
   Model your own thinking to help pupils develop their metacognitive and cognitive skills.
3. **CHALLENGE**
   Set an appropriate level of challenge to develop pupils' self-regulation and metacognition
4. **TALK**
   Promote and develop metacognitive talk in the classroom
5. **MANAGE LEARNING**
   Explicitly teach pupils how to organise and effectively manage their learning independently
6. **MODELLING REFLECTION**
   Modelling self-assessment by reflecting on one's own learning
7. **SELF QUESTIONING**
   Teaching self-questioning to aid comprehension
8. **EXPLAINING THE PROCESS**
   Encouraging students to explain their answer process

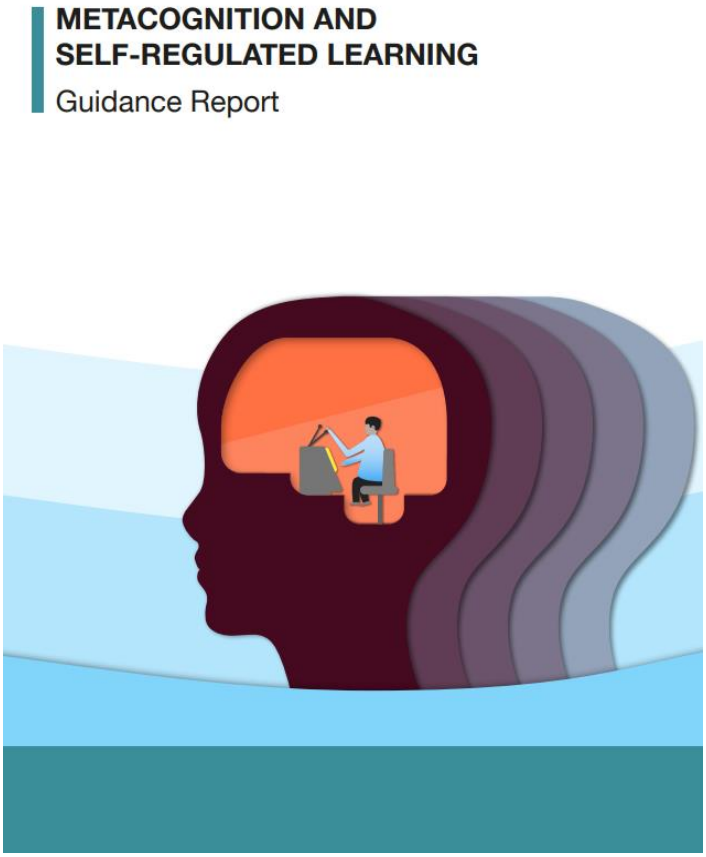
Metacognition and Self-Regulated Learning

Secure your understanding

Read these…



The metacognition handbook by Jennifer Webb



Metacognition and self-regulated learning

https://d2tic4wvo1iusb.cloudfront.net/eef-guidance-reports/metacognition/EEF_Metacognition_and_self-regulated_learning.pdf?v=1687782965

Visit:

Metacognition: Thinking Deeply About Learning

https://www.teachertoolkit.co.uk/2018/04/28/metacognition/

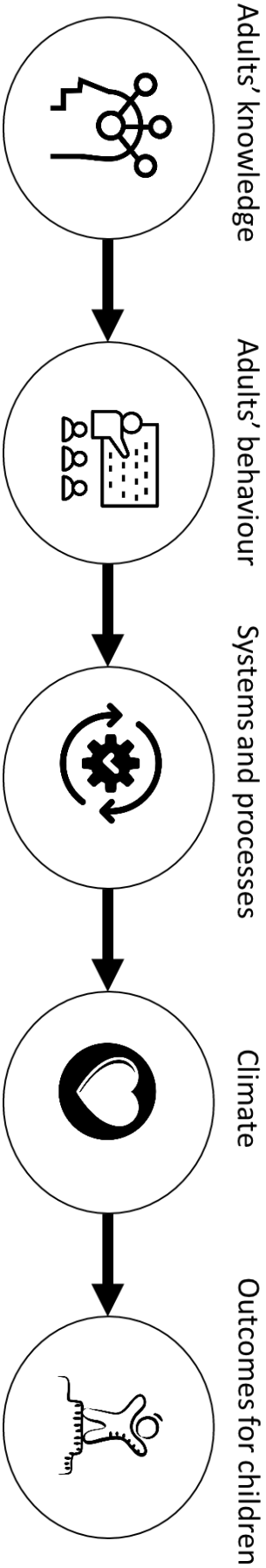
METACOGNITION: HOW TO IMPROVE STUDENTS' REFLECTIONS ON LEARNING

http://pdf.retrievalpractice.org/MetacognitionGuide.pdf

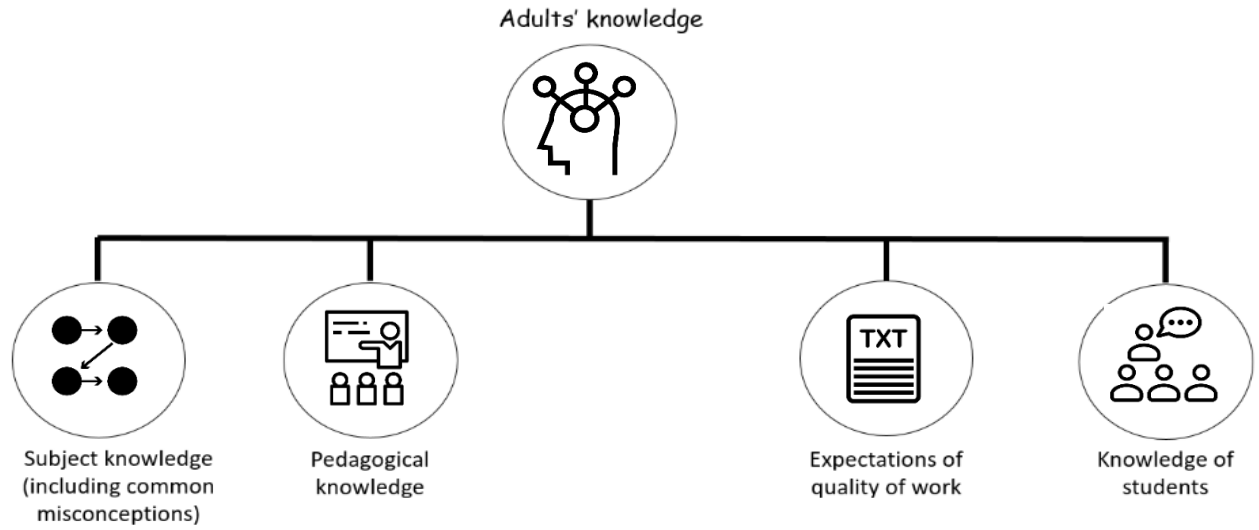
Metacognition in the Classroom: Benefits & Strategies

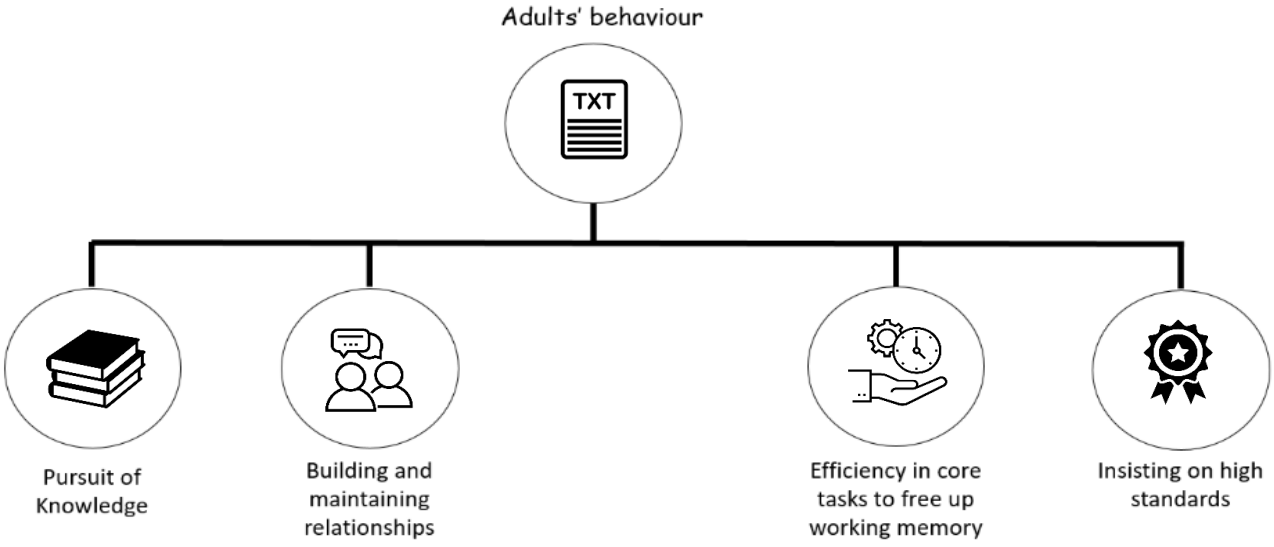
https://www.highspeedtraining.co.uk/hub/metacognition-in-the-classroom/

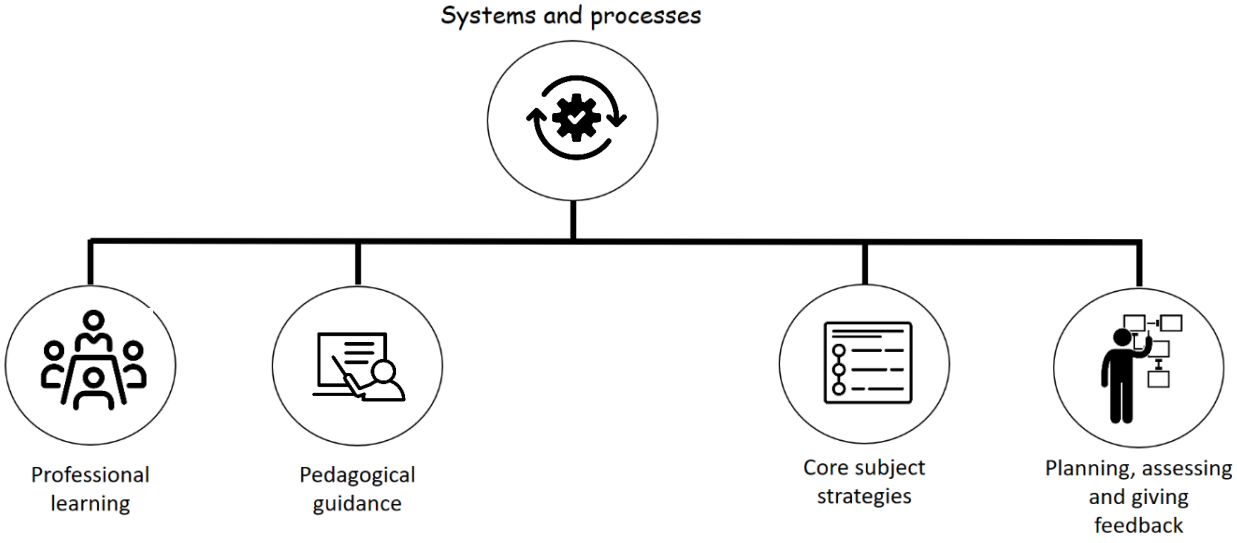
Impact- what difference can we make?



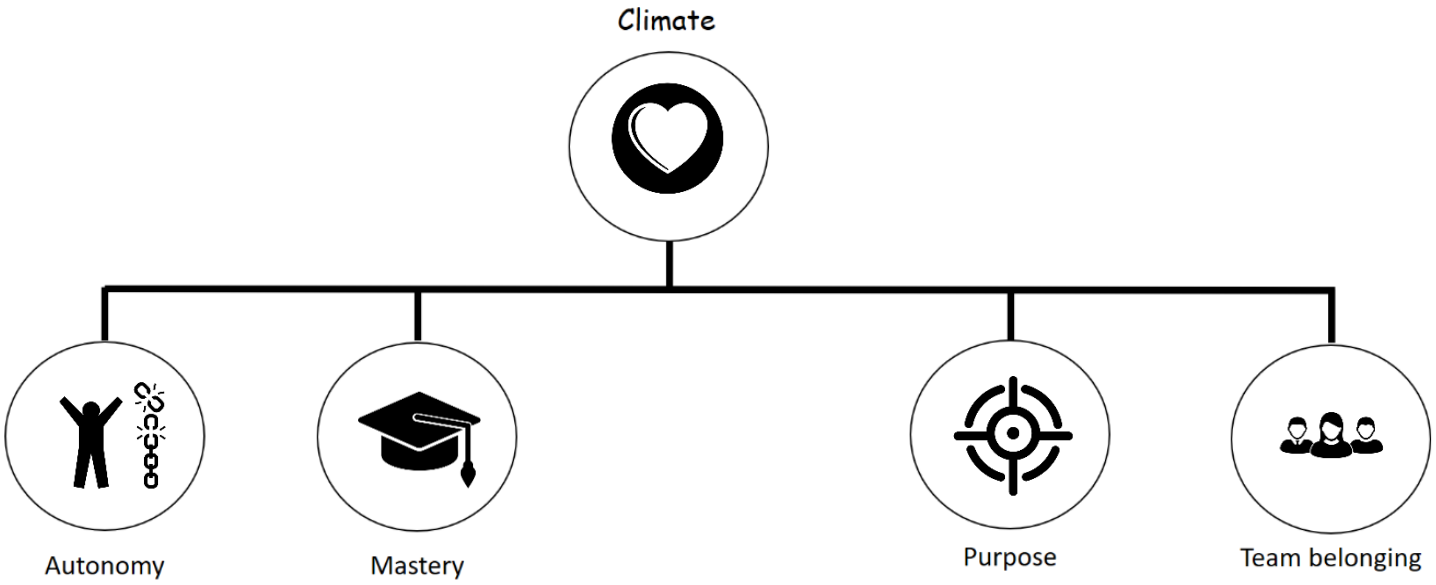
Impact

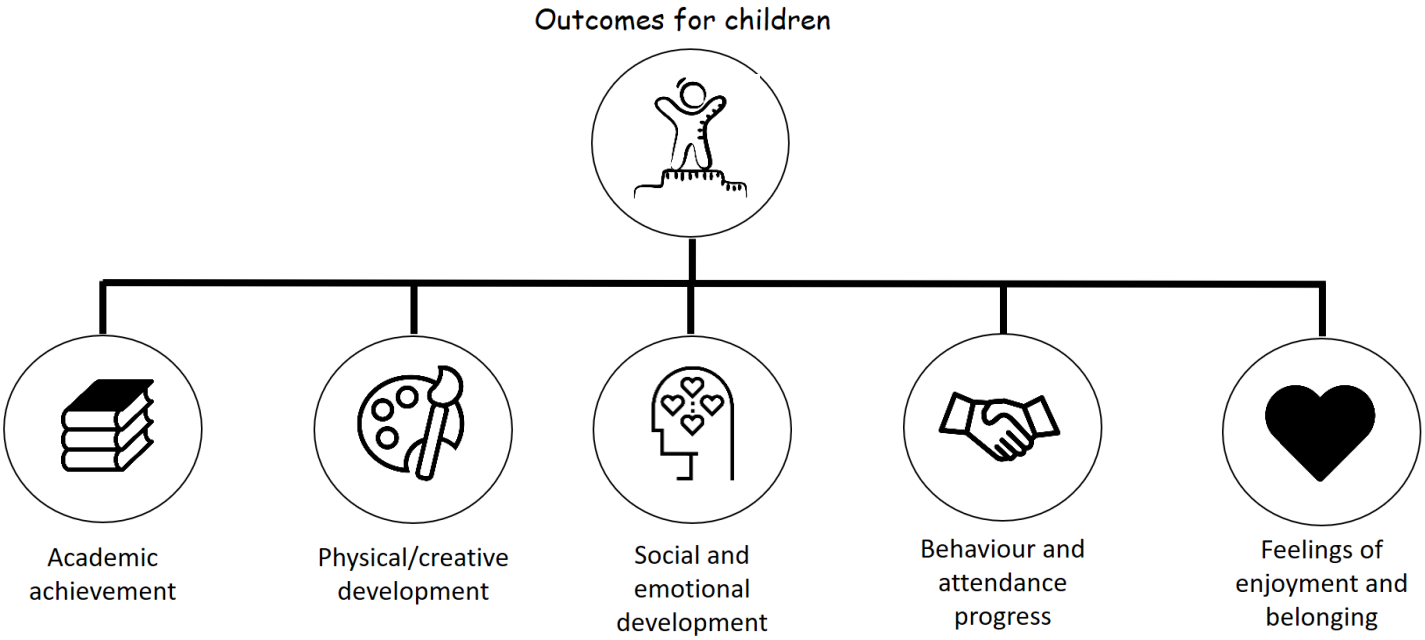

Adults' knowledge
Subject knowledge (including common misconceptions)
Pedagogical knowledge
Expectations of quality of work
Knowledge of students


Adults' behaviour
Pursuit of Knowledge
Building and maintaining relationships
Efficiency in core tasks to free up working memory
Insisting on high standards


Systems and processes
Professional learning
Pedagogical guidance
Core subject strategies
Planning, assessing and giving feedback

Impact


Climate
Autonomy
Mastery
Purpose
Team belonging


Outcomes for children
Academic achievement
Physical/creative development
Social and emotional development
Behaviour and attendance progress
Feelings of enjoyment and belonging