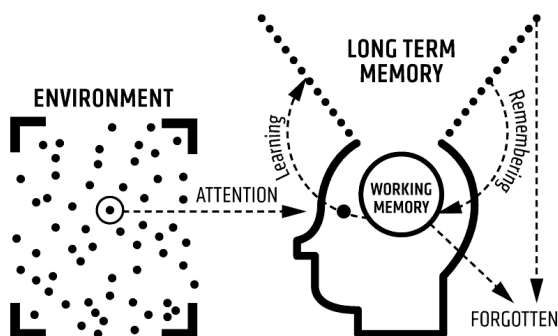


Pedagogy

At the Federation of Fairfield and Colneis we understand that learning takes place when there has been a change in long term memory.

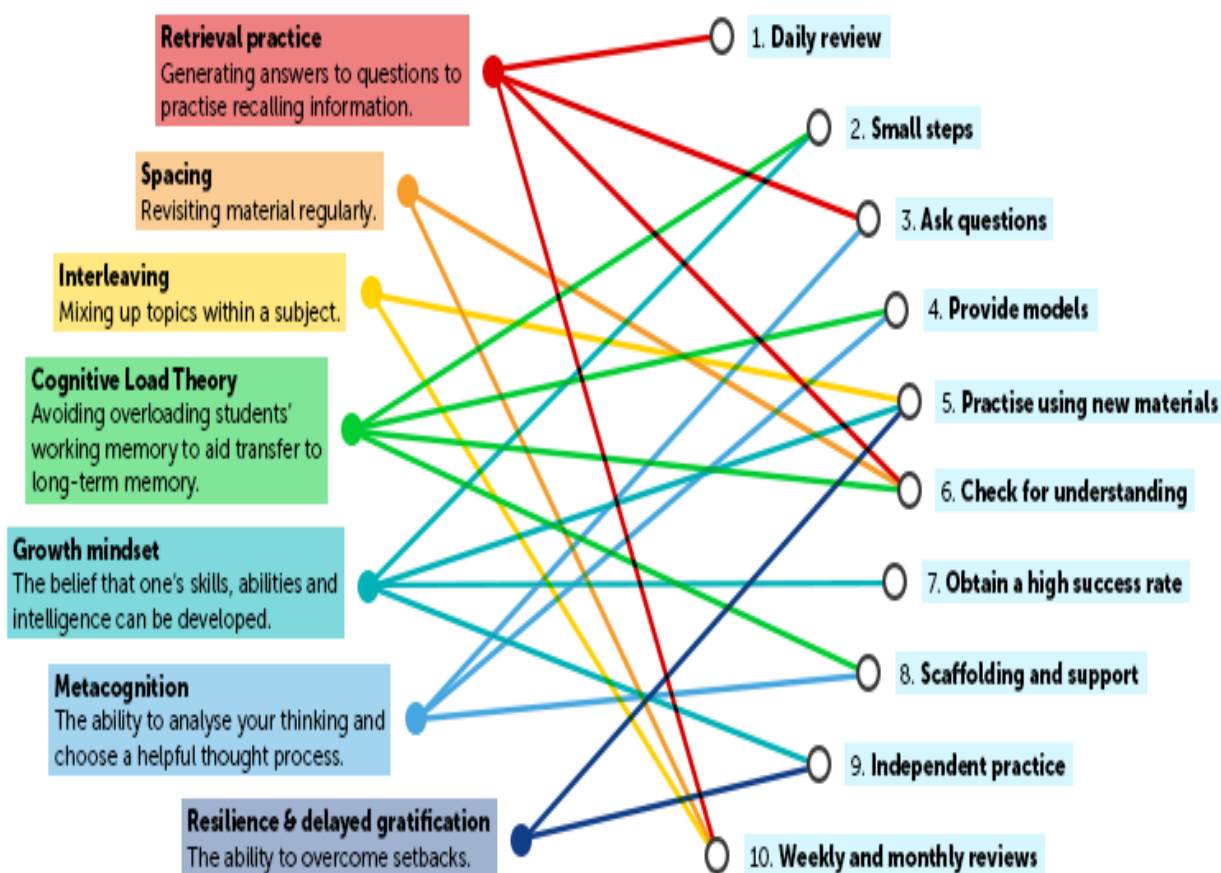
Teachers understand Cognitive Load Theory and the limitations of working memory.



To provide a teaching environment where the desired learning can consistently be assimilated in long term memory, teacher's practice is informed by Rosenshine's Principles of Instruction and an understanding of the cognitive science that underpins them.

COGNITIVE SCIENCE

PRINCIPLES OF INSTRUCTION



01 DAILY REVIEW



Daily review is an important component of instruction. It helps strengthen the connections of the material learned. Automatic recall frees working memory for problem solving and creativity.

02 NEW MATERIAL IN SMALL STEPS



Our working memory is small, only handling a few bits of information at once. Avoid its overload – present new material in small steps and proceed only when first steps are mastered.

03 ASK QUESTIONS



The most successful teachers spend more than half the class time lecturing, demonstrating and asking questions. Questions allow the teacher to determine how well the material is learned.

04 PROVIDE MODELS



Students need cognitive support to help them learn how to solve problems. Modelling, worked examples and teacher thinking out loud help clarify the specific steps involved.

05 GUIDE STUDENT PRACTICE



Students need additional time to rephrase, elaborate and summarise new material in order to store it in their long-term memory. More successful teachers build in more time for this.

06 CHECK STUDENT UNDERSTANDING



Less successful teachers merely ask “Are there any questions?” No questions are taken to mean no problems. False. By contrast, more successful teachers check on all students.

07 OBTAIN HIGH SUCCESS RATE



A success rate of around 80% has been found to be optimal, showing students are learning whilst also being challenged. Better teachers teach in small steps followed by practise.

08 SCAFFOLDS FOR DIFFICULT TASKS



Scaffolds are temporary supports to assist learning. They can include modelling, teacher thinking out loud, cue cards and checklists. Scaffolds are part of cognitive apprenticeship.

09 INDEPENDENT PRACTICE



Independent practice produces ‘overlearning’ – a necessary process for new materials to be recalled automatically. This ensures no overloading of students’ working memory.

10 WEEKLY & MONTHLY REVIEW



The effort involved in recalling recently learned material embeds it in long term memory. The more this happens, the easier it is to connect new material to such prior knowledge.

Expert teachers at our Federation will routinely employ these principles to ensure that the learning environment optimises the likelihood of changes in long term memory.