Teaching and Learning at Copperfield Academy

"High-quality teaching and learning is the most important factor in improving attainment outcomes, particularly for disadvantaged pupils." Education Endowment Foundation (2022)

An introduction to how Copperfield

Academy provides excellent learning opportunities for all our children.

Contents

Action research:

Introduction:

To fulfil our purpose **'to be the centre of excellence in all that we do'** we believe that every child at Copperfield Academy is entitled to, and deserves, high-quality learning experiences that provide appropriate stretch and challenge in every lesson of every day.

This document aims to support teachers to become the most effective practitioners they can be and achieve consistently excellent practice across the school. We achieve this by embedding a **shared approach** to teaching that encompasses **principles** established from evidence-based best practice research, cognitive science, and experience.

By adopting a whole school, **shared approach** to teaching and learning, we aim:

- to ensure consistency of excellent teaching and learning in each classroom,
- establish and implement an evidence-based approach to teaching and learning,
- to be an expert in how pupils learn,
- to learn from each other, through a culture where opportunities for sharing best practices are in place,
- to meet the needs of all children.

We review this handbook regularly to ensure it is up to date with the latest research around effective teaching and learning.

| Updated:	Summary of update:	Page reference:

What is learning?

Learning remains the goal of all successful teaching, therefore, we must understand what learning is and, more importantly, how we know it has happened.

Learning = A change in long-term memory

'If nothing has changed, nothing has been learned' (Kirschner, Sweller & Clark)

Successful learning is incremental, desirably difficult and evidenced by changes to pupils' long-term memory.

Jones, K. (2019). Retrieval Practice: Research and Resources for Every Classroom. Woodbridge: John Catt.
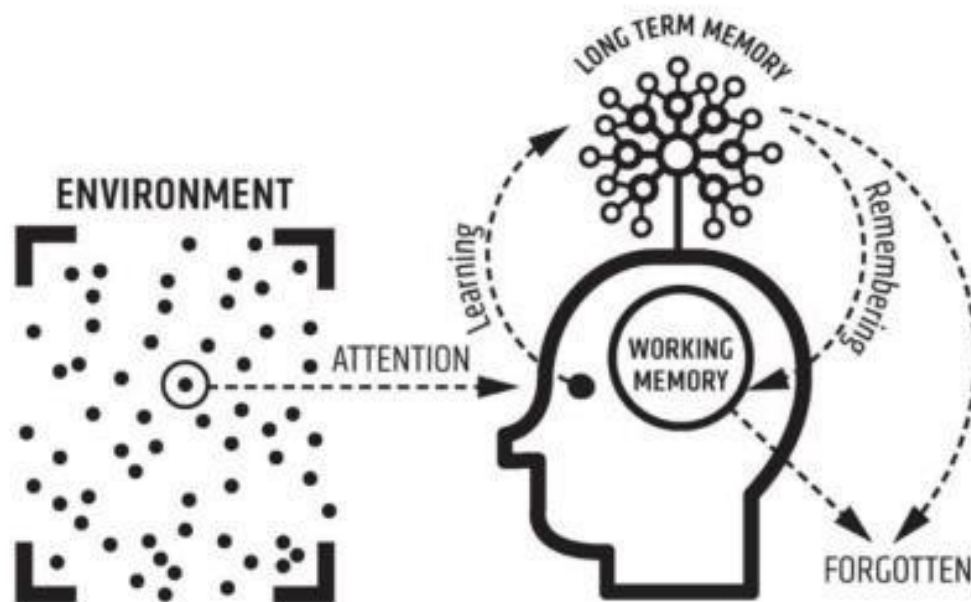
Information from the classroom environment enters the working memory. Working memory has limited capacity so some information is forgotten. The information which is learnt enters the long-term memory.

Information that has entered the long-term memory but is not revisited can be forgotten, so this is a vital part of the learning process.

This principle is at the bedrock of teaching and learning at Copperfield Academy.

What is effective teaching?

Central to our continuous improvement has been a commitment to developing a shared approach to T&L, based on research-informed practice. Barak Rosenshine's Principles of Instruction and Tom Sherrington's division of these into four 'strands' form the foundation of our shared approach to effective teaching and learning.

Rosenshine's principles of instruction provide the basis for the transfer of subject knowledge from teacher to child in lessons.
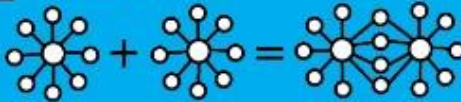
THE PRINCIPLES OF INSTRUCTION

TAKEN FROM THE INTERNATIONAL ACADEMY OF EDUCATION

This poster is from the work of Barak Rosenshine who based these ten principles of instruction and suggested classroom practices on:
- research on how the brain acquires and uses new information
- research on the classroom practices of those teachers whose students show the highest gains
- findings from studies that taught learning strategies to students.

HOW2
teachinghow2s.com

01 DAILY REVIEW

MO   TU   WE   TH   FR

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 successul 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 built in more time for this.

06 CHECK STUDENT UNDERSTANDING

Less successful teachers merely ask "Are there any questions?" No questions are 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 and also being challenged. Better teachers taught in small steps followed by practice.

08 SCAFFOLDS FOR DIFFICULT TASKS

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

09 INDEPENDENT PRACTICE

Independent practice produces 'overlearning' — a necessary process for new material to be recalled automatically. This ensures no overloading of students' working memory.

10 WEEKLY & MONTHLY REVIEW

WEEK 1   WEEK 2   WEEK 3   WEEK 4   WEEK 5   WEEK 6   WEEK 7   WEEK 8

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

Sherrington's explanation of each principle:

1. Daily review

'Begin each lesson with a short review of previous learning: Daily review can strengthen previous learning and can lead to fluent recall'

2. Present new material using small steps

'Present new material in small steps with student practice after each step: Only present small amounts of new material at any time, and then assist students as they practice this material'

3. Ask questions

'Ask a large number of questions and check the responses of all students: Questions help students practice new information and connect new material to their prior learning'

4. Provide models

'Providing students with models and worked examples can help them learn to solve problems faster' **5.**

Guide student practice

'Successful teachers spend more time guiding students' practice of new material'

6. Check for student understanding

'Checking for student understanding at each point can help students learn the material with fewer errors' **7.**

Obtain a high success rate

'It is important for students to achieve a high success rate during classroom instruction'

8. Provide scaffolds for difficult tasks

'The teacher provides students with temporary supports and scaffolds to assist them when they learn difficult tasks'

9. Independent practice

'Require and monitor independent practice: Students need extensive, successful, independent practice in order for skills and knowledge to become automatic'

10. Weekly and monthly review

'Engage students in weekly and monthly review: Students need to be involved in extensive practice in order to develop well-connected and automatic knowledge'

From this, Sherrington reduces the ten principles into four strands. He uses the strands to illustrate how Rosenshine's principles complement and support one another and offers practical advice for their implementation.

Strand 1: Reviewing material (principles 1 and 10)

Strand 2: Questioning (principles 3 and 6)

Strand 3: Sequencing concepts and modelling (principles 2, 4 and 8) **Strand 4:**

Stages of practice (principles 5, 7 and 9)

The Copperfield Teaching Style

To consistently embed this pedagogy into our daily practice we apply a shared approach to teaching.

All lessons in our school are planned on ActivInspire slides and always follow four key phases:

Phase One: 'The 4 Slide Approach'

Here we set the scene, place learning in a wider context, review and retrieve prior learning, review previous lessons, share intended learning outcomes and explicitly teach vocabulary needed to be successful.

Phase Two: Instructional Core

Explanation and Modelling - explaining and introducing new learning in small chunks, modelling what success will look like through 'I do'.

Phase Three: Instructional Core

Time for pupils to complete guided (we do) and independent (you do) practice

Phase Four: Assess

Review learning and plan next steps

The precise interpretation of the four-phase structure will inevitably be different in different situations. Age, ability, timing of the lesson, subject area and the particular focus of the lesson will all have a significant impact. Teachers may well scroll through the phase more than once during the lesson. The phases are not always sequential. Review, for example, is not confined to the end of the lessons.

Phase One: 'The 4 Slide Approach'

Here we set the scene, place learning in a wider context, review and retrieve prior learning, review previous lessons, share intended learning outcomes and explicitly teach vocabulary needed to be successful.

Every lesson at Copperfield starts with 'The 4 Slide Approach':

The 4 slides consist of:

- Lesson objective and Success criteria
- Vocabulary
- Build on
- Hinge question
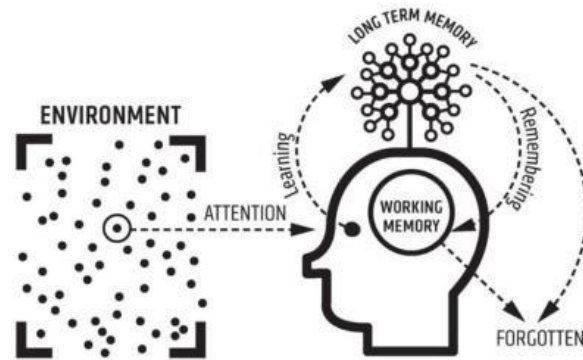
(NB: Other than the hinge question, these slides can be ordered according to the lesson requirements.)

- Lesson objective and Success criteria

High-quality lessons are characterised by clear learning objectives and success criteria, all of which must be understood by the children. While introducing the LO and SC, a clear purpose for the lesson must be made explicitly clear.

- Vocabulary

The deliberate teaching of vocabulary greatly supports children's developing oracy skills. Our classrooms are language-rich, which provides greater opportunities for children to access learning.

"It is no silver-bullet solution to improving all educational outcomes for our children, but vocabulary size is a good proxy for school success, and therefore it proves a good place for us to start." (Closing the Vocabulary Word Gap by Alex Quigley)

- Build on

Rosenshine's evidence shows that lessons should include some recall of previous learning – not just of recently learned information, but also of information learned much earlier. This helps to build and strengthen schema in the child's mind, enabling new information to be connected to prior knowledge, and thus stick more easily for longer.

Therefore, teachers will ask children to discuss what they already know which links to the current Lesson Objective. The teacher may guide and tease this information from the children's long-term memory through effective, open-ended questions and dialogue. This is not a time for closed questioning/assessment.

During this critical segment of the lesson, children have sought out and activated pertinent schema in their long-term memory, identified key knowledge needed to build new learning and understood the context of the lesson in the larger scheme of their learning journey.

- Hinge question

"If we spend time generating high-quality questions we can potentially administer, assess and take remedial action regarding a whole class in a matter of minutes, without generating a pile of marking." Dylan Wiliam

The hinge question allows teachers to assess essential understanding before progressing. The lesson can go one of two ways depending on understanding, which is made clear from responses to the hinge question.

Instructional Core

We then apply the gradual release of responsibility model (I do>we do>you do) through the **Instructional Core**:

- (I do) Demonstration of new material, in small steps, through explanation and modelling
- (We do) Guided practice with prompts and scaffolds
- (You do) Independent practice with monitoring and feedback from the teacher

Rosenshine found that successful teachers spent longer guiding children's practice through explanations and modelling than less effective teachers. After children have been exposed to high-quality explanations and models, they can begin to be involved in the knowledge recall or procedural process. This is where children begin to take ownership over parts of the task with the support of the teacher as a scaffold or guide.

Phase Two: Instructional Core: I do

Explanation and Modelling - explaining and introducing new learning in small chunks, modelling what success will look like through 'I do'.

This is the teaching phase. It is punctuated through clear explanations and **modelling** of whatever it is that we want the children to be able to do. Opportunities for modelling key learning points are carefully considered in every lesson. The quality of the input at this stage will have a large bearing on the extent to which the children understand the information that they are given.

Explanation

Teacher instruction should be planned with awareness of demands on children's cognitive load, by presenting new material in small steps.

1. Limit the amount of material children receive at one time.

2. Give clear and simple instructions and explanations.

3. Use more time to provide explanations and many examples.

4. Re-teach as necessary.

Modelling (I do)

To learn how to do something, children need to watch and listen to experts guide them through the process, step by step, before they attempt themselves. E.g.:

1. Demonstrate a worked model in front of children.

2. Think aloud to show the thought process.

3. Show it is ok to make a mistake and empathy, e.g. I found this bit challenging too.   4. Provide model answers

Phase Three: Instructional Core: We do, you do

Guided practice with scaffolding (we do)

More effective teaching occurs when you give more time for guided practice, this is directly linked to children spending more time asking questions, more time checking for understanding and using more worked examples. The idea is that if learners are going to be successful in becoming confident and independent within a certain knowledge area, the teacher needs to make sure they are forming strong schema early on. All children need to practice; however, practice must be guided so that the chance of forming misconceptions is minimised. If children have any misconceptions, then these misconceptions are unpicked and retaught where appropriate.

Guided practice is where short answer questions or simple tasks are completed - the teacher and learners are engaged interactively, with plenty of modelling, scaffolds, corrective or affirming feedback and aspects of reteaching take place where gaps remain.

Independent practice (you do)

Within lessons and over a series of lessons within a teaching unit, children are given time to independently practice using new knowledge and skills. Rosenshine (2012) recognises independent practice as a vital part of learning because it provides pupils with the much-required opportunity to complete a procedure or activity over and over. He identifies 'overlearning' as necessary for pupils to become fluent or automatic in a skill. When children become automatic in a process or skill, they free up their working memory which can be used to apply their learning to new contexts. This is when pupils can consolidate their learning.

Planning the right practice activity is important to the success of a lesson. During independent practice, children should work on the same material covered during guided practice to give them an opportunity to consolidate their learning.

- Providing further guides and scaffolds
- Using collaborative practice to best effect
- Gradually removing scaffolding

The more children practise the material, the stronger the retrieval strength becomes. Without enough independent practice, children will find it more challenging to recall information or procedures at a later stage.

This is the component that will look the most different across curriculum areas, but all practice should be careful and deliberate – allowing children to deepen their understanding of the lesson objective.

Phase Four: Assess

Review learning and plan next steps

The emphasis in this phase is reviewing what has been learned and reflecting on how and why it has been learned. Review is key to memory, and we understand that it is important not just to confine it to the end of the lesson. Good teaching requires teachers to constantly refer to the LO and SC throughout the lesson to reinforce learning and ensure children are being successful. When misconceptions are identified they should be addressed promptly; either through a mini-plenary, 1:1 live marking or as a planned lesson focus after deep marking.

Adaptive teaching for all

All our work should aim to provide appropriate stretch and challenge for all learners, regardless of their starting point. Teachers at Copperfield Academy plan lessons with ambitious content and then adapt them to meet the needs of all pupils.

Adaptive teaching is harmful to no one, helpful to everyone and vital for pupils who are disadvantaged and for those with SEND.

Copperfield Academy has embedded the 'Five-a-day' approach to adaptive teaching, set out by the Education Endowment Foundation, into our shared practice.

1. Explicit Instruction

Explicit Instruction is met throughout our shared approach.
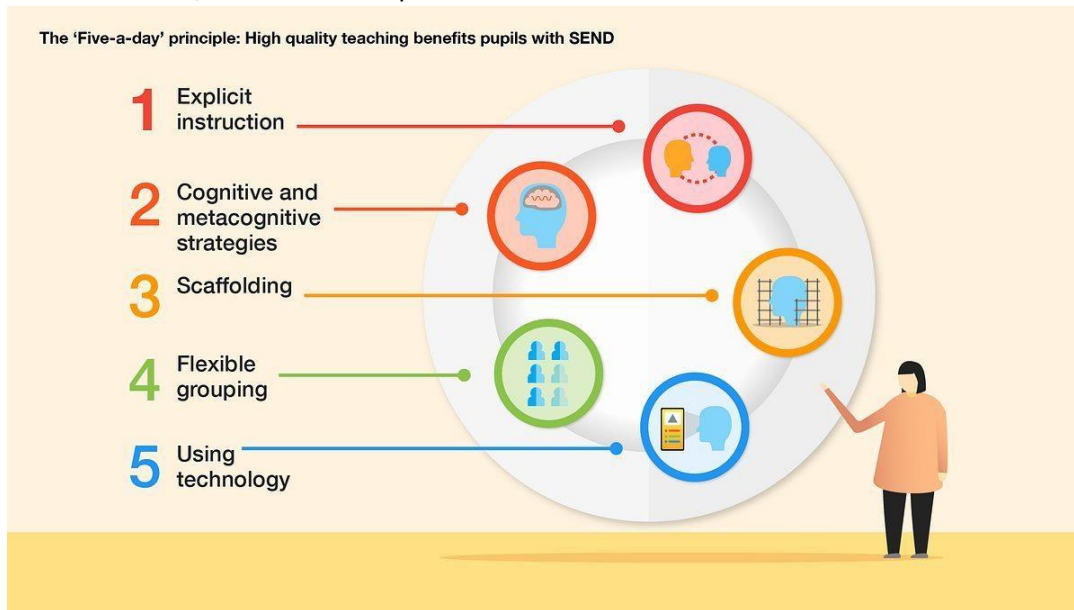
- During the planning stage – introducing material in small chunks
- Phase 1 - ensuring children understand the purpose of the lesson and how it links to previous learning
- Phase 2 and 3 - the instructional core – modelling, through think-aloud, using clear and succinct language, how to be successful, before guiding children in a task they will later undertake independently.

2. Cognitive and Metacognitive Strategies

Cognitive and metacognitive strategies are built in throughout our day.

Teachers actively ensure that cognitive overload is avoided throughout each stage of their lesson to maximise the opportunity for successful learning. This begins in the planning stage when ensuring that 'new material is presented in small steps and **distractions** are removed. Cognition is at the heart of our 4 Slide Approach, during Phase 1.

- Lesson objective and Success criteria -children start the lesson with a clear understanding of what they are learning, and understand the vocabulary within the LO and SC.
- Vocabulary – pre-teaching vocabulary develops children's language as previously discussed, but it also supports the prevention of cognitive overload as children will not need to clarify when the word is encountered later in the lesson - they already know it.
- Build on – effective questioning and dialogue helps to engage schema linked to today's LO. Children recall previous learning, make connections across subjects, refresh knowledge/skills that will help them be successful today and develop an understanding of how today's learning will further previous learning – develop schema.
- Hinge question – while assessing children through the hinge question, teachers should support identified children to recall previous learning to ensure the foundation of today's learning is secure.

Cognition continues to be a focus during phases 2, 3 and 4, but metacognition becomes a greater element.

Throughout the gradual release of the instructional core, teachers should be modelling their metacognition through thinking aloud and monitoring their progress towards achieving the SC and therefore the LO. As progress is made through the gradual release model, teachers should support the development of children's metacognition through monitoring questions and scaffolds such as checklists.

3. Scaffolding

Scaffolding

…provide scaffolds (visual, verbal and written) that allow all pupils to access the learning?

…use scaffolding in a way that reduces pupils' reliance on adult support? Do I reduce my scaffolding for pupils over time?

…provide scaffolds in a non-stigmatising way (*for instance, providing them at the whole-class level, allowing students to opt-in to a scaffold for a particular task*)?

The EEF defines scaffolding as 'a metaphor for temporary support that is removed when it is no longer required, providing 'enough support so that pupils can complete tasks that they could not yet do independently'.

Scaffolding can be a term used to describe:

- A visual scaffold, such as a task planner.
- A verbal scaffold, such as a teacher correcting a misconception at a pupil's desk. - A written scaffold,
  such as a writing frame.

All lessons should be taking children from the known to the unknown – from their current knowledge base to something new. This ensures children are always working in their Zone of Proximal Development (ZPD). Vygotsky defines the ZPD as:

"The distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance, or in collaboration with more capable peers"

Zone of proximal development (Learner can do with guidance)

Learner can do unaided

Learner cannot do

This needs to be done with great thought:

What do they already know?

What is an appropriate amount of newness in the session time I have?

What would be too far?
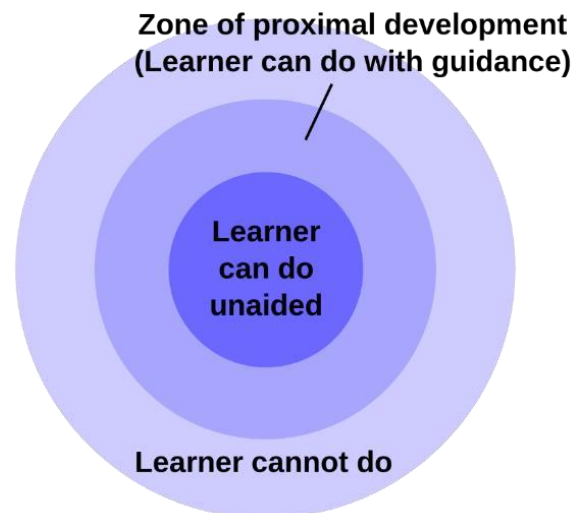
Once the **small step** to be achieved is decided:

What is the minimum amount of scaffolding needed?

We ultimately want children to be independent – the more scaffolds that are put in place, the more that need to be removed.

There is no 'one-size-fits-all' strategy and therefore it is a priority that all children are known by their teacher.

Desirably difficulty should remain for all children.

4. Flexible Grouping
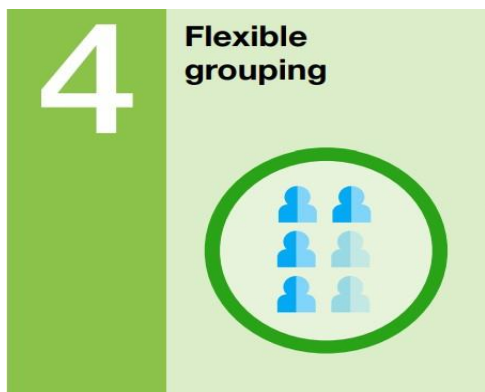
...group pupils in a way that reduces stigma, ensuring such groups are based on the relative difficulty of curriculum content, rather than being fixed and inflexible?

...promote peer tutoring, placing my pupils in groups in which they learn from one another?

At Copperfield Academy, we allocate pupils to groups flexibly based on the individual needs that they currently share with other pupils – not just the child's academic ability. A child's needs can vary by subject, interests, prior knowledge, external factors and more. Therefore, constant assessment and group flexibility are required.

Groups can be formed for an explicit purpose and disbanded when that purpose is met. It may be that a small group of pupils share the need for more explicit instruction to independently carry out a skill, remember a fact, understand a concept, apply a targeted scaffold or deploy technology. Groups may change throughout a session, especially after the **hinge question** when a focus group is identified.

No groups are fixed based on summative assessment.

5. Using Technology
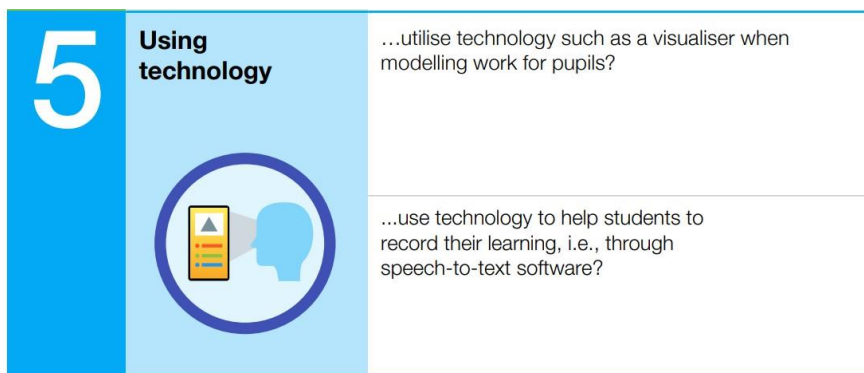
...utilise technology such as a visualiser when modelling work for pupils?

...use technology to help students to record their learning, i.e., through speech-to-text software?

'Technology can help teachers model in new ways and provide opportunities to highlight how experts think as well as what they do but it may be most effective when used as a supplement rather than a substitute. Furthermore, using technology to support retrieval practice and self-quizzing can increase retention of key knowledge.' *EEF; Using digital technology to improve learning*

At Copperfield Academy, we are keenly focused on enabling children to learn and see it as our duty to adapt our teaching and environments if needed, to support this. We promote the use of technology, in all of its guises, to succeed at this.

Visualisers, word processors, reading tools, online dictionaries, symbol-supported software and a wide range of apps and online games are in regular use – with more being introduced regularly.

Enhanced Provision (for when Adaptive Teaching is not enough)

Targeted academic support
- Personalised and structured interventions
- Small group interventions
- One-to-one support

Wider intervention
- Attendance
- Seedlings Enhanced Provision
- PIPs SRP
- Nurture Enhanced Provision
- Play Therapy
- Thrive

Adaptive Teaching
- Adaptive Teaching
- Professional Development
- Scaffolding
- Use of technology
- Flexible groupings
- Cognitive and metacognitive strategies
- Explicit Instruction

Enhanced learning provision is a term that is used to describe specialist provision in a mainstream school for pupils with a significant level of needs. The curriculum is not narrowed and instead delivered on an individual and bespoke basis.

At Copperfield Academy we have three types of Enhanced Provision that support our adaptive teaching. These are.

- PIPs (A Specialist Resource Provision – SRP for identified children with an EHCP and diagnosis of ASD. Places are granted via the Local Authority)
- Seedlings (An enhanced learning provision for children with an EHCP and identified complex needs with communication and Interaction)
- Nurture Group (An enhanced learning provision for children with identified Social, Emotional and Mental Health needs - SEMH). This provision is based on the THRIVE Model. Play therapy also works additionally alongside this provision.

Induction/CPD

"Be the best you can until you know better, and when you know better, do better and be better." Maya Angelou

All new staff, from ITT to Senior Leader undertake a T&L induction programme that includes reading core documents, attending development sessions and undertaking learning walks with SLT to become familiar with our shared approaches and their application at Copperfield Academy.

All new staff commence their T&L induction by reading Rosenshine's 2012 paper which is revisited at regular intervals through the whole school CPD.

All children benefit from teachers, leaders and support staff who engage in a process of continuous professional learning

At Copperfield Academy, teachers always consider the learning points raised and considered in CPD activities. They actively participate in developmental CPD, displaying humility, openness and the highest sense of professionalism by recognising that we can all improve in our practice.

CPD is always evidence-informed, drawing on the latest educational research to ensure that the strategies and approaches promoted have the most significant impact on attainment.

To support staff in achieving these high standards we provide:

✓ An induction programme for all new staff during their first year at the school

✓ Bespoke induction enhancement appropriate to experience and responsibilities

✓ A personalised coaching programme available to all staff as part of the structured CPD programme and individually assigned as needed

✓ High-quality INSET with a research-informed approach

✓ On-going CPD opportunities throughout the year to explore a variety of educational research and relate this to the context of your classroom

✓ CPD opportunities to work with other schools across the Reach2 Academy Trust

✓ Further CPD opportunities through the extensive Reach2 Learning and Development offer including formally accredited qualifications

✓ Sharing of great teaching and learning – including an open-door policy

✓ Learning walks with developmental feedback

✓ Individual Performance and Development reviews that:

a) Discuss, explore and put in place mechanisms to support and improve employee performance

b) Inform the Continuous Professional Development (CPD) of all employees

c) Enable a meaningful conversation about career aspirations and support

d) Link individual objectives and performance with the development of the school.

We therefore expect all teachers to:

✓ Use the guidance in the Teaching and Learning Handbook, to consistently plan and deliver high-quality learning experiences

✓ Follow the guidance in all other policies

✓ Plan lessons and sequences of lessons that challenge and extend all learners, making use of identified schemes of work and other relevant guidance

✓ Prioritise and take responsibility for their professional development, support and training

✓ Share best practices with colleagues and contribute to school improvement

Access to coaching

At Copperfield Academy, the coaching programme supports our aspiration to achieve consistently excellent teaching and learning across the school. Coaching supports teachers to raise the level of challenge and achievement in their classrooms so that all children can make significant and excellent progress.

At Copperfield coaching is available to all teaching staff as part of their professional development. This underpins our commitment to our staff and their development, as well as placing learning at our core.

Coaching is designed to bring about change and improvement in the medium to long term. It is about learning, reflection and growth, and about improving performance over time. The effective use of questioning is paramount to this process. Coaching involves someone working with an individual or small group to improve their performance.

At Copperfield, coaching is seen as helping people to help themselves through a series of inputs, which encourages them to reflect on their practice to generate an improvement in the quality of teaching and learning.

Coaching is not about making judgements. As such, the coaching system remains entirely confidential and separate from the performance management system.

There are three types of coaching at Copperfield Academy:

1. Peer coaching: This supports the development of new classroom strategies and/or action research.

2. Leadership Coaching: This is provided by development programmes such as NPQs or that request coaching. This may be provided by trained coaches internally or from external coaches.

3. Intervention Support 1:1: Teachers in need of specific coaching will be identified through the school's performance processes. A more effective teacher will be asked to coach a teacher seeking specific development.

Responsive Teaching/Assessment for Learning

When summarising his principle, "check for pupil understanding", Rosenshine stated "The more effective teachers frequently checked to see if all the pupils were learning the new material. These checks provided some of the processing needed to move new learning into long-term memory [and] to let teachers know if pupils were developing misconceptions".

Although we apply a shared approach to teaching and learning at Copperfield, we expect all teachers and support staff to be responsive to children's needs.

Imagine learning to drive. Driving down the road, approaching a roundabout a little too quickly and you don't know when to brake. The driving instructor does not tell you to put the brakes on quickly enough. What are the potential outcomes?

The quicker feedback is provided, in any situation where an error occurs, the quicker corrections can be made, and the less damage is incurred. This is the same during the learning process.

Addressing misconceptions at the earliest opportunity is important to reduce any potential gaps in knowledge. If learning is not yet secure, the lesson should be adapted or retaught differently.

All teachers should confidently and accurately identify adequate opportunities to check the understanding of all children throughout their lessons (Phases 2 & 3). Teaching techniques should be deployed to gather a secure overview about whether the learning objective has been learnt – whether there has been a change in long-term memory.

Teachers always consider normalising errors to encourage a high-challenge, low-threat environment to ensure children experience high expectations without fear of failure.

Effective responsive teaching ensures that opportunities for misconceptions to occur are actively reduced and addressed instantaneously. Some methods are:

<u>Mini Whiteboards</u>

As a way of checking the whole class level of understanding, mini whiteboards are used at every appropriate opportunity. They support teachers to identify and address misconceptions and use questions to then recheck understanding. <u>Targeted questioning</u>

Teachers pose well-planned and targeted questions to challenge understanding. Adequate thinking time is given to allow all children to consider the question. A child is then carefully selected. Instant feedback is then given. **No-opt-out** questioning is used if required. Teachers then, as appropriate, develop this answer using **ABC** or pose and bounce the same or adapted question to another in the classroom.

The secure, confident answers of the most able child can give the impression that the whole class has understood the lesson content. Teachers should use **cold calling** to strategically select a variety of pupils to increase the validity and accuracy of understanding.

<u>Check for Understanding in Practice</u>

It is important that teachers ask direct questions such as "What have you understood?", rather than rhetorical questions such as "Have you understood?". Articulation supports pupils to demonstrate knowledge, rather than providing a superficial 'yes' or 'no' response. **Copperfield places the greatest significance on recall and articulation when it comes to measuring the depth of children's understanding of the curriculum.**

<u>Marking and feedback</u>

Effective marking should be meaningful, manageable and motivating for the recipient whilst simultaneously being manageable and sustainable for the teacher.

Questioning

Effective teachers ask many questions skilfully, as questioning is our main tool to probe, check and extend understanding.

Teachers should ask lots of questions, to lots of children, and then use what they learn from this process to adapt and reshape teaching within and between lessons.

At Copperfield, we apply a 'no hands up policy'. Many questions should be asked through cold calling, with targeted questioning used to support and challenge.
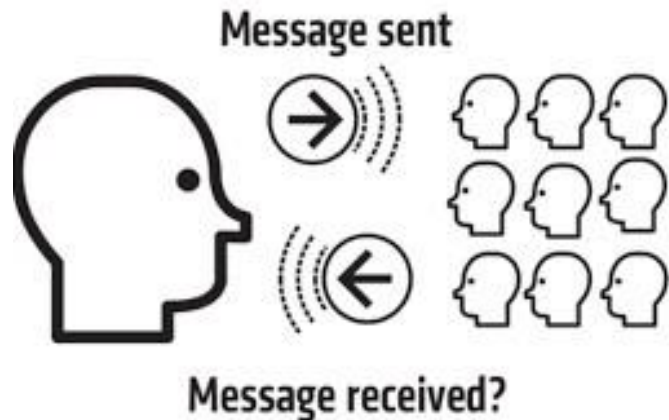
Examples of questioning strategies applied:

Cold calling: No hands up! Children should understand that with cold calling they could potentially be asked a question during the lesson. This helps to keep children engaged and prepared.

The teacher asks a question and instead of children volunteering to answer the question the teacher selects who will answer. Cold calling needs to be kept 'warm' by ensuring children understand the rationale of no hands up – it's not about 'catching children out' or making them feel uncomfortable. It enables everyone to have input and for the teacher to assess everyone's understanding.

To ensure continued engagement, teachers should 'ask again' – ask the same child a subsequent question.

To keep cold calling 'warm' try:

Cold calling techniques	
Pre call	This is when you tell one or more students that you will ask them to respond after you've given an explanation, read a passage or watched a video. *Ok, John and Sabrina, after the video, I'd like you to summarise the key points for us.* This gives them that extra bit of notice to prepare. Other students know they too could be cold called afterwards but John and Sabrina get some prep time.
Batched cold call	When you tee up a number of students to answer in one go. *Right, now I've explained my examples, I'd love to hear your versions. I'll start with Michael, then Daisy, then Samuel.* You then ask them one by one. It gives Michael and especially Daisy and Samuel a heads up. They can get ready. Any sense of 'gotcha' is removed entirely.
Rehearse and affirm	This is where, first, you have given all students an opportunity to share their answers non-verbally through a means you can see such as whiteboards (Show me!); You select answers that are correct or interesting and then cold call the students to ask them to expand. *Robyn, what a great answer. Could you explain how you came to that conclusion? Jason, well done, B is the correct answer. How did you know that?* This technique has the effect of giving Robyn and Jason confidence in their understanding before they give their answer publicly. They already know they are right. It's a technique that is great for the less confident students; you build them up by asking them to explain their good ideas or correct answers you've already seen – rather than them feeling it's a risk offering answers at the point when they are still unsure.

No opt-out: If a child gets an answer completely or partially wrong or they say they don't know, teachers will use one of the following strategies to allow them to gain access to the answer:

1. Use their book to find the answer from prior learning

2. Use a resource, such as a knowledge organiser

3. Ask another child to provide the answer

4. The teacher provides the answer

Teachers then go back to the original child at least once during the same lesson, giving them the chance to say the right answer.

'This gives children the opportunity to practice; but if done routinely, it also means that children soon learn there is no value in offering 'I don't know' as a defence in the hope of being left alone!'

Say it again better: When children offer short, half-formed or partially incorrect answers, teachers initially use praise and then use questioning to elicit a more extended response using key vocabulary (sounding like a subject specialist).

Think, pair, share: Teachers pose a question and then give children time to think, admit they are unsure, and if necessary, practice, improve and rehearse their answer – with a partner - before sharing.

This method supports the whole class practice and for the teacher to then cold call to receive an answer which can then be developed with further **probing** questions or via **ABC**.

ABC:
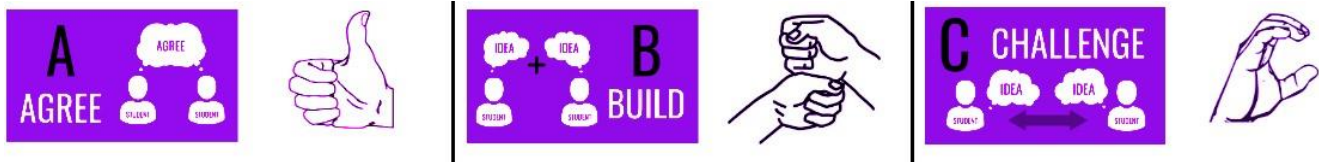
ABC is the perfect follow-up to a cold call question and is the proffered approach at Copperfield. It encourages children to agree with another's view, build upon it with their ideas or challenge an opinion constructively.

This method allows depth of answer to be developed and supports children's understanding that there often isn't only one correct answer.

By applying hand signals to identify if a child would like to agree, build on or challenge, a teacher can direct the discussion.

Whole-class response: This strategy is used to glean the success of the relevant teaching and learning exchanges for everyone in the whole class. Mini whiteboards are a powerful tool here as they are quick and accessible in every classroom. They allow the practice of sentences, calculations, diagrams, multiple-choice questions and many more. Multiple choice questions can be designed to have an 'A, B, C, D' answer or ideally; '1, 2, 3, 4' so children can simply show fingers to represent their chosen answer.

Whole-class response questions give less secure children confidence to practice 'under the cover of the class's collective voice'.

This strategy allows teachers to assess the whole class, it is particularly useful for **hinge questions**.

Probing: Probing questions eradicate shallow responses and explore a child's schema through a series of responsive questions. It therefore turns a potentially binary answer into a form of **guided practice**. The probing method works by asking the same child a series of three or four questions before moving on; probing for understanding, adding extra challenge, and providing scaffolding to engineer success.

Tom Sherrington suggests this as what a teacher might say in a dialogue with a child:

- That's interesting, what makes you say that?
- That's true, but why do you think that is?
- Is there a different way to say the same thing?
- Can you give an example of where that happens?
- Can you explain how you worked that out?
- So, what happens if we make it bigger or smaller? •   Why? Are you sure? Is there another explanation?
- Which of those things makes the biggest impact?
- What is the theme that links all those ideas together?
- What is the evidence that supports that suggestion?
- Does everyone agree with that?

Hinge questions

"If we spend time generating high-quality questions we can potentially administer, assess and take remedial action regarding a whole class in a matter of minutes, without generating a pile of marking." Dylan Wiliam

The hinge question allows teachers, at any point in a lesson, to assess essential understanding before progressing. The lesson can go one of two ways depending on the child's understanding, which is made clear from responses to the hinge question.

A good hinge question meets the following criteria:

➢ it doesn't take too long to ask (around 30 seconds)

➢ it doesn't take too long for children to respond (around a minute)

➢ all children in the class respond at the same time

➢ it doesn't take too long for the teacher to scan and interpret the responses (no more than 30 seconds)

➢ children who get the answer right get it right for the right reason.

Hinge questions are usually **whole-class response** questions that can take many different formats. It can be on a mini whiteboard board where children write their answers and hold them up for the teacher to see (e.g. 'Give me a fraction between one-sixth and one-seventh'), or it can be in multiple-choice format. Multiplechoice questions with a single correct answer need to be designed very carefully because there is a significant probability that at least some children have reached the correct answer by guessing. However, when a multiple-choice question has multiple correct answers, then the probability of reaching a correct answer by guesswork is much less.

Hinge questions are embedded in our shared 4 slide approach; however, they can also be used at other key points in a lesson to assess whole class or focus group understanding. As a pivotal point in a lesson, teachers will have to be responsive. If children can demonstrate a secure understanding of the learning, they should be tasked to the practice stage of the lesson through **'You go'** independent tasks. This is a form of **flexible grouping** as it allows the teacher to focus **guided practice** and **explicit instruction** on the children who need it most.

Vocabulary teaching

Words are essentially like building blocks, used to create anything from the smallest of sheds to the grandest of mansions. The more blocks available to you, and the more secure they are, the richer your vision of the world is, the broader your imagination and the greater your ability to express yourself.

Consciously planning for and teaching subject-specific vocabulary ensures children can access, understand and communicate the subjects they study. Teachers receive CPD on research-based strategies for the teaching of vocabulary which ensures they can:

• Provide explicit vocabulary instruction to help children access and use academic language

• Prioritise teaching Tier 2 and 3 vocabulary which children are unlikely to encounter in everyday speech

• Consider which words to teach as part of curriculum planning

There is overwhelming educational research that shows a strong vocabulary in childhood is linked to future success and happiness. In his book 'Closing the Vocabulary Gap', Alex Quigley quotes a statistic that for a text to be understood by the reader, 95% of the words in the text must be known. Therefore, at Copperfield, we have embedded vocabulary teaching into our shared **4 slide approach**.

Alongside essential knowledge, key vocabulary is explicitly identified for each unit of work as well as a year group-specific tier 2 list.

Teachers model, explain and enable the practice of key vocabulary using strategies identified by Beck & McKeown and adapted by the EEF.

Tier 2 (academic vocabulary that appears in multiple subjects) and tier 3 (subject specific vocabulary) vocabulary is labeled to support children's instant recognition of it's use. All tier 2 vocabulary is then displayed, built upon and revisited over the short and long term.

Bespoke Definitions

Introduce words through explanations in everyday connected language, rather than dictionary definitions.

Purposeful Variation

Provide several contexts in which the word can be used purposefully or for alternative meanings.

Immediate Interaction

Build opportunities for pupils to interact with word meanings right away e.g. pair two target words, to support interaction with words in novel contexts: 'can splendour ever be unpleasant to look at?

Deep Processing

Develop activities that require students to process the meanings of words in deep and thoughtful ways e.g. getting pupils to think hard about meanings, by identifying and explaining appropriate word usage.

Active Interest

Provide examples, situations and questions that are interesting and create discussion.

Repetition, Repetition, Repetition

Provide many encounters with target words, including through various contexts and retrieval activities.

Cognitive Load… the theory

Cognitive load is limited; effective processes must be put in place to direct pupils' attention to select the right knowledge, chunk knowledge appropriately to ensure efficient processing in the working memory and store these chunks with prior learning in the long-term memory.

This allows the development of schema: mental maps that organise structures of knowledge for specific concepts.

The simple model of memory contains three main processes:

• Selecting the right information from the environment, which involves the direction of attention • Processing this

   information within working memory, alongside the retrieval of linked prior knowledge

• Storing this information in the long-term memory through the process of encoding.
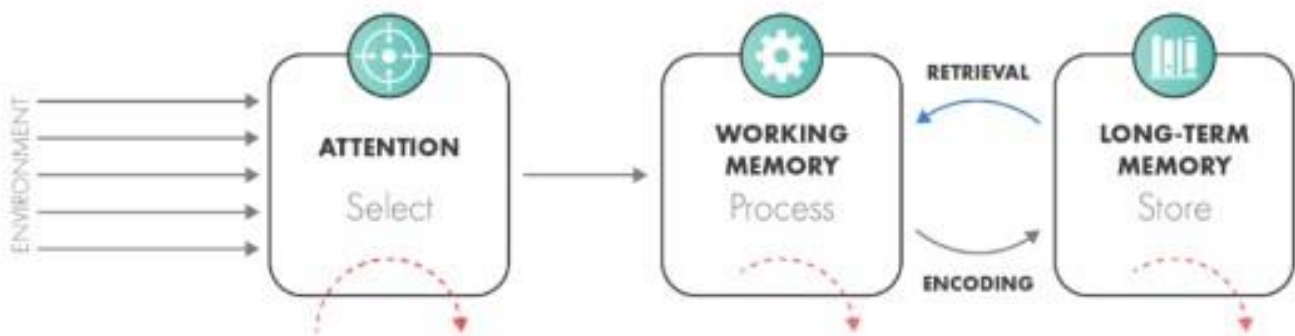

(Evidence Based Education, Science of Learning Programme, 2022)

Working memory is made up of three parts:

• Intrinsic load: the complexity of the new information

• Extraneous load: the level of difficulty contained in how the information is presented, which distracts working
   memory away from processing the desired new information

• Germane load: the deep processing of new information by relating it to prior learning

Effective instructional design ensures that new content is delivered using methods that lead to long-term retention. Therefore, intrinsic load needs to be simplified, extraneous load reduced and germane load maximised.
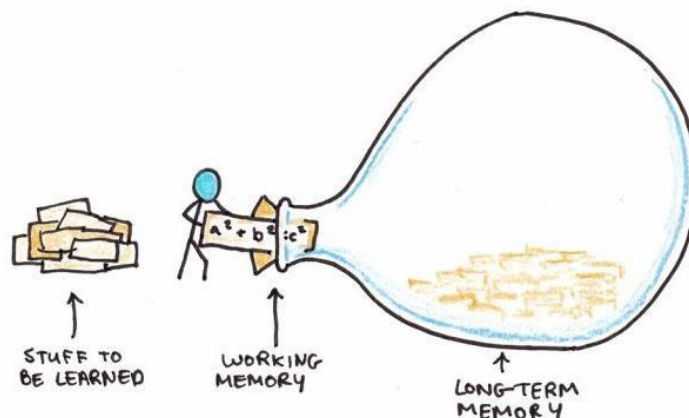
Relating current learning to prior knowledge

"When we experience something new, information enters the brain through processes of sensation and perception, giving rise to certain patterns of neuronal activity. At the same time, already existing patterns are activated as one attempts to decipher the new experience in terms of the things that are already stored in the brain. Potentially, following the learning experience, a new representation of a new concept will be formed, as well as new connections to existing information." E. Furst
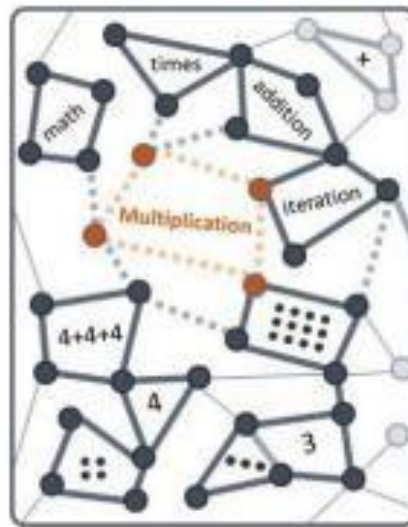
Knowledge builds on knowledge. Activate relevant knowledge before learning and build new ideas with existing ones.
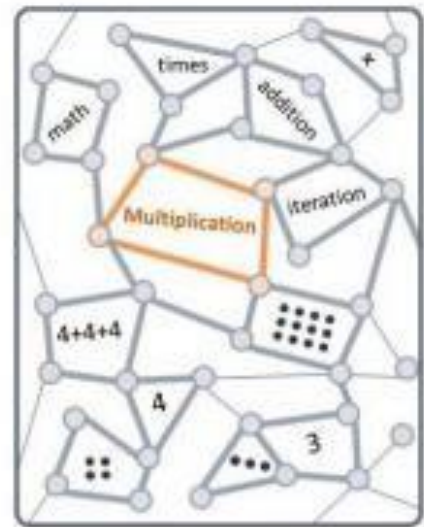

Learning a New Concept
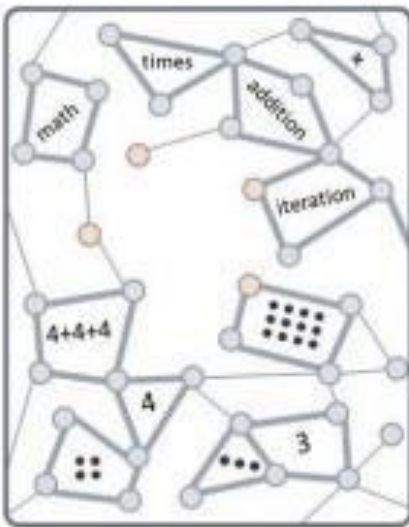
Before learning
The network represents previously learning information

Learning
New pattern (multiplication) is active in assocaition with existing pattern

After Learning
The new concept is consolidated into the network

Ebbinghaus, forgetting and practice

Memory is fragile. Concepts need planting firmly, repeating and retrieving for information to be securely stored in long-term memory.

"… the Forgetting curve tells us that … as soon as you learn something, you begin forgetting it almost immediately." Lemov
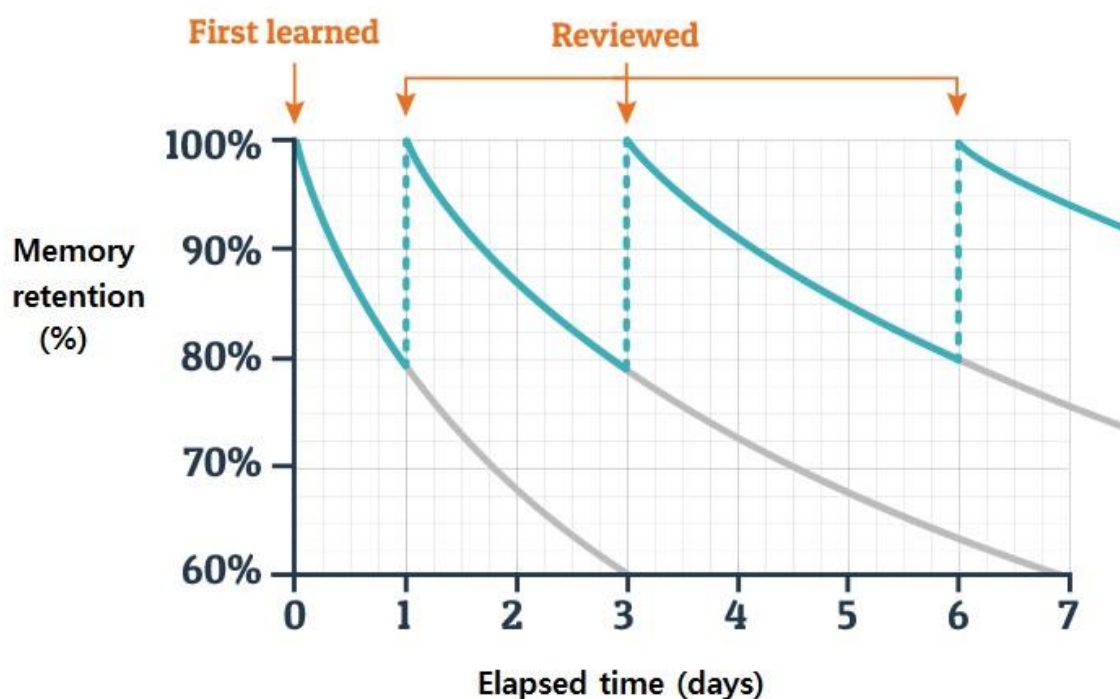
The Ebbinghaus Forgetting Curve is one of the most well-known aspects of cognitive science. Ebbinghaus plotted the actual rate at which he was able to remember a series of nonsense syllables after learning them. The same theory can be applied to the knowledge that we teach pupils within classrooms. As Doug Lemov states:

"… the Forgetting Curve tells us that:

• as soon as you learn something, you begin forgetting it almost immediately.

• the rate of forgetting is often shockingly high; a few hours after learning something, people routinely remember only a small fraction of it.

• each time you (successfully) practise recalling what you know, the rate and amount of forgetting is reduced somewhat.

• retrieving something back into working memory slows the rate of forgetting, but how and when the retrieval happens is important."

Children may have appeared to have mastered content in the moment but practice of this both in the lesson and over time is vital as we aim to securely embed learning in the long-term memory.

Examples of this include focused **independent practice** in lessons, **retrieval** starters, low stakes quizzing, and the interleaving or interweaving of content throughout a curriculum.

Cognitive Load… the practice

Establishing Routines

Habitualised routines save time and free up space in working memory. This allows pupils to focus more on learning, and staff to concentrate more on the multitude of decisions effective teaching requires.

As Mccrea (2020) describes "instructional routines help pupils make the most of learning opportunities… Routines make the process of learning easier, which allows the content to maintain a level of challenge."

He also describes the process of creating routines. They contain a cue, to prompt an initial action, which will lead to a chain of events. An example of an effective learning routine could be the use of mini whiteboards. The question that pupils are set to answer could be asked twice, before being followed by the cue to write "in 3, 2, 1… go". Once pupils have completed the action of writing their answers a secondary cue of "3, 2, 1… show me" could be used to prompt the action of all pupils showing their answers at once which begins the chain of the teacher responding to the emerging needs of the pupils.
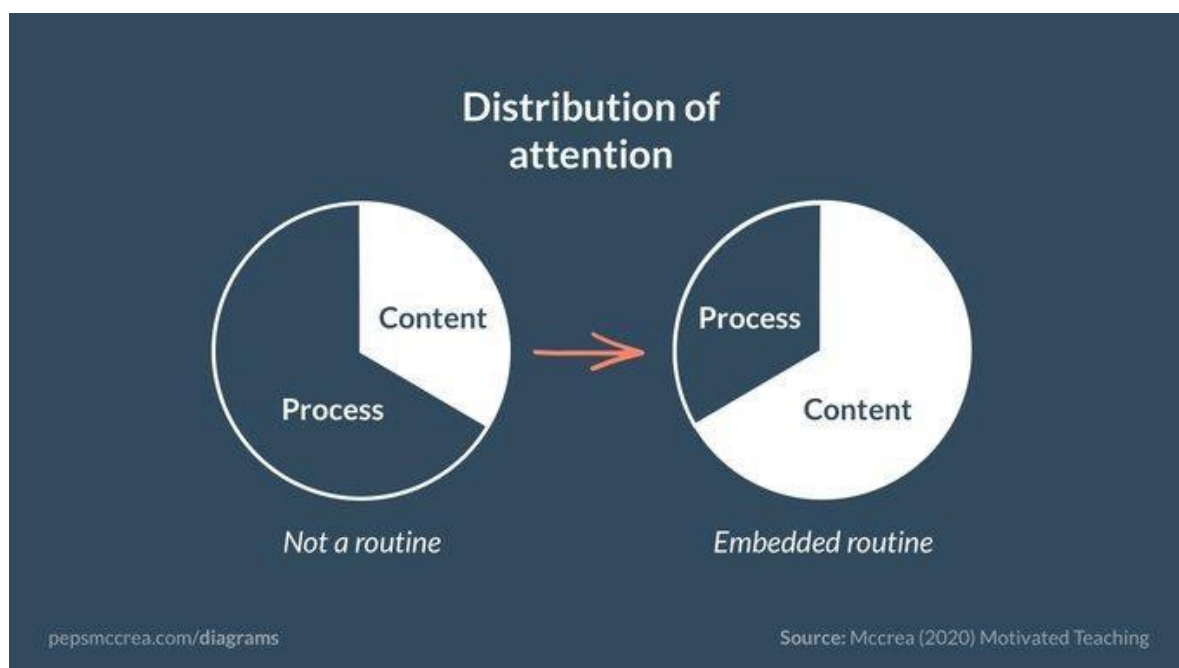
Routines can be both behavioural and/or instructional:

• Behavioural routines (e.g. classroom entry) create more time and space for learning.

• Instructional routines (e.g. cold call) make learning more efficient.

Both types bring a range of benefits:

→ Reduction in **behaviour management** burden

→ Increased motivation, confidence and safety

→ Freeing up of teacher mental capacity to monitor learning and be more **responsive**

'Routines enable students to spend less time thinking about the *how* of their learning, so they can spend more time thinking about the *what* of their learning' Peps Mccara

What we attend to is what we learn, but maintaining attention is difficult. Potential distractions need to be removed from the learning process.

Distractions exist in multiple forms within the classroom. They can be displayed on the walls, resources around the room, or even in the way the teacher presents information. Numerous areas of research support the removal of distractors from the learning process.

Eliminate the redundancy effect

The redundancy effect occurs when information is presented concurrently in multiple forms or is unnecessarily elaborated on. It suggests that redundant material interferes with, rather than facilitates, learning.

Examples of the redundancy effect include having too many words on slides, narrating over your slides rather than giving time for pupils to read it, having too many animations or having music playing while pupils are learning.

The redundancy effect can be reduced by eliminating unnecessary information.

COGNITIVE LOAD EFFECTS TO USE ALL THE TIME

COGNITIVE LOAD EFFECTS IN PRACTICE

1 FOCUS
Focus on what you want students to learn and identify the essential information that they need to do this.

2 CUT AND DECLUTTER
Review the material you plan to present to students and declutter. Then cut out any information which is duplicate or redundant.

3 REDUCE TRANSIENT INFO
Identify any information which is transient and add static representations of the same information.

4 ADD MODALITY
Wherever possible add simplified visual information to complement verbal information and vice versa.

5 SYNCHRONISE AND REDUCE TRANSIENCY
Present all complementary information at the same time. Avoid reading aloud information which is already written down. Keep transient verbal information short enough for students to hold in their working memory.

THE TRANSIENT INFORMATION EFFECT

When it Happens
Occurs when learners have to integrate multiple chunks of sequential information

Why it Happens
Spoken information is transient. It disappears unless it is written down

THE SPLIT ATTENTION EFFECT

When it Happens
Occurs when multiple sources of separated information are essential to learning

Why it Happens
Integrating multiple sources of separated information creates extraneous cognitive load is created.

THE REDUNDANCY EFFECT

When it Happens
Occurs when Learners are presented with irrelevant or several different sources of the same information

Why it Happens
Extraneous load is created when learners are searching for links between irrelevant or duplicated information.

THE MODALITY EFFECT

When to Use
Use for complex concepts when auditory and visual information are complementary

Why it Works
Working memory capacity can be increased by using both visual and auditory processors

Reduce transient information

'The transient information effect occurs when explanatory information disappears before it can be adequately processed and leads to inferior learning than more permanent sources of information.'
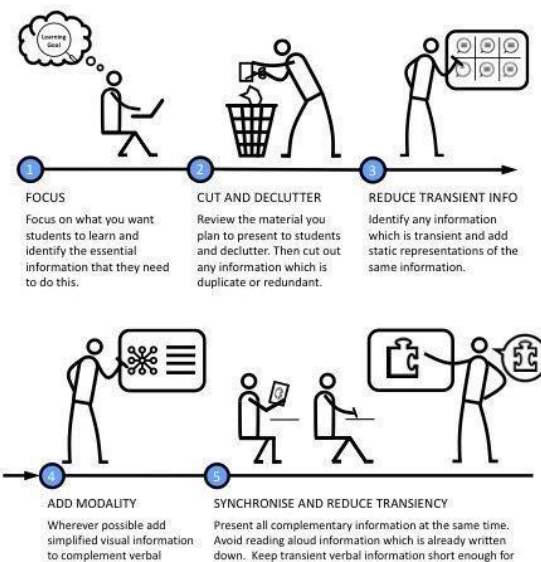
Transient information is impermanent (such as speech). Multi-step tasks should always be presented in a permanent (written) form to reduce cognitive load. Ensure detailed instructions are presented in an accessible, written format.

The transient information effect can be reduced by limiting how often pertinent information for learning tasks disappears, and when unavoidable, ensure that it is presented in small chunks so pupils can hold it in their working memory.
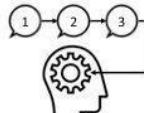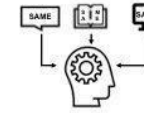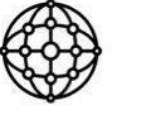
Reduce the split-attention effect

The split-attention effect is where multiple sources of information are competing for attention. Research into this suggests that information presented from multiple sources leads to pupils having to switch between stimuli, which takes time, energy, and cognitive effort.

The split-attention effect can be reduced by combining information.

An example of the split-attention effect is when a labelled diagram has a separate key, when the labels can be present on the diagram itself:
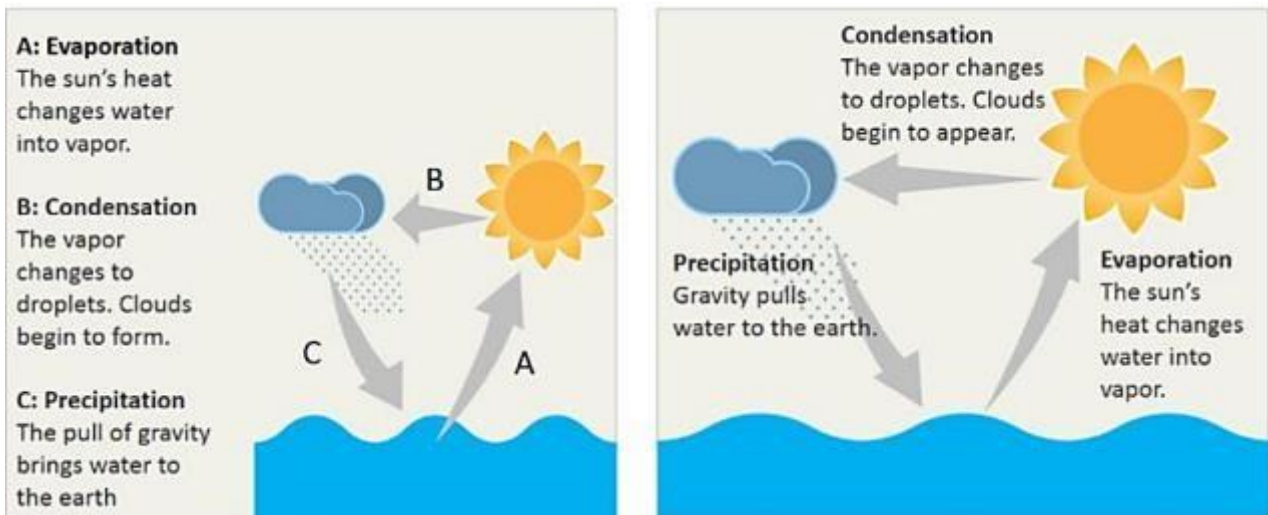

Utilise the modality effect

The modality effect occurs when information is presented via auditory and visual channels in tandem to eliminate visual split-attention which frees up working memory capacity. The spoken word should dominate auditory attention, while the visual displayed should dominate spatial attention. Because of this, it is important that visuals, when first introduced, do not contain a lot of words. Note that reading and being spoken to both take up the same space in the child's auditory loop and so expecting children to do both simultaneously, should be avoided where possible.

The example below has reduced the split attention effect by labelling each part of the symbol. However, when first teaching, the labels should be removed, and each part of the symbol should be spoken through to ensure the modality effect is adhered to. Once this has happened, a labelled diagram can appear in order to overcome the **transient information** effect.
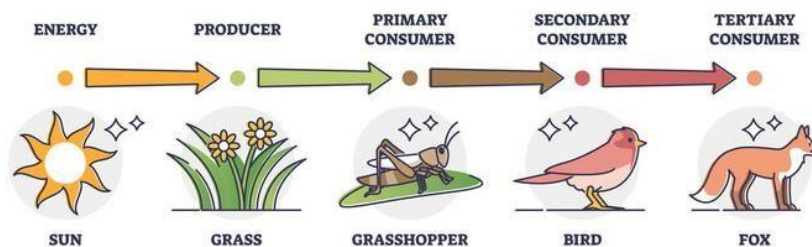
Cognitive Load

Cognitive science has been considered at each step while creating our shared approach to teaching and learning and other essential policies.

- Routines and high expectations for behaviour allow children to focus attention on their learning
- Our learning environments are created to scaffold learning and not distract • Relationships are central and allow children to feel safe and confident • Our 4-slide approach embeds simplified intrinsic load through: o small steps that are laid out at the beginning of the lesson o scaffolding to close the vocabulary gap by having identified potential distractions o review of prior learning to develop schemas and slow the rate of forgetting.

In the classroom, during the learning process, we will:

- Reduce extraneous load via distraction and disruption-free learning

- Simplify intrinsic load whilst maximising germane loads through effective slide design

Retrieval is a key element of our shared approach and is deliberately in place to support germane load. During retrieval, prior learning is reactivated, before new learning is added to it, and encoded: where schema is developed around ideas and concepts. Through our consistent process of retrieving knowledge, children will be able to recall information with fluency.
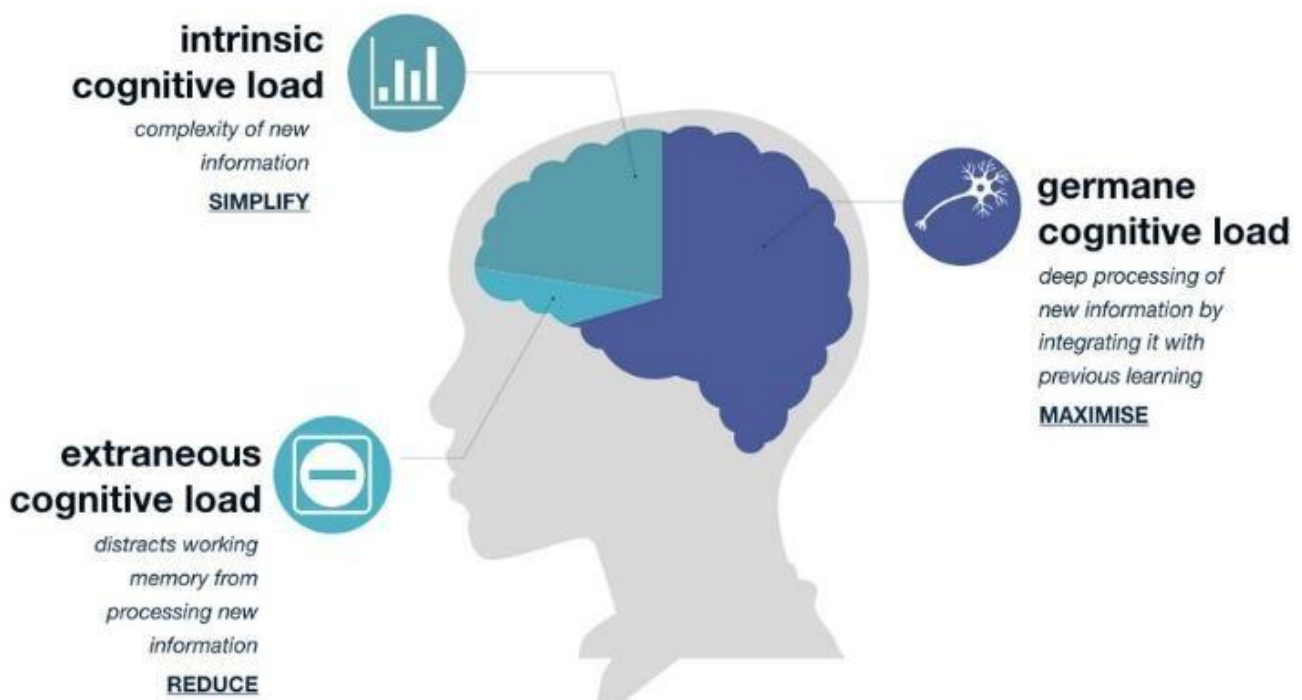
Behaviour for learning

Effective learning can only take place in well-organised classrooms and where there are high and consistent expectations of behaviour, how resources are used, how we talk and listen to each other, how books and belongings are treated, how we move about the classroom and how we respect each other's right to learn.

Routines, including transitions are important and children should enter classrooms ready to learn. For young children, making the distinction between moving from the outside into the classroom and making it clear how their behaviour changes so they are ready to learn needs to be made explicit.

Managing behaviour by referring to and rewarding models of good behaviour exhibited by children in the classroom is always a preferred strategy. However, where children do misbehave this should be addressed in a manner that is least disruptive to the lesson and the other children's learning.

At Copperfield, behaviour management systems are designed to minimise the time spent on behaviour management and maximise the time spent on learning. All our staff consistently apply the same approaches which are clearly outlined in the behaviour policy. To support behaviour, we consider phases of lessons:

- Children are actively engaged during all parts of the lesson – teachers consider children's concentration span and ensure they are not sitting passively for long periods.

- Using Think, Pair, Share, pupils are provided with regular opportunities to think and share ideas to develop their learning

- Mini whiteboards are used for short bursts of activity, to develop and check for understanding and to ensure children are active and engaged during the lesson.

High expectations – teachers should always have high expectations for learning and behaviour:

- Promoting active engagement not just compliance

- Establish a growth mindset culture, mistakes are celebrated

- Focus praise on effort, value the "struggle of learning

Teachers build positive relationships with all children through positive behaviour management:

- Welcome all children into the classroom

- Narrate the positive to remind children of expectations and learning routines

- Use meaningful praise and rewards as much as possible e.g. dojo points or moving up the colour ladder

- Provide children with the opportunity to change their behaviour

- Have restorative conversations when necessary

- Demonstrate consequences are temporary, e.g. new lesson, fresh start

Teachers have clear and consistent routines and procedures– so there is a safe, orderly learning environment and learning time is maximised

*Please refer to our behaviour policy for more information

The learning environment

Classrooms must be well organised. They should be tidy and free of unnecessary clutter. Displays should reflect, celebrate and support learning. Key vocabulary should be highlighted and displayed. Working Walls should be used to support children's learning.

The atmosphere in the classroom should be purposeful and focused on the task, with all children engaged in their learning. There will often be a quiet working 'buzz' in lessons that enables children to concentrate, but also ask questions and discuss ideas when working with others. In whole class phases to lessons, all children should feel confident and encouraged to share their ideas and thoughts.

We expect teachers to be mindful and **flexible** in how to **group** children. We do not expect teachers to keep these groups 'fixed' for sustained periods. While it may be appropriate to group children by ability for a particular lesson, or even part of a lesson, equally, using mixed-ability groups for a different lesson is important.

Teachers should ensure that in all lessons (unless intentionally planned), there is a range of resources easily accessible to all children, such as word banks, maths resources, knowledge organisers etc.

The children, alongside the staff, should take shared responsibility for the classroom and corridor areas, making sure the spaces are kept clean, tidy and in good order at the beginning, during and at the end of the school day.

*Please refer to our display policy for more information

Modelling

What is it and why it matters:

Modelling is an important step in effective direct instruction and should be used in all aspects of our daily classroom routines. From modelling your thinking processes for metacognition (e.g. to answer this question I need to pick out the key ideas I am going to have to use and ask myself what I already know), to modelling how to draw diagrams or extended writing, it is an essential skill in showing a novice how to move towards expert. It is also a significant strategy to scaffold children's attempts to reach a higher level of thinking and mastery in all subject areas so all children can achieve the challenges set.

 Effective modelling can address misconceptions before they arise.

Below is an extract from Making Every Lesson Count; Shaun Allison and Andy Tharby:

 "…it seems fairly obvious that if you want to teach somebody a new skill you need to break the skill down into the 'key bits' and then show them very carefully how to do it – you can't just expect it to happen by diffusion. In my mind, this is what modelling is. It's also becoming increasingly obvious to me that it is a key teaching skill that needs to be thought through and planned carefully if effective learning is going to happen. It's also key in the development of independence.

If children can work with growing independence it needs to be preceded with high-quality teacher explanation and modelling. I've seen some brilliant examples of this…so how do they do it? Thinking about the best teachers I have seen; I think they all have the following things in common when they are modelling:

- They make it **explicit** what it is they are going to be modelling and why it is important – and exactly what the students will be able to do as a result.
- They break the skill down into **steps**.
- They then **show them** how to do each step – whether this by physically doing it, or getting students to do it with them.
- As they do it, they are **questioning** students about why they are doing it that way, so they develop an understanding of the 'why' as well as the 'what'.
- They also point out **common mistakes and misconceptions** – and how to avoid these.
- They use **examples of excellent work** – to demonstrate the high standards that the students should be aiming for. This may be by using exemplar work as they are producing the piece of work or the product itself.

Further examples can be found here: https://classteaching.wordpress.com/2020/01/28/i-we-you-modelling-in-my-classroom/ https://classteaching.wordpress.com/2017/05/18/why-modelling/