

Model of Simple Memory - Presenter Script

"Today's CPD Spark focuses on one of the most influential ideas in cognitive science for teachers – Daniel Willingham's Simple Memory Model.

As teachers, we spend enormous amounts of time planning lessons, creating resources and assessing learning. But an important question sits underneath all of that...

How does learning actually happen?

Understanding how memory works helps us make better decisions about everything we do in the classroom, from how we introduce new learning, to how much information we present, to why retrieval practice has become such an important evidence-informed strategy.

Today's session isn't about neuroscience or brain science for the sake of it. It's about understanding how pupils learn so we can make our teaching even more effective."

Slide 2 – Safeguarding Spark

"As always, we begin with our Safeguarding Spark.

Take thirty seconds to discuss with the person next to you...

What are the key elements of recording a safeguarding concern?

Think about both what should be included and how it should be written."

(Allow discussion.)

Slide 3 – Safeguarding Answer

"When recording safeguarding concerns, our role is not to investigate—we simply record what we have seen, heard or been told.

Good safeguarding records are:

- factual
- timely
- accurate
- specific.

Where possible we record a child's exact words rather than paraphrasing them, because our interpretation could unintentionally change meaning.

Always include dates, times, observations and actions taken, and ensure concerns are reported immediately through the school's agreed safeguarding system whilst alerting the DSL.

Strong safeguarding relies on high-quality recording. Small details that seem insignificant at the time may become vital pieces of information when combined with concerns from other professionals."

Slide 4 – Implications for Teaching

"Everything we discuss today has one simple purpose—to improve classroom practice.

Research into cognitive science has shown us that learning isn't simply about exposure to information. Pupils don't remember something because we've taught it once.

Instead, learning depends on how information is processed, stored and retrieved.

If we understand those processes, we can design lessons that work with the brain rather than against it.

Throughout today's session I'd like you to think about your own classroom.

Not 'Do I already do this?'

Instead ask yourself:

'How could I do this even more intentionally?'

Often the smallest changes have the greatest long-term impact."

Slide 5 – Who is Daniel Willingham?

"Daniel Willingham is one of the leading voices in educational cognitive science.

Unlike many researchers who focus purely on psychology, Willingham has dedicated much of his work to helping teachers understand how research translates into classroom practice.

His book *Why Don't Students Like School?* has become essential reading for many educators because it explains complex cognitive science in practical, accessible ways.

One of Willingham's biggest messages is this:

Memory is the residue of thought.

In other words, pupils remember what they spend time thinking about—not necessarily what the teacher says.

That sounds simple, but it has huge implications.

If pupils are thinking about colouring in, copying from the board or decorating a worksheet, they may remember those activities more than the learning objective itself.

Our role is to direct thinking towards the important knowledge."

Slide 6 – The Model at a Glance

"The model itself is beautifully simple.

Information begins in the environment.

There are sounds, images, teacher explanations, displays, conversations, movement and distractions happening constantly.

Not all of that information reaches memory.

The first gateway is **attention**.

Only the information pupils actually attend to enters working memory.

Working memory is where thinking happens.

If pupils successfully process that information, connect it with existing knowledge and revisit it over time, it can be stored in long-term memory.

Later, when needed, it can be retrieved back into working memory to solve problems or answer questions.

The key message is this:

Learning isn't simply hearing information.

Learning is successfully moving information from working memory into long-term memory."

Slide 7 – Attention & Working Memory

"Attention is perhaps one of the most valuable resources we manage as teachers.

Every classroom competes for pupils' attention.

A display on the wall.

A conversation outside.

A classmate dropping a pencil.

The weather.

A laptop notification.

All of these compete with the explanation we're trying to give.

Because attention acts as a filter, pupils simply cannot process everything around them.

That's why expert teachers deliberately direct attention.

We might pause before giving instructions.

Use silence.

Point to the key word.

Model under the visualiser.

Repeat important vocabulary.

Use questioning.

All of these strategies help pupils focus on the right information.

Once information enters working memory, another challenge appears.

Working memory has limited capacity.

Think of it like a small whiteboard.

There's only so much space.

If we try to write too much on it at once, older information gets wiped away.

This explains why pupils sometimes appear to 'forget instantly.'

It's not because they aren't capable.

It's because we've unintentionally overloaded working memory.

Breaking learning into manageable chunks, modelling one step at a time and checking understanding regularly all reduce cognitive overload."

Slide 8 – Long-Term Memory & Retrieval

"Our goal is to move knowledge into long-term memory.

That happens when pupils process information deeply.

Simply seeing something isn't enough.

Pupils need opportunities to think about it, explain it, connect it to prior learning and revisit it over time.

Once knowledge reaches long-term memory, it doesn't stay permanently accessible.

It has to be retrieved.

Retrieval is like strengthening a pathway.

Every time pupils successfully recall something, the memory becomes stronger and easier to access next time.

That's why retrieval practice is so powerful.

Short quizzes.

Flashback four questions.

Low-stakes retrieval.

Cold calling.

Brain dumps.

These aren't assessment tools.

They're learning tools.

Every successful retrieval strengthens memory.

One misconception is that retrieval tells us what pupils know.

Actually, retrieval also helps pupils remember."

Slide 9 – Why This Matters

"So what does all of this mean for our classrooms tomorrow morning?

Firstly, we should avoid introducing too much new learning at once.

Secondly, we should deliberately connect new learning to what pupils already know.

The more connections pupils make, the easier information is to store and retrieve.

Thirdly, repetition matters.

But meaningful repetition—not simply repeating exactly the same lesson.

Instead, revisiting ideas in different contexts over time.

Finally, retrieval shouldn't happen only before assessments.

It should become part of everyday teaching.

Every lesson is an opportunity to strengthen previously learned knowledge.

Ultimately, effective teaching isn't about covering content.

It's about ensuring knowledge sticks."

Slide 10 – Relevant Research

"Willingham's work doesn't stand alone.

It sits alongside several important areas of educational research.

John Sweller's Cognitive Load Theory reinforces the limited capacity of working memory and explains why reducing unnecessary cognitive demand improves learning.

The Education Endowment Foundation's guidance on metacognition encourages teachers to help pupils think about their own learning processes.

Dual Coding Theory, developed by Allan Paivio, reminds us that combining carefully chosen visuals with verbal explanations can improve understanding—provided the visuals support rather than distract from learning.

Together, these research findings all point towards the same message:

Effective teaching isn't about doing more.

It's about being more intentional with how learning is designed."

Slide 11 – Reflection

"I'd like to finish with a moment of professional reflection.

Rather than trying to change everything tomorrow, choose just one small improvement.

Perhaps you'll simplify your explanations.

Maybe you'll reduce distractions during teacher input.

Perhaps you'll introduce a retrieval activity at the start of every lesson.

Or maybe you'll pause more often to allow pupils time to think before moving on.

Small, deliberate changes repeated consistently often have the greatest long-term impact.

As you leave today, ask yourself:

'What is one thing I can change tomorrow that better aligns my teaching with how memory works?'

That one small adjustment could make learning just a little more memorable for every pupil in your classroom."