

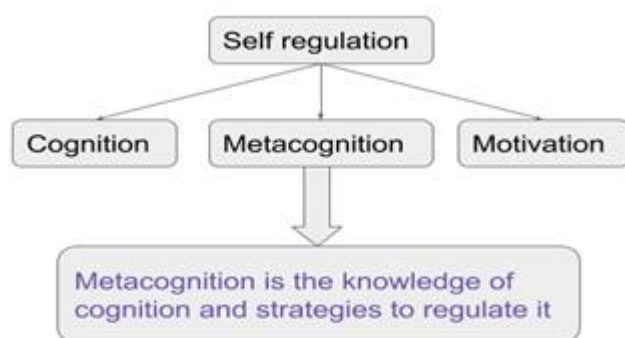
Framework for Teaching, Learning and Assessment

Try our best to do our best to be the best we can be

How we commit to achieving the most effective:

Metacognition and self-regulation

Our whole school teaching and learning framework is based on metacognition and self-regulation. We believe that for our students to become the best they can be, they need to become self-regulated learners. Conceptually, the framework is depicted by the diagram below;

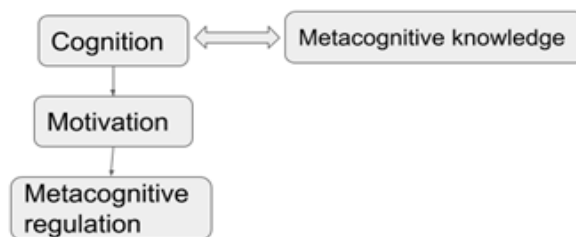


Our understanding of metacognition and self-regulation is supported by the review work done by Dinsmore et al (2008). Each of the components of self-regulation is necessary, but not sufficient on its own for learning, with all interacting in the learning process. There are two main components to metacognition- the knowledge of cognition and the regulation of cognition. Metacognitive knowledge can further be split into knowledge of self, task and strategies. Regulation of cognition involves planning, monitoring and evaluating cognition.

This framework requires teachers to teach in a way that helps students to store knowledge (knowledge of task and strategy) in their long term memory quickly and durably, and to teach the effective strategies for learning that allow the retrieval and application of this knowledge (Dunlosky et al, 2013). Without this, students may struggle to be motivated to use metacognitive strategies to improve their learning and to believe that they can become the best they can be. It will be difficult for students to engage in metacognition if they struggle to retrieve knowledge and have not learned about the different learning strategies that are useful for a particular learning task. Effective teaching and learning is central to the implementation of this framework.

What this looks like at Beechwood:

In practice, the teaching of metacognition and self-regulation is illustrated below.

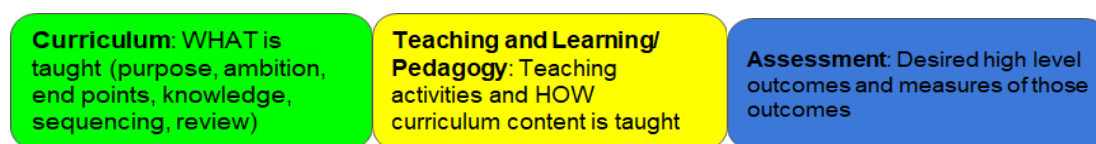


Cognition and metacognitive knowledge: First, we focus on cognition and teach students using teaching methods that help them to store knowledge (of task and strategies) in their long term memory (LTM) quickly and durably. We engage in metacognitive talk to model our thought process and decision making (thinking aloud). We give students opportunities to do the same (please see more detail in the effective teaching and learning section).

Motivation: Success during the cognition part of metacognition and self-regulation is essential to motivation. A motivated learner is most likely to use metacognitive regulation to improve their learning. It is important that we use the most effective teaching approach to help learners to acquire and use knowledge quickly and durably.

Metacognitive regulation: This takes place during independent practice (either in lessons or at home). We talk through what this means with students. We ask them to plan how they will approach a task (they draw on prior knowledge of task and strategy), monitor how well they are completing the task (e.g., how will I know whether the equation is balanced?) and evaluate how well they have completed the task (mark schemes/WAGOLL/peer assessment are used at this point).

Curriculum, sequence of learning and reading



A curriculum shows the *carefully selected* knowledge that students should learn, mapped out coherently. Coherence means the curriculum is sequenced so that students acquire *enabling knowledge* (knowledge needed to access the next lesson or topic) on their way to a well defined and ambitious *end point*. Ambition means that the curriculum enables all groups of students, especially SEND and disadvantaged learners to achieve the end point that has been defined for the subject.

The end points of the curriculum are not in terms of GCSE grades, they are in terms of the knowledge that students have/should have if they have learned the curriculum. ***The curriculum is the progression model.***

Reading and the curriculum: The ability of learners to read fluently is important to any curriculum. If pupils cannot read, they will not be able to access the curriculum, and will be

disadvantaged for life. The **Matthew effect** (the word rich will get richer and the word poor will get poorer) is real and it needs to be tackled.

What this looks like at Beechwood:

We now run a 3 year KS3 curriculum from year 7 to 9. Years 10 and 11 make up KS4. All subject curriculums have selected and sequenced knowledge that is essential for all students to achieve the best grades.

Opportunities for spaced learning (spaced retrieval practice and interleaving) have been designed into each subject's curriculum. We use the term 'pause lessons' to describe opportunities for spaced retrieval practice. We embrace the concept of *desirable difficulty* (Bjork et al, 2011)- learners store knowledge more durably if the process of embedding the knowledge is effortful.

We extend the concept of desirable difficulty to homework, we call it lagged homework. What this means in practice is that we introduce a time lag between when students complete a topic and when homework is set on the topic. This time lag ranges from one to three weeks, depending on what works for particular classes. Homework tasks are focused on extending practice of procedural knowledge (knowing 'how') and opportunities for memorization of declarative knowledge (knowing 'what').

Effective teaching and learning

Sweller et al (2011) define learning as a change in long-term memory. As they pointed out, 'if nothing in the long-term memory has been altered, nothing has been learned'. It is, therefore, important that we use approaches that help pupils to integrate new knowledge into the long-term memory and make enduring connections that foster understanding.

Effective teaching is therefore any teaching approaches that support this change in long term memory of learners **quickly and durably**. Some teaching approaches include explicit instruction (teaching), discovery learning et cetera. The explicit teaching approach has been shown in many studies to be the most effective (quote source).

An important contribution to learning science is made by cognitive load theory (CLT). CLT is concerned with the architecture of memory and the brain, and in particular the capacity of the short-term memory to process information. **Explicit instruction** aligns well with this memory architecture and the brain.

Reading and effective teaching and learning: The Matthew effect explains why word-rich learners make more progress than word-poor learners. An effective way to address the Matthew effect is through the explicit teaching of reading. Reading aloud is a good way of developing vocabulary, language expression and expressive and receptive language skills. There is clear and consistent evidence about the importance of vocabulary development.

In addition to explicit vocabulary instruction, there is clear evidence that teachers can support comprehension by modelling how expert readers read actively, including by monitoring their

understanding, asking questions, making predictions and summarising (Stuart and Stainthorp, 2015).

Prior knowledge is important to reading comprehension. The more knowledge readers have about the topic of a text, the better they will understand it (Willingham, 2012). This may appear just common sense, but in some cases educators have focused on developing generic reading comprehension strategies rather than the subject knowledge required for understanding.

What this looks like at Beechwood:

What are the core elements of effective teaching and learning at Beechwood School?

A series of lessons should consist of the following elements:

What	How
<p>Activate Prior Learning What knowledge do learners have in their long term memory (LTM) that can make the day’s learning effective and help learners to increase the network of knowledge in their LTM?</p>	<p>Do Now Task Knowledge retrieval in the first 10 minutes of lessons</p> <p>Connect old and new knowledge during lessons</p> <p>Use retrieval practice at every phase of learning</p>
<p>Cognitively efficient explanation Learners are novices with new knowledge, use explicit instruction Teach in small chunks Use dual coding Model everything</p> <p>Check for Understanding Ask lots and lots of questions to check understanding Share content and memory strategies to help learners (metacognitive knowledge)</p>	<p>Explicit teaching and metacognitive talk Explicitly teach vocabulary (suffix, prefix, stem, root word). Teach in small chunks followed by extensive practice Model everything: don’t just say how to, show it in steps and talk through your thought process Use integrated images and texts to aid explanation (better if drawn live during explanation) Use concrete examples to explain abstracts</p> <p>Check for understanding and give feedback Ask lots of questions to check for understanding Use all class checking strategies (no hands up, cold call, use of white boards, say it again but say it better)</p>
<p>Practice of knowledge</p> <p>Extensive practice is needed for knowledge to be stored in LTM durably</p> <p>Cognitive support is needed during practice but faded over time</p>	<p>Guided practice (I do, We do, You do) Use lots of worked examples to show pupils how to use new knowledge. Use modelling and metacognitive talk to reveal your thought process Use partially completed examples to get students involved in practice Give lots of examples for students to work through on their own During independent practice, explicitly teach learners to engage in metacognitive regulation</p>

Review learning using the spacing effect

Spaced learning uses the concept of desirable difficulty to facilitate learning

Pause lessons (spaced retrieval practice) planned to be done using the spacing effect

Lagged homework

Faded support for learners to make and use appropriate spaced learning plans at home and engage in metacognitive regulation

Assessment and feedback

Assessment: The renewed focus on curriculum places more emphasis on assessment. If the curriculum is the progression model, then assessment is how we know whether learners are progressing through the curriculum as intended and learners' experience of the curriculum. Assessments also help us to know how well each teacher is enacting the curriculum and how coherently sequenced the curriculum is.

Formative assessment is not just about what learners know or can do, but also about the way that teachers themselves use assessment. Teachers can use assessment to help them plan lessons, adapt lessons to measured gaps in knowledge and skills, and if necessary re-teach where problems persist.

Summative assessment is more useful for general quality control and to provide a picture of how well a pupil (or group of pupils) has performed over a time period on a set of learning goals in a particular subject.

Feedback:

Effective feedback has a very strong impact on student attainment (Hattie, 2009). Feedback can be one to one, whole class feedback (WCF), peer, self, verbal or written. For feedback to be most effective, it needs to be timely to correct misconceptions and move learning forward as quickly as possible.

The use of whole class feedback (WCF) where the teacher scans through the work of pupils soon after a lesson to see commonalities in strengths and gaps and then address this in the next lesson has been found to meet the purpose of feedback for a group of students. Provision of individual feedback using WCF also works well.

Marking is not feedback if students do not respond to and learn from the marked work on a timely basis. Marking may work better if focused on summative assessments. For formative assessments, any feedback method that is timely and instantaneous is a better option.

What this looks like at Beechwood:

We recognise that the most effective feedback happens immediately and prompts an instant improvement in learning. This can take the form of one to one verbal feedback in lessons, whole class feedback in lesson or next lesson and same lesson marking.

Feedback is only useful when it is acted upon, and we have established the principle of DIRT (Dedicated Improvement and Reflection Time) across the school with the expectation that teachers build-in regular opportunities for students to correct, redraft and polish their work following summative assessments or where appropriate, formative assessments. Each subject area has specific requirements which direct the frequency of written feedback that is required.

Shared language of teaching, learning and assessment

Teaching term	What it means at Beechwood School	Examples
Explicit teaching	<p>What: Explicit teaching, also known as ‘fully guided teaching’ involves showing students what to do and how to do it. It comprises modelling with clear explanation, verbalising thinking, extensive practice and feedback.</p> <p>Explicit teaching is not lecturing. It is highly engaging as it involves a lot of questioning and dialogue with learners</p> <p>Why: When encountering new knowledge, learners are novices and need cognitive support to master new knowledge.</p>	<p>To teach equations in Science. A teacher asks students to complete retrieval quiz of prior knowledge, introduces and clearly explains the concept the equation is based on, explicitly teaches vocabulary associated with equations, introduces the equation, models the relationships in the equation using concrete examples, models how to use the equation to solve problems and verbalises thinking as he models and explains, Asks lots of questions to check understanding of all students and gives feedback, moves on to the use of partially completed examples and then lots of questions for students to practice with. Metacognitive regulation follows and more feedback.</p>
Quality First Teaching (QFT)	<p>What: QFT means effective teaching and learning that works for each group we teach (see our definition of effective teaching and learning in the previous section)</p> <p>Why: It ensures that the learning needs of learners are met. This reduces the number of lessons and intervention we need to teach a topic and</p>	<p>Pupils are required to be able to retrieve a quotation. QFT for this example entails teaching pupils to memorise the quotation using any appropriate spaced learning method.</p> <p>Teaching pupils how to use the quotation in a writing task may not be effective in memorising the quotation, therefore not QFT</p>

	creates more time for extensive practice for students.	
Differentiation	<p>What: It means to decide the number and type of scaffolds needed for learning in a lesson on a whole class basis. Class teacher then supports individual pupils as needed within each scaffold.</p> <p>Why: Differentiation does not mean providing different tasks or sheets for different pupils in the same lesson. This type of differentiation widens the gap of learning.</p>	<p>Two classes of students A and B are learning about bird migration. The teacher of class A, a top set, decides only 2 scaffolds are needed. The teacher of class B, a mixed ability group, decides that 3 layers of scaffolds are needed. Both classes have the same learning outcome.</p>
Lesson planning	<p>What: It means planning how to ensure that the desired learning takes place for all students in the class.</p> <p>Lesson planning is not about resourcing lessons and planning activities</p> <p>Why: Every lesson needs to be focused on what the lesson is about- the knowledge and learning.</p>	<p>Planning lessons should focus more on the following: the prior knowledge to activate, the type of knowledge and the best way to teach it, literacy requirement, questioning and the number of questions, how to check for understanding, what knowledge to practice, etc</p> <p>Resourcing comes last.</p>