Metacognition

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Starting in September 2021, staff at St.John's began focusing on developing and understanding the role of metacognition in lessons.

Research shows that when children improve their metacognitive skills, they are more likely to embrace a Growth Mindset and learn from mistakes and feedback. This will allow them to become more self-regulated learners.

What is metacognition?

- *Metacognition* – literally means "beyond knowing", being aware of what you know about something and what you don't know – how can you apply this learning to another task?

Self-regulation – what is it?

Self-regulation – children monitoring their own comprehension and assessing their own abilities without teacher help.

Key point to note:

Why is metacognition important?

…if it happens of its own accord anyway?

- shapes active rather than passive learners
- Gives pupils sense of control over learning
- Learning how to learn.
- Helps to promote "deep learning"

A bit more detail…

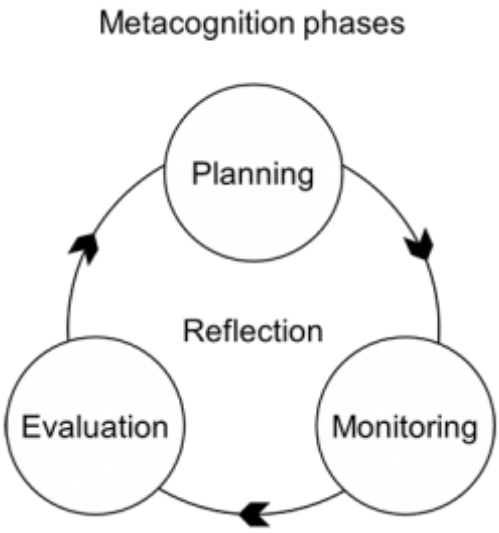
Metacognition is a higher order thinking process which helps differentiate humans from other animals. It is also referred to as 'thinking about one's thinking' and was a term first put forward by American Developmental Psychologist John H. Flavell in 1976.

Falvell defined metacognition as the ability to:

- Think about one's own thinking;
- Be consciously aware of oneself as a problem solver;
- Monitor, plan, and control one's mental processing; and
- Accurately judge one's level of learning.

Put more simply, it describes the processes involved when learners understand how to plan, monitor, evaluate and make changes to their own learning behaviours to help them achieve a goal. This means they have control of their own cognitive performance.

- In the **planning** phase of metacognition, learners think about the learning goal they have to meet, how they want to approach it and what strategies to use.
- During the **monitoring** phase, learners carry out their plan, and monitor their progress towards their learning goal. In this stage learners may make changes to strategies they are using, if the ones they are using are not effective.
- During the **evaluation** stage, learners decide how successful the strategy they used was in helping them to achieve their learning goal.
- As a result of **planning, monitoring** and **evaluating**, learners will automatically reflect upon and self-question their work.



Metacognition has two main areas to it:

1. Metacognitive knowledge.
2. Metacognitive regulation.

Metacognitive knowledge refers to what learners know about learning. It is split into 3 sections:

1. The learner's knowledge of their own cognitive abilities. For example, 'I have problems writing chemical equations in Science'.
2. The learner's knowledge of particular tasks. For example, 'the topics covered in this chapter are challenging'.
3. The learner's knowledge of different strategies that are available to them and when they are appropriate to the task. For example, 'If I can scan the key words in text first, it will help me to understand the overall meaning or can I link the order of letters in the alphabet to the process I'm trying to remember? If I can it will help me to remember it'.

Metacognitive regulation is what learners do about learning.

It describes how learners monitor and control their cognitive processes. So for example, if a certain strategy is not working, they decide to try a different strategy.

Why is metacognition important?

Using metacognition allows a person's learning to be fully understood. This then means that information gets moved from their working memory to their long term memory. As well as this, metacognition has other benefits, including:

- Independent learners;
- Creative problem solvers;
- Analytical thinkers;
- Effective communicators and collaborators;
- Better debaters;
- Develops resilience;
- Improved performance within and outside the classroom;
- The ability to transfer learning from one context to another.

Research has also shown that improving a learner's metacognitive practices may compensate for any cognitive limitations they have.

Teaching metacognitive strategies gives students the skills to 'drive their brains' and become active and self-directed learners.

Having the appropriate metacognitive strategies allows students to:

- Maintain an outlook of optimism about their learning performance;
- Set learning goals and plan how to achieve them;
- Focus their selective attention;

- Monitor their learning progress;
- Apply learning experiences across all subjects and their personal lives.

Why teach metacognition?

Metacognition teaches children how to learn.

It is a skill that needs to be taught to children and they need to learn the strategies involved to help them become life-long learners.

Our current education system focuses more on content, with little time for guiding children in developing the metacognitive and cognitive skills that can help them excel in learning, whether that be in the classroom or the world of work. It seems to be an assumption that children start school naturally equipped with the ability to learn, or that they will pick these skills up on their own. However, unfortunately this is often not the case, and leads children to being labelled with limiting learning potential.

When children employ metacognition, they consciously think about themselves.

What we will be doing at St,John's to improve Metacognition

At St. Mary's and Our Lady of Grace we are in the process of weaving metacognitive strategies into all Schemes of Learning across all subjects.

To ensure that this is embedded, all teaching staff are receiving a significant sequence of training on metacognitive strategies. Staff will also be working in Key Stages and subjects to identify subject specific metacognitive strategies, which will then be embedded into their lessons.

As a result, we will be enabling and supporting our teachers to encourage children to plan, monitor and evaluate their learning. This will enable children to identify what went well and how they can improve, ultimately leading to better academic performance in future tasks. All of this aims equip children with a range of metacognitive strategies that they can use to help enhance their learning, and move information from short to long term memory.

Children will also be learning about metacognition, where they currently are in terms of understanding their own learning and learning different metacognitive strategies they can use – look out for the **metacognition logo.** This learning and review will take place during lessons, but also through a sequence of workshops and off-curriculum activities across the year.

Metacognitive Strategies

There are many different metacognitive strategies that a learner can use, and parents can help their children develop these at home. There are a few examples discussed below:

Goal Setting

- Set goals with your child. This is so they know what they are aiming for.
- Ideally break the goals down into long and short term goals to help maintain motivation.
- It also helps to build in time for self-reflection, including identifying what has and hasn't gone well.

Questioning

- Asking questions kick starts the brain into searching for answers to a task. Questions should be:
- Open-ended. Give your child some space to reflect on their thinking: Can you tell me more about why you think that?
- Non-blaming. It can be hard to stay open when kids are acting up, but asking them to think about their behaviour can help them learn to manage difficult situations in a better way: Why do you think you got so upset when Dad changed the channel?
- Solution-focused. Encourage them to think about how they can use their understanding to change things in the future: How could you handle that differently next time?
- Process-oriented. Ask questions that help your child get a better idea of how their thought process works: How will you know when this drawing is finished?

Here are our top 5 questions to ask your child when setting out on a task:

1. What do you need to do first?
2. Why is this true?
3. How can you get better?
4. Who can you ask for help?
5. Where do you do your best work?

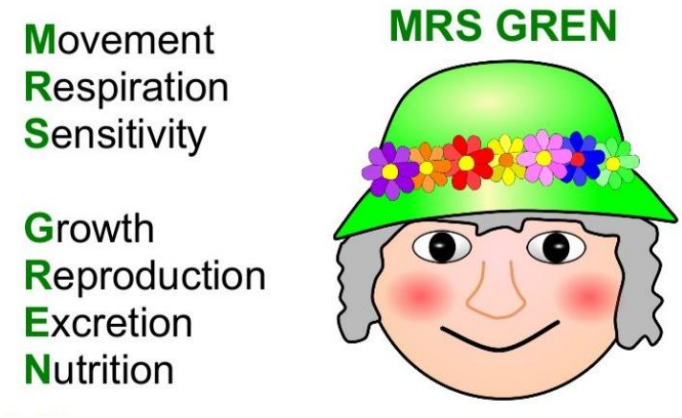
Mnemonics

Mnemonics can be used to help learners remember information that might otherwise be difficult to recall.

Use mnemonics with your child to help them remember information that they must recall in order

quickly.
There are different types of mnemonic.

- Expression or word mnemonics – Items in a list are arranged by their first letter to create a word or phrase.



- Image mnemonics use a visual reference to aid recall.

For example, you can use your hands to recall how many days are in each month.

Remember to be patient
When you teach children to think about their behaviour differently, they begin to behave differently. However, it's important not to expect instant results. Learning to think metacognitively is a process, and parents may have to accept that a lot of the work is happening behind the scenes. Of course we want to see progress, but our children — especially teenagers — don't always share their thinking with us and that's okay.

Further support and guidance:
Watch the video below for some further ideas on metacognitive strategies
https://youtu.be/JsC9ZHi79jo
Use the link below to play games to improve metacognition.
https://www.mentalup.co/brain-games

Further Reading on Metacognition:

- https://cambridge-community.org.uk/professional-development/gswmeta/index.html
- http://theelearningcoach.com/learning/metacognition-and-learning/
- https://www.innerdrive.co.uk/improve-metacognition/
- https://www.youtube.com/watch?v=JsC9ZHi79jo&feature=youtu.be
- Understanding How We Learn: A Visual Guide Paperback – 10 Aug 2018 by Yana Weinstein (Author), Megan Sumeracki (Author), Oliver Caviglioli (Author)