

Metacognition

Success in part is dictated by your level of self-efficacy. You have to believe you can succeed. Your beliefs in your own ability to learn impacts on your active participation in learning, your levels of enthusiasm and motivation, the amount of effort you put into your studies, your level of perseverance and your ability to be resilient in the face of set-backs. If you believe you can influence the outcomes, you are more likely to make accurate judgements regarding current performance, set yourself higher goals and make more effort to look for strategies that will enable you to get there. You are more likely to be reflective and expend more effort in achieving understanding or mastery of a subject.

Metacognition is the ability to think about your own thinking. In education terms, it means your ability to reflect on the processes of learning. What are the requirements of this task? How will you judge your success? How well have you understood something? What strategies do you use to learn something? How effective is your approach? This inner dialogue is the metacognition at work. The good news is that we can improve our levels of metacognition and by doing so become more effective learners.

Metacognition also requires you to think about 'what successful learners do' and 'what does good learning actually look like?' Sometimes the reason we get a lower score than someone else in the class is not because they are 'smarter' than us, but because they used a better strategy.

There are hundreds of variables that factor in to pupils' successful test scores, such as:

- They had a better understanding of how they would be assessed. For example, they had carefully examined past papers and mark schemes, reviewed model answers, looked at the content that would be tested.
- They were an active participant in lessons – showing great levels of concentration, asking questions, checking their own understanding, discussing points with other pupils, re-reading sections of the textbook that they were unsure about, studying diagrams carefully and considering how new knowledge linked to prior knowledge.
- They constantly questioned their own level of understanding and made a judgement as to if they truly understood the content. They acted on this knowledge, e.g. asking the teacher questions, asking for points to be re-explained, reading more than one textbook on the topic, looking back over notes.
- Due to an accurate judgement of the parts they did understand / did not understand they made good plans for which parts of the topic to focus their efforts on during the revision period.
- They set themselves clear goals for each revision session.
- They used excellent revision strategies. They chose strategies that matched the demands of the task.
- They responded well to teacher feedback on practice papers over the term, so their ability to communicate in writing had been steadily improving.
- They reflected on feedback provided in the last mock examination about ensuring they had a two-sided argument and that they should make specific reference to the source. They kept this in mind as they completed the test paper.

All of the above are about understanding how to be a highly effective learner. Metacognition is about recognising the processes we undertake as learners and considering how we might strengthen our approach.

We are going to focus on : **MAKING A JUDGEMENT** about our levels of understanding and **TAKING REMDIAL ACTION** as appropriate to this judgement.

STEP 1 Goals	STEP 2 Monitoring	STEP 3 Strategies
<p>Awareness and understanding of goals set by others, e.g. the standard to be achieved at the end of year 13.</p> <p>You need to be aware of long term goals, such as the structure and make up of examination papers.</p> <p>You need to think about the goals of a particular lesson.</p> <p>You need to think about how you set your own goals, e.g. for this homework I only need to skim the text and select three key points; for this homework I need to set aside an hour and focus on really understanding the gist of the text and the main themes; for revision I need to focus on understanding the reasons why war broke out.</p>	<p>You need to be able to monitor your own level of understanding both during a lesson and at the end of a lesson. Successful learners make accurate judgements as to what they know and understand.</p> <p>You need to monitor your level of understanding during a task. For example, when reading a text, you need to monitor your level of comprehension as you read and assess at the end your overall understanding of the concepts.</p>	<p>Successful learners know a range of strategies for learning. They select the most appropriate for the task, they monitor the effectiveness of the strategy and they change strategies as necessary.</p> <p>For example, you may know three different ways for learning a set of subject specific vocabulary. Depending on the length of the list, the type of words and the goal, (e.g. to use them in a sentence orally is different from the need to accurately spell them in a test), you select a strategy. As you attempt to learn the vocabulary, you monitor the success of your strategy and switch to other methods if your chosen approach is not yielding the results you seek. Perhaps after the assessment has taken place, you realise your strategy was ineffective and you seek ways of adding to your repertoire, e.g. by asking other students how they approached the revision or by asking your teacher for other methods that you could try.</p>

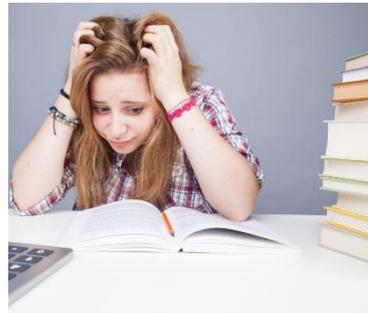
Let's look at an example of three steps:

1. You set yourself a reading goal. What will you need to do with information when you have read it?
2. As you read, you monitor your level of comprehension.
3. If you hit a road block in understanding, you apply a variety of strategies (e.g. read more slowly, read for overall gist once and then re-read more carefully to achieve a deeper understanding, look for clues in the text to identify the meaning of unknown words, jot questions in the margins, look carefully at diagrams and pictures to try and make sense of the more complex elements of the text, and perhaps even consult more than one text on the topic).

You move constantly between points two and three as you read, making a decision at the end as to your success in understanding the content and meeting the goal. You decide what you now understand / don't understand and take further action to address any gaps; e.g. by asking the teacher to explain a point that you are unsure of.

Some students are very good at monitoring their own level of understanding and taking steps to address the outcome. The tasks set for the coming weeks are designed to help you become better at monitoring and taking remedial action.

Strategies for coping when you are stuck



How does it feel when you are stuck?

Talk about a time when you have experienced a difficulty with your studies? How did you know that you had run into difficulties? How did it feel? Did you manage to overcome the difficulty? If so, what helped you? What would your advice be to each of the characters in the images above?

Awareness of your own learning

Metacognition is 'thinking about thinking'. As a learner, part of this is making a decision as to whether you have truly understood the content of a lesson or fully mastered a skill.

At the end of a lesson – How do you know if you have fully understood the content?

At the end of a series of lessons – How do you know if you have a fully rounded understanding of the topic?

When you prepare for a test – How do you know that you will remember the information? How do you know if you have spent long enough revising? How do you decide when you are 'fully prepared'? Do you spend the same amount of time revising each section or does the amount of time vary depending on how well you believe you have understood the topic?

Making these decisions fall under the heading of : JUDGEMENT OF KNOWING

Sometimes we don't ask enough questions about our own understanding and this can lead to inaccurate judgements. One of the central elements of being a successful learner is making a decision as to whether you have grasped the concepts and understood the content. The ability to do this is incredibly powerful and drives learning forward. We are all metacognitive, but our metacognitive skills and abilities vary. The good news is that we can improve our metacognition! This will boost your grades, help you to be a more confident learner, improve your ability to take on new challenges and increase your rate of progress.

Ask yourself these questions

Over the next few weeks, please ask yourself these questions (in your head). Feel free to discuss the answers to the questions with other students or if it helps you can jot down your answers at the end of the day.

Use these questions to think about your level of understanding after lessons:

- What was important in today's lesson? What were the central theme and the key points?
- Which part is clearest in your head? Which part is foggiest in your head?
- Can you summarise the content in your own words?
- How does the new learning link to what you already knew about this topic? How does it perhaps link to other sources of information, the world around you or your own experiences?
- I used to think...now I think...
- Can you give examples that support the key points other than those provided by the teacher?
- Could you teach the key elements to someone else?
- Could you represent the content of the lesson in a new way; e.g. a thinking map, diagram, image, series of bullet points?

Consider if you have fully understood, partially understood or not understood at all.

We know that it is far harder to remember something over time if we do not fully understand it. We know it is harder to add new knowledge to learning that has a shaky foundation. Therefore, we need to push for full understanding and clarity. The first stage is recognising if there are any issues with your current level of understanding and secondly trying to pinpoint exactly what they are.

You might find it useful at the end of lessons to create a quick table

What I understood	What I did not understand or have partial understanding of

If neither the questions above or the grid help you to pinpoint difficulties, feel free to try out other ideas. The key goal is to know what you don't know!

Overcoming difficulties – what strategies can I use?

It is good to talk to other students about how they overcome difficulties. What strategies do they use? The more strategies you have – the more likely you will be able to find a solution.

First – what can you do independently in class to overcome the issue:

- Re-read the text / chapter / textbook.
- Read more slowly – it often takes the brain longer to process complex information.
- Underline words that you are unsure of / look for clues to their meaning in the text or use a dictionary to help you.
- Jot questions in the margins if it is a photocopy or in your exercise book if not.
- Look at any images or diagrams carefully to see if they aid understanding.
- Consider your level of concentration and focus during the session – do you need to make any adjustments (as this will make a difference to comprehension).
- Read through any notes that you have made in the lesson as covering points again can help you to see connections that you previously missed.
- Is there anything in the room that might help; e.g. working wall, posters, vocabulary, subject reference books, equipment?
- If there is the opportunity, you might discuss the content with a fellow student.
- Consider the organisation of your note taking – often bullet points, thinking maps, clear headings, highlighting or underlining, diagrams, boxing up important points, putting examples in different colours, etc., can help to make the learning clearer.
- If you find that you regularly have difficulties, then pre-reading the chapter for the next lesson and carrying out background reading on the topic can help new learning to make more sense. It will help you to make the most of the upcoming lesson.

Your teacher is there to help, but they can't fix problems that they are unaware of. Try some of the following:

- A question I still have is...
- I am not sure about the word...
- The section of the text I am not clear on is...
- Could you re-explain why...?(be specific)
- Is it possible to go back over question...?
- Could you explain that again?
- I believe the main points are...have I missed any?
- Could you model that process again for me? Could you demonstrate that again please?
- I am wondering why...
- I am not sure about...
- I don't feel that I fully understand...
- Does... mean that...?
- Am I right in thinking...?

Strategies that can be used after a lesson:

- Re-read the text book and your notes.
- Consult a different textbook / book / video clip / internet source. Often when a concept is explained in a different way it can suddenly make sense.
- Try an easier book to build your background knowledge and then come back to the more complex issues.
- Sleep on it! Have a break!
- Discuss the points that you don't understand with another student. This is particularly good when a concept is hazy, because by talking it through the points often become clearer.
- See if there are any support sessions you can attend.

Can you add any more strategies to the list?

What type of difficulties did you experience?

It is important to recognise that learning should be challenging. When our brains are working really hard it means we are making lots of new neural connections. The level of learning has stepped up from Year 11 and the demands of the qualifications that you are now studying will be different from those you have previously faced. This can sometimes lead to unexpected difficulties.

Did you manage to spot when you didn't understand something?

Did you manage to pinpoint the aspect(s) you were having difficulty with?

What type of difficulties did you experience?

How did you overcome these difficulties? Did you find some strategies that worked for you?

What would your advice be to other students?

Did anything surprise you?

Understanding this element of metacognition

Awareness of knowledge – it involved understanding what one knows, what one does not know, and what one wants to know. This category might also include an awareness of others' knowledge.

Awareness of thinking – understanding cognitive tasks and what is required to complete them.

Awareness of thinking strategies – understanding approaches to learning.

Metacognition helps learners to take responsibility for their own learning. The more aware you are of yourself as a learner, the more control you can have over your learning.

'Metacognitive regulation involves the ability to think strategically and to solve problems, set goals, organise ideas, and evaluate what is known and not known.'
(Jaleel & Premachandran, 2016, Universal Journal of Educational Research.