

# AN EEF SCHOOL CASE STUDY: METACOGNITION

Oldham Sixth Form College

## School context:



Oldham Sixth form science department has a large cohort of year 12 students studying AS level Chemistry (170 students), Biology (200 students) or Physics (60 students). 48.7% of students are eligible for pupil premium funding and many go on to be the first in their family to attend university.

## 1 What problem were you looking to solve?

Our teachers suspected that whilst students understood the concept of revision, they lacked knowledge of how to approach the task. They could not name strategies: some knew about revision cards but not how to use them, some went straight to exam questions without marking their answers, or making use of notes.

The AS-level and A-level science curriculum is content heavy, so we needed to find a way to improve independent study that would help our students better retain what they learnt in class.

We used the EEF's 'Metacognition and Self-regulation' guidance report to explore how we might address this challenge.

## 2 What were the anticipated barriers/challenges?

When pupils join our sixth form, they have had a variety of experiences of science in their previous schools. Some have benefited from outstanding science departments, whilst others have been taught by a series of supply teachers throughout their GCSEs. We anticipated that it would be challenging to craft an approach that catered to the needs of all our pupils, despite the contrast in teaching they had experienced previously.

Additionally, we wanted to ensure that the approach could be consistently applied across all scientific disciplines, so as not to confuse or overload our students.

## 3 What did you do?

Staff spent time talking to students as a whole classes, and in one to one, small group and mentoring sessions to find out which techniques they commonly used to revise. We then shared the EEF metacognition and self-regulation guidance with teaching staff from across the college. This training was followed up in departments where staff picked out key priorities.

As is advised in Recommendation 2 from the EEF's guidance report, we decided to explicitly teach pupils how to organise and effectively manage their learning independently. Using the feedback from our department meetings, we produced a 'How to Revise for Science A levels' guide to be used from the start of the year in all science subjects. We broke the revision process down into five key stages: consolidation, learning, assessment, feedback and action. Students were given examples of how each stage works and how to effectively carry out that stage for each topic covered.

Teachers began to use language from the guide in their teaching and model strategies at the end of a topic, every 2 weeks. Discussions were built in with students after tests, to allow them time to reflect on how to improve their revision in the future.

In parents' evenings, the five-stage strategy is shared—parents and carers are given a copy to take away so that they are able to support their child with self-regulation and independent learning at home.

## 4 How are you monitoring the success of this intervention?

Staff meeting time is allocated each week for us to reflect on this approach. We conduct peer observations and work in staff groups to share examples of best practice. Peer mentoring between students is also supported with a focus on the five stages of revision.

Teaching staff report more productive 1:1 progress discussions with students. The students can now articulate strategies and how these are used and staff can be more precise in their advice, setting clear individual targets. For example, 'Student needs to focus on stage 2 of the revision strategy – learning their notes more thoroughly by rewriting notes/using flash cards/reducing information'. These smaller more directed targets feel more manageable for students.

## Additional:

### Suggested reading:

- *Metacognition and Self-Regulated Learning*  
[eef.li/metacognition/](http://eef.li/metacognition/)



## Reflection questions

- How is independent revision set in your school or college?
- Are metacognitive strategies made explicit and modelled by teachers?
- Can pupils articulate metacognitive strategies?