



# AN EEF SCHOOL CASE STUDY: MAKING SENSE THROUGH MODELLING

Tarleton Academy



Education  
Endowment  
Foundation

## School context:



Tarleton Academy is a secondary school near Preston in Lancashire. In the most recent validated data, progress for disadvantaged pupils was better than the national average for all pupils.

## 1 What problem were you looking to solve?



The school had recently moved to mixed attainment teaching, and began using 'low threshold, high ceiling' tasks to ensure they were accessible to all and able to provide challenge. Many of these tasks benefit from discussion: as a class, in pairs, and in groups and it became clear to maths leads that support would be needed to develop this.

EEF evidence suggests that pupils may need to be taught how to engage in discussion, by teachers modelling the principles of effective discussion and 'what to do as a listener'.

## 2 What were the anticipated barriers/challenges?



An immediate staff training need was established to support the development of mathematical discussion.

Some teachers were concerned that pupils would not engage with discussion, so tasks with 'low threshold, high ceiling' were deliberately designed to ensure they were accessible to all.

Leaders tried these tasks with their own classes first, in order to feed back to colleagues and share successes and experiences. They reassured staff that pupils would ask relevant questions and they should run with these questions and see where the discussion led.

## 3 What did you do?



Question stems were explored in meetings, including 'What do you notice?', 'What questions do you have?' and 'What do you want to know about it?', and effective mathematical discussion was modelled.

In lessons, teachers modelled their own thinking aloud to the class as they were faced with unfamiliar problems. They modelled the behaviours expected during classroom discussions, including how to respond to the contributions of others, before whole-class, peer, and group discussion took place.

By drawing out further mathematical discussion (What about this? Does this always work? Does it work with negative numbers?) they modelled how to behave and speak mathematically.

Pupils' questions were added to the board for discussion and consideration by the class—a climate of it being 'OK to be wrong' was modelled by teachers.

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



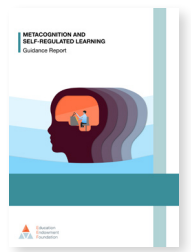
Teachers are consistently monitoring pupils' confidence in contributing to lessons and the extent to which classroom talk and discussion is meaningful. Staff discuss the approach in regular staff meetings – their feedback so far has been very positive: they report an increase in their pupils' resilience and confidence in lessons.

Explicit modelling of discussion continues to take place for new Year 7 pupils, in class observations suggest that many older pupils no longer need explicit support, as classroom discussion has become a regular feature of their mathematics lessons.

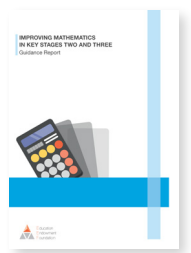
## Additional:

### Suggested reading:

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



- *Improving Mathematics in Key Stages 2 and 3*  
[eef.li/maths-ks2-ks3/](https://www.eef.li/maths-ks2-ks3/)



- *The EEF Guide to Supporting School Planning—A Tiered Approach to 2021*  
[eef.li/school-planning/](https://www.eef.li/school-planning/)



## Reflection questions



- Are effective discussion strategies explicitly modelled in your classrooms?
- Are teachers in your school supported in maximising the impact of worked examples, in modelling their thinking to develop pupils' metacognition, and in modelling effective discussion through appropriate professional development?