Teaching for Mastery Lesson Design at Springfield Junior School

A Primary Case Study

MathsHUBS East Midlands West

Teaching for Mastery Lesson Design Work Group

One of the biggest challenges facing schools as they adopt a teaching for mastery approach is how to design lessons. Working collaboratively with practitioners from across the East Midlands the project, we began by identifying the key features of mastery, before exploring a route through a lesson, that allowed teachers to link these together in a coherent manner. Essentially we were looking at how to turn theory into outstanding classroom practice. Though our research often went much wider what is captured here in these case studies, each participant school was asked to focus in on one aspect of lesson design, how it has been incorporated into classroom practice, and the impact it has had on learners.

Overview

Nicola is the Maths Leader at a junior school in Swadlincote. Nicola took part in the East Midlands West Maths Hub Lesson Design Workshop to help her lead the school into embedding mastery. Her school is a short way into its mastery journey and the course has been invaluable in seeing the most effective parts of mastery and how they can be used to promote the progress of pupils.

“The lesson design workshop has given me new and fresh ideas to take back in to school.”

What we did at Springfield Junior School

Nicola was aware that over the last few years many new initiatives have been introduced to the school but as yet nothing was fully embedded. Rather than overpowering the staff by introducing lots more new ideas Nicola made the decision to introduce two new ‘ ideas of mastery’ to the staff within the school. Prior to sharing the methods with the staff this Nicola trialled the effectiveness with one of the two classes she teaches for Maths. By only using the strategies with one of the classes she was able to make a judgement on the effectiveness and find solutions to any issues before introducing it to the whole school.

The two strategies she decided to introduce were ‘Stem sentences’ and ‘Pre-loaded learning’. The reason these were chosen was that, through the course, it became clear that they would be the easiest to introduce and also have the most impact in improving the progession the lower attaining children; these being a key focus within the school.

Following the trial period it was clear that the strategy was successful with the group using it.

One child commented saying

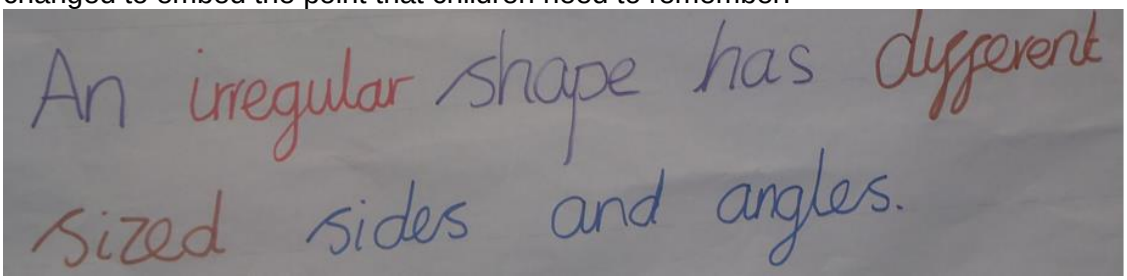
“The sentences help me remember what to do and if I forget I can look at the poster.”

Stem sentences and pre-loaded learning were then introduced to the staff during a develop meeting. Lots of ideas and examples were shown to enable the staff to fully understand the principles. Staff were also offered to watch these being used if they wished.

The staff were then given time to apply the strategies to their own classes before the impact was monitored.

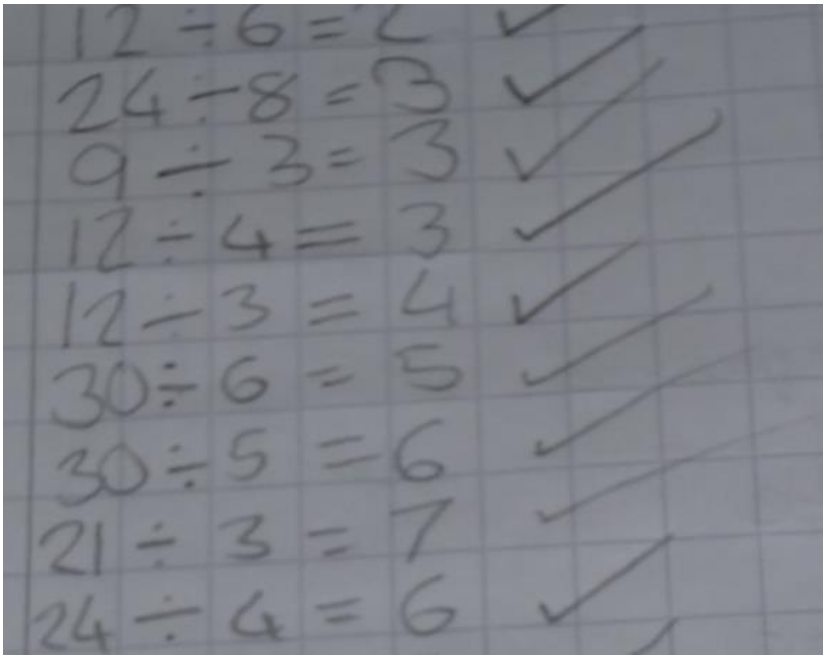
How It Works

The stem sentences are a succinct reminder for the pupils of the main concept needed in a lesson. For example when teaching fractions of an amount the stem sentence may be: Divide by the bottom number, Times by the top number. The stem sentence is displayed in the room with key words missing, the children fill in the words and chant the sentence. It is important that the children say it rather than just the teacher. This is then displayed in the classroom so that children can refer to it. The missing words can be changed to embed the point that children need to remember.



Above is a stem sentence used when teaching shape. The words in red were missed out for the children to complete. Sometimes the words ‘sides’ and ‘angles’ were missed out instead.

The pre-loaded learning gives the children a chance to practice the calculations they will be using that lesson. For example when the Year 5 class worked on calculating angles on a straight line the pre-loaded learning would be missing addition calculations to 180. These calculations would be the ones the children needed when actually working on angles on a straight line. The calculations should be displayed in the classroom and written in the children's books to refer to during the lesson.



Above is an example of pre-loaded learning used during a lesson on converting fractions to the same denominator.

Evidence of success

Two weeks later an informal learning walk was carried out to look for evidence of stem sentences and pre-loaded learning being used in the classroom. It was clear that the strategies had been adopted by all staff and the posters were displayed in all classrooms for the children to be able to refer to. Not all the staff were confident in using them and some struggled for ideas of pre-loaded learning but everybody had given it a go.

During a book scrutiny there was clear evidence of pre-loaded learning in the children's books and pupil interviews showed the effectiveness. One Year 3 child commented,

"The sums we did first that are written in my book mean I can concentrate on the harder bits."

Another saying "If I don't know my times tables I can still find the fractions by looking for help in my book."

It is still early days in its use but the staff commented on how easy it was to put in to lessons and that the children really enjoyed chanting the stem sentences.

Summary and next steps

Feedback from staff and pupils in the school was positive. The strategies were so easy to introduce and yet were high impact in the outcomes. The lower achieving pupils were able to access the work the remainder of the class were doing and were less dependent on teacher support. They have been adapted by all staff and are evident in all classrooms.

Some problems arose in thinking of stem sentences for some topic areas such as statistics but then a sheet was placed In the staff room for teachers to put ideas for stem sentences. Anybody could put an idea up and anybody could use the,

The next step for the school is to look at building up a bank of stem sentences so that all classes are using the same ones as the children move through the school. These strategies also need to be embedded so that they are effectively used in all classes.

More Information

For more information about this project, or other workgroups and opportunities available through the East Midlands West Maths Hub:

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