Teaching for Mastery Lesson Design at Newton Primary School

A Primary Case Study

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

I am the Year 5/6 teacher at Newton Primary School. My deputy head, who has been rolling out the mastery approach in our school for the past two years, asked me to attend the Lesson Design Work Group as I joined the school in September. I was keen to learn more about the mastery approach as I hadn't taught maths in this way before.

At our school, pupils are all actively encouraged to develop a growth mind-set. Resilience and determination are two of our key values and we strive to develop these skills during our lessons. We look forward to mastery becoming completely embedded throughout the school, in each year group, as there are still some gaps. We will be interested to see the impact in terms of results once the children have been learning consistently in this way for a couple of years.

What we did at Newton Primary School

As a staff, we wanted to focus on the structure of our lessons so that we had consistency throughout the school. Our main focuses were to incorporate the small steps within the lessons with sufficient support and challenge for every child.

Maths lessons in our school generally had a more 'traditional' structure, with starters and 3-way differentiation, punctuated with mini-plenaries throughout. Through our discussions in staff meetings and mastery CPD led by our deputy head, we talked about how we could move away from this whilst still catering for the different abilities. We didn't want to leave children who may have had gaps or difficulties in learning behind nor slow down those pupils who were ready to move at a faster pace and learn at a greater depth.

<u>Focus</u>

The first element that we decided to incorporate, as a staff, was the varied fluency element. With the use of 'Maths No Problem' textbooks and White Rose schemes, children enjoyed seeing different ways of tackling a problem – what makes sense to one child may not necessarily be the right path for another. A small issue that we found with this was that there isn't always time to cover a great range of varied approaches as found in the Maths No Problem books. Separating children into groups wouldn't work because it is up to the children to try out the methods and decide which is the right fit for them, rather than the teacher controlling this. However, White Rose really supports varied fluency and the teachers have now moved more towards using this as their main planning tool.

The small steps in White Rose have also been great for planning. As a Year 5/6 teacher, I have personally found the mixed age group schemes fantastic as it lines up objectives as closely as possible and makes links between them.

The anchor tasks have proved to be a little more difficult in terms of challenging and supporting each child. We have found that sitting the children in mixed ability pairs and having two small focus groups

supported by the teacher and TA has helped. Children have really enjoyed having a problem to pick apart and it is interesting to see the different approaches that children have. Many of the children in my class now have the confidence to stand at the front of the class and explain their thinking to the other children. Asking children to create their own problem, using the anchor task as a model, is also a good way to assess how well they have grasped a concept and how deep their understanding is at that stage. It is something that children can do at their own level.

Using stem sentences is a part of the mastery lesson design that is not necessarily being used in all year groups at this point in time. I myself use stem sentences, which I have found are incredibly useful for developing the children's language and they have also helped hugely when children are asked to write written explanations or answer 'prove it' questions, (e.g. in SATs) because they have had the practise of using the language of certain topics and can identify and use key vocabulary.

Impact of mastery lesson design

Staff: The impact of mastery lesson design on the staff is that they have more freedom in terms of their questioning and more space and time to delve into topics at a greater depth. Some have felt uneasy in the change and still don't feel confident with every aspect but I think that this will come with time as they receive more CPD and as we discuss and share good practice in staff meetings. We have arranged to pair up and visit each other's lessons to see how mastery works beyond our own classroom.

Children: Through book scrutinies and lesson observations, it has been clear that mastery is having a very positive impact on the children. The books show that children are working more systematically and logically through problems and are more proficient with reasoning. Children are accessing problems from NRich and NCTEM and working through them using their own chosen method, rather than an instructional, structured, teacher-led system.

Summary and next steps

The next focus for our school is to really get the stem sentences embedded as daily practice in every classroom so that children begin to build a vocabulary bank and have supported, structured explanations. It will mean that the children, as well as teachers, will be more consistent in their language. In order to do this, we have created a folder on our teacher server in which staff will submit suggestions for stem sentences for different topics within maths.

We would also like children to be much more confident in using visual representations. Whilst the lower key stage children have been fairly proficient in this, I think some children in Key Stage 2 feel almost uncomfortable, as if it isn't really 'proper' maths. I have tried to use the bar model constantly through the year and whilst it makes sense to them when I teach, only a handful of them use it as an independent method. I think the sooner it is taught, the more confident children will be in using it.

More Information

For more information about this project, or other workgroups and opportunities available through the East Midlands West Maths Hub:
Visit our website: http://www.emwest.co.uk
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