

Teaching for Mastery Lesson Design at Banks Road Infant & Nursery 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

Katie Racz is the Maths co-ordinator at Banks Road Infant and Nursery School and has been heavily involved in embedding the 'Mastery Approach'. Before the work group, the school were confident they had prioritised problem solving, reasoning and fluency and had invested in a range of manipulatives to engage children in the problem solving process. A positive impact had been observed as children's attitudes towards Maths had changed; they were more willing to learn from mistakes, persevere and explain reasoning. However, the school were still using their original (old) planning format and therefore were finding it challenging to plan effectively with the key features of mastery in mind. Katie Racz explained the benefits of participating in the 'Mastery Lesson Design Workgroup',

'Before participating in the workgroup, we were using an old planning format to plan Mastery lessons and therefore it was easy to slip back in to out-dated lesson structure. The workgroup encouraged us as practitioners to change the way we plan from a linear start to finish lesson to a lesson with multiple problem solving and reasoning activities. We had to carefully consider how we would support and challenge pupils within each part of the lesson and link the activities coherently through small steps of variation. By changing our planning format and having a greater understanding of the key features of a mastery lesson we have seen increased confidence and understanding from both staff and children in the teaching and learning of Mathematics.'

What we did at Banks Road Infant and Nursery School

In-house CPD

Firstly as Maths co-ordinator, I shared with staff the training and focussed on the key features of a mastery lesson e.g. representations, variation, stem sentences, fluency, differentiation, generalised statements etc. This was valuable as it clarified staff's understanding, where perhaps before there had been some misunderstandings. It also enabled staff to choose new features to incorporate into their own sessions and for us to work as a team to evaluate what works best for our children. In Year 2 we decided to trial the new planning format. We adopted a PowerPoint planning approach with the MathsHub recommended planning format on the first slide. This encouraged us to carefully consider the route of each lesson and to incorporate support and challenge into each step.

Variation

One of the most valuable key features we worked hard to understand and improve was our use of 'variation'. We considered two key questions for each slide of our PowerPoint and each activity of the session:

What am I going to change?

What am I going to keep the same?

By concentrating on our use of conceptual and procedural variation we ensured our lessons were more coherent and that children were able to build on their prior learning and apply their knowledge efficiently. Although previously we had been good at including problem solving activities, the jump between these activities was sometimes too wide for children to make connections. A positive outcome of this type of planning was that children began to make connections for themselves between tasks.

Differentiation

A key concern of ours had been how we differentiate whilst aiming to keep the whole class together and moving at roughly the same pace. Using the planning format we considered key questions for each activity planned:

How do I make learning easier?

How do I add challenge?

We continued to encourage children's use of manipulatives, models, diagrams and effective deployment of support staff for those children needing support. To add challenge we either added a 'blue star' challenge to our slide as an extension or we considered carefully our own questioning to encourage children to think more deeply e.g. *Can you show me another way/explain your reasoning/prove it/convince me your correct?*

Thinking more carefully about differentiation in the route of the lesson has made it easier for us to keep children together. We have noticed in particular the positive impact this has had on our less able pupils, who have thoroughly engaged in lessons and made some wonderful contributions to learning. The ethos that we learn from mistakes and therefore it is acceptable to make them has increased their confidence greatly.

Stake-holders response to Mathematics at Banks Road

'I love Maths because we get to use equipment to solve problems' (Year 2 Pupil)

'If you make a mistake, you learn from it and try again' (Year 2 Pupil)

'The children seem much more confident to have a go and learn from mistakes.' (Class Teacher)

'Children's problem solving and reasoning skills have really improved'. (Class Teacher)

Photographs



(Improved use of manipulatives in each class)



(This sums up children's willingness to participate)

Summary and Next Steps

Banks Road were able to improve staff understanding of key features of a mastery lesson and update their planning in line with the mastery approach.

We will continue to develop our planning across the **whole** school and aim to work collaboratively with the MathsHub in the future to inform better practice.

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>

Follow us on Twitter: EM_MathsHub

Email: mathshub@george-spencer.notts.sch.uk