



Developing Mathematical Fluency in Early Years Foundation Stage Case Study

Study 2 - Newfold Primary School

“What’s nice about the EYFS project is that we all do it in different ways. We use the same basic principles but we deliver it in different ways to suit our children and our settings. That’s a really important message for all schools, that no matter whether or not you use text books, you shape the mathematical journey. As long as the principles are consistently applied and you’re forever challenging the way you look at mathematical learning, that’s what’s important.”

Lucy Yates, Specialist Leader in Education (SLE)

Interviewees – quoted in italics

Phil Edge, Headteacher, Newfold Primary School, Wigan

Lucy Yates, EYFS Practitioner, Newfold Primary School, Wigan and EYFS/Maths SLE

Background

Newfold Primary School, Wigan, has 467 pupils, of whom 5% qualify for Pupil Premium. There are 18 teachers and 13 Learning Support Assistants. It was one of ten pilot schools involved in the ‘Developing Mathematical Fluency in Early Years Foundation Stage’ programme in 2016/17, developed by North West Maths Hub 3.

Although the school did not feel that there was a problem with maths in terms of results, teachers felt that the pupils did not have the depth of learning that was needed. They had discovered this when they were piloting “Maths Inspire” textbooks for the Department for Education (DfE). Using the text books in Y1 had not worked for them, so they asked if they could adapt the approach, keeping the strategies without using a text book with the pupils. The Maths hub agreed and the new approach was successful throughout the school.

“What we felt was really important was the quality CPD for teachers, because without good teaching you don’t get good maths. So we were quite confident when we got to the Maths Hub EYFS pilot that the strategies such as greater depth and breaking maths into much smaller steps, which had been well led here, would work well. Actually it worked even better than we had thought.” Phil Edge, Head Teacher.

Introducing the Programme

Lucy, Newfold's EYFS Practitioner, was trained on the programme and introduced it into nursery as well as reception, ensuring that it became a whole early years maths curriculum at the school.

"It is clearly a reception programme but we have chosen to incorporate into nursery the elements that lend themselves to it. Now in nursery the children have the same mathematical approach as the rest of the school, which is quite unusual." Said: Lucy Yates.

The way that the programme is taught in reception is to take numbers in sequence, spending a week or two on each, making links between money, time, measure and shape every week. Some of the strategies have now also been introduced into outdoor play. As teachers have become more experienced they have slowed the pace and adapted what they do. So, for example, they may spend three weeks on number ten, where they feel that children need more time or there is a lot to cover.

Every year since its introduction, Newfold have refined their use of the programme. They change the speed at which they work depending on the needs of the class and they incorporate the children's interests. The aim is to adapt what is done to the needs of each cohort.

"I really believed in the approach right from the first year. It was a much slower pace because you were looking at a deeper level of understanding. Some teachers were initially concerned because they weren't getting through the curriculum. I decided it was an issue of brave leadership. If the results dip in this first year because we're embedding a greater depth of learning, we'll take that because we know that we will see the results in the longer term. Actually results didn't dip because after the first few months of slowly building the strategies, and as teachers became more confident, we started to pick up the pace." Phil Edge, Head Teacher.

Outcomes

The programme has had a big impact on the depth of children's understanding of maths. They are using money all the time, confidently paying for their snack every day, making a link with the number rather than seeing it as a week on money, a week on shape etc.

"During the first year what surprised us was the children's confidence with money – their ability to find the correct coins. They were using money to do addition and subtraction themselves because they saw it as number rather than as a separate issue." Lucy Yates.

The children do a lot more talking now in maths lessons and are increasingly confident in explaining why they are doing things. Their mathematical vocabulary is a real strength. They use it not just in maths lessons but in other areas as well and parents are encouraged to use the same vocabulary.

"Because there is no distinction between the menu that you give to all children in this programme, they can all access it at a level at which they can understand. So even children who might historically have struggled, love maths, because there's no barrier for them, across the whole range of abilities." Lucy Yates.

Feedback from the Y1 teacher is that children entering that year have had a greater depth of mathematical learning since this programme was introduced.

“What we really want is that there’s a seamless transition of mathematical learning from early years right through school. It takes time and as a staff you’ve got to be brave. You need to be a part of the learning and willing to change the way you think about maths.” Phil Edge, Head Teacher.

Parents are happy with what their children are doing. The approach is explained to them at the Intake Evening and they are invited to observe maths lessons in nursery and reception.

“I think this programme has made a massive difference to everybody’s life connected to this community. Not just teachers and leaders - parents can see that the children are enthused by maths. Most importantly, the children love maths. You can ask anybody at any time about how they feel about maths and they will just gush about it.” Phil Edge, Head Teacher.

In January 2019 the school hosted two teachers from Shanghai for a fortnight as part of the England/Shanghai teacher exchange. About 230 schools visited to observe their mathematical teaching. All of the school’s staff had the opportunity to observe the Chinese teachers and the Chinese teachers observed Newfold staff teaching in reception. They were amazed at what the reception children could do, as children in Shanghai do not start school until they are seven.”

“What’s really important is that pupils who might find learning quite a challenge in some areas will enthuse about maths. And if they’re confident about approaching mathematical learning it will stand them in good stead. For all of our pupils, we’re building up for the next stage in their journey. We have a duty to provide our children with the very best opportunities we can to set them up for a brighter future.” Phil Edge, Head Teacher.

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