



Northwood Primary School Case Study - Three Perspectives

"We don't do it for data. We do it to ensure that the children can cope in the real world. Without the training and support of the Maths Hub we wouldn't be so far along on our journey."

Darren Partington, Maths Team and Primary Mastery Specialist

Interviewees – quoted in italics

Jason Hollywood, Headteacher

Kerry Croxford, Maths Lead

Darren Partington, Maths Team Member and Primary Mastery Specialist

The School

Northwood Community Primary School in Knowsley, Merseyside, has 522 pupils (including approximately 50 in Designated Special Provision), 29 teachers and 30 Teaching Assistants. 60% of its pupils qualify for pupil premium funding. It is situated in an area of high deprivation where many parents do not value education. The school offers a free lunch to all pupils. There is also a breakfast club provided at minimal cost to parents.

[Lisa Bradshaw – NW3 Maths Hub Lead](#)

In July 2015 [Northwood](#) was considered to be "Good" by Ofsted.

The Headteacher

[Sarah Makin – NW3 Maths Hub Administrator](#)

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Jason joined the school as Headteacher in September 2014. In 2016 he had a conversation with a headteacher friend who had previously been a Maths Consultant and who was using Singapore Maths, because he felt that the way that he and most teachers in the UK had been teaching maths was flawed. Since Jason trusted his judgement and his comments made sense, he decided to explore the possibilities, with the result that Northwood also introduced Singapore Maths, which they did with the help of a different headteacher working in a nearby local authority area.

Northwood was told that most schools introduced Singapore Maths one year group at a time, but in September 2016 it was decided to introduce it to the whole school at the same time, following two days

of training for all staff. *"I'm all about authentic, real improvement so I decided to throw us into it hook, line and sinker. We felt that it fitted in with where we were; our Kagan strategies, metacognition and our understanding of Mastery. Coaching was becoming a key driver for change and it still is. We didn't care where support for this work came from, so long as the quality was good."* So, having begun the change process, they then turned to Northwest Maths Hub 3, with their Maths Lead attending a subject leadership day and, together with another teacher, becoming involved with a Teacher Research Group (TRG) as part of the National Teaching for Mastery (TFM) Programme.

Northwood's maths results were never poor but, since beginning their Teaching for Mastery journey, there has been a significant trajectory of improvement, to a point where they are beginning to win awards. *"Amongst other improvements we can now clearly see at an early stage who the naturally gifted mathematicians are."*

"Both the Singapore Maths consultant and the leadership of the Maths Hub respect each other, so using support from both doesn't present a problem. They are all constantly researching and thinking and it's great for us to be amongst them."

The staff have seen the benefit beyond the maths curriculum. They have two lead practitioners, who both oversee maths and English, and who are instrumental in enabling them to focus on what they see as the right things. *"It's not about short-term gains. Everything is for the pupils. It's about moral purpose. We have to do what we know is right. If we get the collaborations right, with the Maths Hub, the Teaching School Alliance etc, we can achieve more than we ever have in the past. Children have started to tell us how much they love maths. We honestly didn't expect that."*

The Maths Lead

In 2015/16 Kerry didn't feel that the maths plans that the school was using were meeting all of the pupils' needs. She spent that year looking at different approaches, including the Shanghai and Singapore schemes. It was decided to adopt "Maths No Problem" (Singapore) but they were worried that just using the workbooks would be dry and wanted more than that. So they currently use the "Maths No Problem" daily lesson plus a skills book, primarily based on activities from the Maths Hub and St Helens Teaching School Alliance.

"I went on a Subject Leads course led by Maths Hub NW 3 trainers and I thought – these two are great, they know what they are talking about. It was significantly better than any subject leader training I'd done previously." Kerry joined the NW3 Excellent Maths Teacher Programme, then together with an Early Years practitioner from Northwood, became involved in the Teacher Research Group (TRG) National TFM Programme *"We often feel that Early Years gets neglected and it's a significant area for us as many of the children come in so far behind. We wanted to start to develop the mastery approach as early as possible, which has helped transition to Y1."*

All staff have now accessed Maths Hub year group training and the school has had two more teachers on the Excellent Maths Teacher Programme, so Early Years, KS1 and KS2 now all have strong trained maths

practitioners. Kerry acknowledges that there has sometimes been a tension between Maths No Problem and the Maths Hub training but says that this has not been a problem because Northwood's staff feel that, for their pupils, one approach is not going to result in complete mastery.

"We have to go with what we feel is right, taking the elements that will suit us and we are quite strong in doing that. If we look back now three or four years down the line I don't think anyone can argue with the decisions that we've made. The worry I had was Greater Depth (GD) children. I thought they were going to be left behind. But we are astounded by the data they are producing as well. It's working for them. Our GD last year (30%) was above the national average. We've never had anything like that before."

However, it is clear that Northwood's Maths Mastery journey has not been an easy one. Some of their children join the school with very low mathematical skills and little experience of maths outside of school. The Teaching for Mastery approach is a completely different way of teaching and initially a lesson was taking two hours. It seemed like a very slow approach as teachers were going into such depth in every lesson. At times they felt that they couldn't do it but they were encouraged to persevere and within a term became more proficient in delivery, feeling confident to tailor what they did. All new staff have training as soon as possible and there is always at least one teacher in each year group who is experienced in this way of teaching.

At the end of the first year the school was already seeing improved outcomes. They have now had three years of improvement. Pupils are very engaged in their maths learning. In response to questionnaires, parents say their children are much more positive now about maths. Triangulation of what is seen in books, what the children are saying, and the data are all painting a very positive picture.

Kerry and the Deputy Headteacher for Inclusion have recently attended the NW Maths Hub 3's Primary Maths and SEND project to address the needs of the pupils in the school's Designated Special Provision.

"What we're doing now with the Maths Hub, having our own Primary Maths Specialist based at the school, is just fantastic. Now the maths team here is really strong. What I like about it from a teacher's point of view is that my time is spent preparing resources for the lesson. It's not spent thinking 'What am I going to teach? Where's the progression?' This has a knock on effect – teachers' confidence rises and teacher engagement increases. Staff are really positive now about what we're doing in maths. And as the children see that, it filters through to them."

Northwood is now focusing on KS1, which continues to be an area needing development. Kerry's view is that *"The longer the children are with us, the bigger the impact we have on them."*

"We've not just taken on 'Maths No Problem'. You can't just buy a maths scheme of work and then that's all you do, expecting that maths results will go up. It's everything – Kagan, financial education, enterprise week, working in collaboration, life skills, expectations from the staff, Maths Hub training. We are currently the Liverpool Echo Most Inspirational School of the Year. That's a recognition of the whole package of what we are trying to do."

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The Teacher

Darren Partington is a Maths Team Member at Northwood and a Primary Mastery Specialist (Cohort 4). He has a background in IT and PE and has taught at the school since it opened in 2011.

“When Singapore Maths was first introduced at Northwood I, and probably others, thought - here we go again, something that has been repackaged and probably won’t work. But then Kerry did some training and brought it back to the staff and a consultant came in and worked with us. Then more of us started to go out to Maths Hub training in year groups with people from other schools. We began to see where this was going, why we were doing it, realising that we had never done this before. It’s not another quick fix and if we do this right this is going to bring a massive improvement for the children. I thought - this is my style of teaching, a platform that we need for our children, our school. This is something I want to get involved in. From there we linked into NW Maths Hub 3 and we knew they were doing great things. Instead of maths being seen as a mechanical process, pupils became deeper thinkers. It blew my mind. I was thinking why didn’t we do this 10 years ago?”

Darren feels that, as well as outcomes improving, the children’s language and thinking have improved significantly. *“The children are explaining their reasoning, they’re doing calculations, they’re making decisions.”* He acknowledges that there is still a long way to go, but the benefits can now be seen, as the Mastery approach is being embedded in the school. It has been a steep learning curve but, with the support of the Maths Hub and the Teacher Research Groups (TRGs), staff have become much more confident.

As a result of involvement in the TRGs, the school has adopted a similar style of observations and coaching. So now for maths and English each teacher has a coaching partner, all have coaching teams and everyone identifies things in their own teaching that they want their coach to look at to help their teaching to develop.

“We did a lot of coaching and got involved in TRGs and now you can watch any maths lesson in the school and see the same style. The children’s vocabulary has improved, their understanding is improving and so is their love of maths. Now we’re getting more lightbulb moments in maths than we’ve ever had.”

“Maths Hub training has given us an understanding about the depth of mathematical thinking that we then bring back to school. Teachers are now understanding that, if you spend more time on the discovery bit, the rest of it is easy. It’s opened up doors for staff to say – I don’t know it, can you help me? Where before teachers were unlikely to admit that they didn’t know something. Because of the TRGs set up by the Maths Hub we’ve copied that style at school and it’s allowed teachers to be more open with each other and self critical.”

“For me, working with the Maths Hub has given me back my enthusiasm for teaching. Because when you’ve taught for a number of years and you’re not going for Deputy or Headship you can get lost. What the Maths Hub has done is given me back my spark.” Jill Baker

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Appendix - Northwood Primary School

Maths Data

EYFS - Percentage of pupils achieving a Good Level of Development

	Northwood	National
2018	72	71.5
2017	70	70
2016	63	69

KS1 - Percentage of pupils achieving the Expected Standard

	Northwood 2018	National 2018	Northwood 2017	National 2017	Northwood 2016	National 2016
Maths EXP	72	74	74	76	75	73

KS2 - Percentage of pupils achieving the Expected Standard

	Northwood 2018	National 2018	Northwood 2017	National 2017	Northwood 2016	National 2016
Maths EXP	86	76	90	75	78	70

- From 2016 to 2018 there was a significant increase in the percentage of Northwood pupils achieving the Expected Standard at KS2. Each year Northwood exceeded national scores.

Extracts from the Primary Inspection Data Summary Report 2018, for Key Stage 2

- Mathematics progress was in the top 20% for at least two years for all pupils, low prior attainers, middle prior attainers and disadvantaged pupils.
- In 2016 progress in Mathematics was above average. In 2017 and 2018 progress was significantly above average and in the highest 10%.

A selection of pupil responses to the question “What do you like or dislike about maths at Northwood?”

- We’re encouraged to never give up.
- Our stickers tell us what we need to do.
- We can talk to each other if we are stuck.
- We’re always working stuff out.
- It’s really useful for life.
- We get to pick our own methods.
- We never stop learning.

Northwood Community Primary

Statutory Testing

ATTAINMENT

2014 – 2018

	Reception GLD		Y1 Phonics Screening		End of KS1 (Y2) %						End of KS2 (Y6 Tests) %									
					Reading		Writing		Maths		Reading		Writing		EGPS		Maths		RWM Combined	
	Incl. DSP	Excl. DSP	Incl. DSP	Excl. DSP	Incl. DSP	Excl. DSP	Incl. DSP	Excl. DSP	Incl. DSP	Excl. DSP	Incl. DSP	Excl. DSP	Incl. DSP	Excl. DSP	Incl. DSP	Excl. DSP	Incl. DSP	Excl. DSP	Incl. DSP	Excl. DSP
2014	48	53	57	67	80	83	69	71	87	90	82	93	63	73	63	73	79	89	63	73
2015	55	65	66	72	77	81	82	87	84	88	79	83	59	56	68	75	79	90	48	56
2016	63	63	72	73	59	66	54	63	67	74	38	42	62	67	77	82	72	78	37	40
Nat	69		81		74		65		73		66		74		73		70		53	
2017	68	70	73	75	62	65	57	59	69	74	80	85	70	82	80	88	80	90	65	75
Nat					76		68		75		72		76		77		75		61	
2018			78	76	66	70	63	67	67	72	73	75	70	76	79	85	81	86		
Nat					75		70		76		75				78		76			

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