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Sustaining excellence in mathematics: Coxhoe Primary School

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Brief description

Coxhoe Primary School is highly successful in securing pupils' enjoyment and achievement in mathematics. A high proportion meets and exceeds national expectations each year and they are very well prepared for the next stage in their mathematics education. This case study explores the actions of school leaders to sustain and develop high-quality mathematics provision across the school.

Overview – the school's message

'We value all pupils and believe that our role as educators is to help them to unlock their potential, have high aspirations for themselves and achieve the highest standards possible. We believe this is achievable for all, based upon a foundation of well-structured teaching and learning which engages and enthuses pupils, delivered by a team of committed practitioners who focus on individuals and help them to – in the motto of the school – "believe and achieve".

I have been headteacher for four years and joined a school judged to be outstanding. Results for mathematics were already very good so my role is to ensure that we not only sustain and improve these standards but also develop pupils' understanding and enjoyment of mathematics across the whole school. The last few years have seen significant changes in staffing so it has been equally important to ensure that new and existing staff are applying the same standards and practice in mathematics and securing provision for all groups of pupils and in all year groups that is never less than good.'



The Senior Management Team

Stephen Jones, Headteacher

The good practice in detail

How do successful primary schools ensure high-quality provision and outcomes in mathematics? What are the actions of leaders and managers that help to sustain this? The approach at Coxhoe Primary School to developing outstanding mathematics provision is based on a range of important factors, including inclusivity, flexibility and consistency. This case study looks in detail at these elements and how they contribute to the success and growing popularity of the school.

'Not just caring, but caring about achievement'

Parents and carers value greatly the caring ethos of the school and its emphasis on the welfare of every child. But as deputy headteacher Jayne Bartle explains: 'It's not just about caring for pupils, but caring about their achievement'. This principle is seen in the school's approach to intervention in support of those children at risk of underachievement. Rigorous and highly accurate assessment underpins the identification of pupils who would benefit from additional support. For example, teachers routinely update and annotate their planning to identify those pupils who have not grasped fully key concepts and ideas. But Jayne is quick to point out that the school's systems for recording assessment information are not bureaucratic or time-consuming: 'We always ask, what does doing this or that add to teaching and learning?' The school's emphasis on ensuring good communication between teachers and teaching assistants ensures pupils receive the support they need promptly and



effectively. By ensuring that intervention is provided to maintain good progress, extra support isn't seen as the preserve of lower-attaining children or those at key thresholds in particular year groups. As a result, the approach is highly inclusive of all pupils – as one Year Five child remarked: 'Everyone needs a little help with their maths sometimes.'

This inclusive approach extends to staff development too. A strong sense of teamwork and collaboration is evident right across the school. Headteacher Stephen Jones is quick to point to the benefits this brings: 'The quality of communication between staff across the school is a key strength. Staff meet regularly to review progress, establish priorities and work together to improve provision. Staff meetings are never about admin – we talk about what matters; teaching and learning'. For example, where monitoring identifies training needs, these are frequently provided through colleagues working together, discussing ideas and sharing effective practice. An important element in the monitoring of provision is scrutinising teachers' weekly planning, which is submitted to a shared area on the school's computer network. This also provides a rich bank of planning material, activities and resources that are available to all staff to support their practice. A further feature to the monitoring is in linking closely the scrutiny of planning with the subsequent work in pupils' books. In this way, and by paying close attention to the mathematical detail, leaders can evaluate the effectiveness of planning on the intended learning.

Together with judicious use of external support, the school works hard to plan for succession and to support teachers who are taking on roles of responsibility. Stephen worked alongside Marie O'Sullivan, the school's mathematics coordinator, to help her develop her expertise in taking greater responsibility for leading on aspects of staff development and curriculum innovation. When a deputy headteacher had secured a promoted post in another school,

Stephen ensured that a colleague with management responsibility was able to 'shadow' the role to gain a better understanding of the tasks and responsibilities involved.

Flexible provision – a focus on 'what works'

An important element in the school's success is its willingness to embrace the need to adapt and change. Few structures are 'set in stone'. As Jayne Bartle explains: 'There is a culture here of constant evaluation and reflection – nothing is ever "cracked"'. Using assessment information, the school identifies pupils in Key Stage 2 who would benefit from being taught mathematics with the year group above. However, the school regularly evaluates the effectiveness of this approach and adapts it where necessary. For example, to ensure the learning needs of pupils are even more sharply met, the school has refined this strategy to group pupils by levels of attainment rather than by creating broader mixed-year classes.



The Early Years Foundation Stage is a mathematically rich environment. The emphasis on mathematical language – a feature of the school's work across all year groups – is never more evident than it is in the Reception class. Teaching is lively and engaging and makes good use of sounds and images to develop children's interest in and enjoyment of mathematics. Despite these strengths, leaders are sensitive to the needs of some children who are not always ready to make the move to more formal ways of working in Year 1. As a result, the school has adapted its use of the infant area by providing three teaching spaces for children in the Reception Year and Year 1 to work. This enables different learning environments and teaching approaches to be provided for children who are at different stages in their personal development.

From policy to practice – and back again

While flexibility and sensitivity to pupils' needs are the cornerstones of the school's work, Stephen also recognises the importance of ensuring consistency: 'All staff receive feedback about their teaching and the whole staff discuss trends or patterns which emerge and these inform school practice and ensure greater consistency'. A significant outcome of this approach has been the development of the calculation policy. Following an analysis of summative assessment information and a review of the outcomes of monitoring, leaders identified weaknesses in pupils' methods of written and mental calculation. Although existing approaches were based around well-established materials from the National Strategy, many pupils were confused by the range of alternative methods they were being taught. Following this, staff worked together to develop a policy exemplifying and simplifying progression in all four operations. As a result, pupils are secure in their understanding of the methods they use and more confident in applying them to a range of problems.

Analysis of the latest assessment information has identified concerns in the teaching of data handling and shape, space and measure across the school. As Stephen explains: 'When I monitored lessons across year groups, I could see that pupils were able to collect data and draw graphs and charts for example – but I couldn't see the progression in understanding and applying these skills'. A further issue was the mismatch that was identified with content in the science curriculum: pupils were being expected to draw and interpret line graphs that they had yet to encounter in mathematics. The response has been to work as a staff to

develop guidance on progression in the teaching of data handling. As Stephen explains: 'We'll start with the key objectives from Reception to Year 6, unpick the progression and share our approaches and activities'. Marie and Stephen's monitoring revealed similar issues in the progressive development of understanding in shape, space and measure. Work to develop a parallel policy for this strand of the mathematics curriculum is about to get underway.

Regular monitoring is a crucial element in securing consistency across the school. A common planning template has been implemented to ensure a sharp focus on planning for 'key questions' to probe pupils' understanding. A by-product of this shared approach to planning is that discussions between teachers don't get bogged down in variations in approaches to planning. As Jayne explains: 'Instead of saying "I don't do it like that", staff focus on the teaching and learning'. This approach underpins provision that is typically good and outstanding. A group of pupils from Years 5 and 6 endorsed this view. They said that they like their mathematics lessons, that mathematics is fun and they enjoy solving problems. They all gave mathematics '10 out of 10'!

The school's background

Coxhoe Primary School is an average-sized school whose pupils come from Coxhoe Village near Durham. The school is highly regarded in the local community and is currently expanding in size to cater for rising numbers of pupils. It was judged outstanding at its previous Ofsted inspection and contributed to Ofsted's [survey](#) of good practice in mathematics, with a focus on arithmetic.

Are you thinking of putting these ideas into practice; or already doing something similar that could help other providers; or just interested? We'd welcome your views and ideas. Get in touch [here](#).

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