Sum people

What training is available to help practitioners revitalise their maths provision? Charlotte Goddard reports

● ‘Maths hubs’ deliver free training. Much is aimed at schools but there are early years work groups that practitioners can get involved in.
● High-quality training is rooted in child development, showing how children develop mathematically. Beware watered-down versions of maths teaching for older children.
● In the EYFS, maths is everywhere, and training needs to reflect that, linking to the Prime and Specific areas and the Characteristics of Effective Learning

In 2014, maths hubs started to spring up around the country. Led by local schools and academy trusts, they aimed to allow schools to learn from each other and in particular to draw from learning from the east Asian countries that top the leaderboard when it comes to children’s mathematical achievement. The idea of ‘maths mastery’ promoted by these countries has become something of a buzzword, and is mentioned in the Government’s proposed new Early Learning Goals. However, some ‘mastery’ training can be inappropriate for those working with younger children (see Expert’s view).

In 2019/20 the network of Hubs is working on a number of early years projects, including a course allowing early years practitioners to develop their mathematical subject knowledge in conjunction with understanding the pedagogy that underpins the teaching of it. Training is free but is generally aimed at early years practitioners working in a school setting, although East Midlands West’s Maths Hub’s Early Years work group, for example, is open to PVI settings.

‘Any training needs to promote an understanding of child development and the development of mathematical thinking from birth,’ says consultant and trainer Di Chilvers. ‘When babies are born they show signs of recognising patterns and the way they are ordered, for example.’ Courses might look at maths and music or maths and outdoor learning, or schematic play. ‘In the EYFS, maths is everywhere, ‘ says Ms Chilvers. ‘Mathematical development comes through all kinds of experiences in the enabling environment, child-led play, problem-solving, the Characteristics of Effective Learning and adult-focused teaching of knowledge and skills which are developmentally appropriate. Adults who know that maths happens at any time, in any place for young children is important, as well as realising that these are the best opportunities to see how much children really understand.’
High-quality training will teach practitioners to recognise maths in a child’s play. ‘Training about children’s schematic development is helpful, but there is little talk about how schemas underpin children’s mathematical development,’ Ms Chilvers says. ‘We know children’s schematic thinking, if it is supported, forms the foundations for later complex mathematical concepts, especially around spatial awareness, seeing patterns in numbers, measurement, geometry, conservation of number and problem-solving. This is an area of young children’s development which everyone who works with children in the EYFS and KS1 should be aware of.’

Evidence-based training
Practitioners are increasingly looking for the evidence base when choosing training. The NDNA’s Maths Champions training programme, for example, has been evaluated by the Education Endowment Foundation, which found that children in settings which signed up to it showed an average of two extra months’ progress when compared to those in settings which were not taking part.

Mathematics is one of the four Specific areas of the EYFS, alongside literacy, understanding the world and expressive arts and design. The EYFS statutory framework says mathematics involves providing children with opportunities to develop and improve their skills in counting, understanding and using numbers, calculating simple addition and subtraction problems; and to describe shapes, spaces, and measure. There are currently two Early Learning Goals, covering numbers and shape, space and measure. However, proposed changes will see ELGs focusing on number and numerical patterns. Many in the sector have concerns about the removal of shape, space and measure, including Early Education, which wrote in a review of the changes, ‘It is absolutely crucial that the maths ELG doesn’t become purely number-focused.’

Sue Finch, one of three Reception teachers in a Bexley primary school, says attending free training offered by her local Maths Hub and delivered by EYFS and KS1 practitioner Elaine Bennett (see box) inspired her to revamp her setting’s outdoor space. ‘The course took place over four days spread over a few weeks,’ she says. ‘It was really inspiring and made me re-evaluate everything we do.’

Ms Finch says the key message she took was that maths should be everywhere in the setting, not confined to a specific maths area. The school has put together a parent donation wish list with items to enhance the outdoor area in particular. ‘It includes spoons, measuring jugs, pipes to use in water play and different stones, beads and glass pebbles the children can make patterns with.’

The training also inspired Ms Finch to look more closely at observation and planning. ‘As part of the course we had to choose a child and observe them to see what they are doing,’ she explains. ‘They might not look like they are learning anything, but when you sit and observe you see they are doing counting, or looking at shapes, or measuring. It might not be about doing a focus activity with that child, but observing what maths they are doing on their own and planning how to help them move on, interacting rather than watching.’

Thanks to her participation in the training, Ms Finch has moved into the role of shadow maths lead at her school, with responsibility for early years. She now intends to run training in her own school, to share what she has learned with the rest of the staff.

EXPERT’s VIEW: Elaine Bennett, consultant/teacher

For many practitioners, maths training needs to be focused on increasing their own confidence. A negative experience of maths at secondary school can shape the maths they provide in early years, so training has to ‘bring it back’.

That is difficult in the current climate of Bold Beginnings, proposed EYFS changes, and the Reception baseline assessment. For more young children, maths is becoming about schemes, scripted lessons and worksheets – this is simply not appropriate or effective.

People have to understand what children need to learn mathematically in an enabling environment with skilled, fascinated adults teaching children through high-quality interactions. There are four overarching principles of the EYFS – the unique child, the enabling environment, positive relationships and learning and development. They are all crucial elements of maths training.

Some courses are just focused on the subject knowledge and they miss out the importance of environment and interactions, for example.

There is a lot of maths training run by people who are not early years specialists, and that can be problematic. Mastery, for example, is something that is on the agenda in maths education, but mastery in Year 6 is not the same as mastery in Reception or nursery. Be careful, because you can end up going on training which is a watered-down version of primary maths. I would say look at Early Education or go through the Early Years Maths Hubs like the one I lead in south east London, because then you know you are getting training with an early years maths specialist.

Some of the proposed changes to Early Learning Goals are very worrying. Recall of number bonds, for example, is an inappropriate goal for four- and five-year-olds, and if you expect 60-month-old children to instantly recall abstract number facts then that will lead to a certain type of teaching, learning and testing. If shape, space and measure are removed, we must all ensure we do not ever stop giving children these vital opportunities.

resources and guidance
Some Early Years Maths Hubs have free early years resources, including:


The National Centre for Excellence in the Teaching of Mathematics launched an early years section of its website in November last year ➔ https://bit.ly/2lwTui

The University of Cambridge’s NRICH project has EYFS resources including activities around number, shape and space, and measures ➔ https://bit.ly/33eQI8p

The Foundation Years website has games, activities and links to other sites ➔ https://bit.ly/2Ojkaa

training

Making maths marvellous: developing effective maths pedagogy in the EYFS. One day, delivered by Elaine Bennett for Early Education ➔ https://bit.ly/35gNtiA

