

MINI CASE STUDY: THE SIMPLE USE OF MARKS TO DEVELOP MATHEMATICAL RECORDINGS

At Childhaven Nursery School, we are astute as experienced practitioners to be ready when children show eagerness and enthusiasm in any area of learning.

To observe, notice and co-play, we can be prepared to interact as we feel is appropriate, to model, suggest, show, narrate and provide resources.

As we have maths possibilities all around our spaces we are never quite sure how or when children will spark a little flame and suddenly the awe and wonder is occurring.

While sat in our charming hall space, a small group of children were sat together making patterns with small wooden cubes. Some were stacking them, some were lining them up and counting, one little boy was putting 2 together then 2 more, then telling me he had 4 all together (be mindful these children were 2, 3 and 4 years old).

One of the children had a basket, he placed it on the floor and started to aim the cubes gently towards it. It triggered a ripple, and the others followed.

“I got 2 in the basket.”

“Oh no mine missed, now I got 1 in too.”

One boy was using his fingers to show how many cubes his peers had got in the basket.

I observed and stepped gently in to suggest I could show him how to record how many they all got.

“We will need some paper and a pen.”

Max jumped up and disappeared into the front room, reappearing a moment later with paper and pen in hand, and passed it to me.

I explained we have to write everyone’s name on the paper, then all have a turn to throw a cube, if it went in then a small line is drawn near that name.

Max listened to me and understood (this little boy has a big dart-oriented family and plays himself). He watched closely and made marks as the cubes went into the basket. At one point he looked at me and said:

“Who has zero Mrs Anderson?”

He was looking at my name written ‘Mrs Anderson’, he had put marks only under Anderson, so it looked like another name (‘Mrs’) had no marks.

The joy and enjoyment this simple game created will stay with all of us.

We as educators teach and model maths problem-solving skills. This includes purposeful ways to apply logical thinking, such as adults providing opportunities for children to learn how to use objects to answer problems. Objects can include manipulatives, for example, gems, cubes, or fingers. As children's understanding of maths concepts develops, educators can start to model how to use other representations when problem-solving, such as pictures, drawings, number tracks and symbols.



what does the evidence say?

Key findings on the Education Endowment Foundation (EEF) Evidence Store highlight:

- The approach of teaching problem-solving skills can have a positive impact on children's early mathematics.
- Sequencing and breaking tasks down, providing prompts to help children problem-solve, and modelling problem-solving strategies can improve mathematics outcomes.
- The approach of teaching problem-solving skills may be more effective when matched to children's levels of development. Learning should move from easy to more difficult.
- Teaching problem-solving skills can help improve outcomes for children living in poverty and children at greater risk of not meeting expected levels of development. However, they may require additional support to accelerate their progress.

To read further evidence please visit the Evidence Store, here:

<https://educationendowmentfoundation.org.uk/early-years/evidence-store/early-mathematics?approach=teaching-problem-solving-skills-for-maths>



THANK YOU FOR READING.

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