

Maths Champions Case Study

Setting: Shepley Preschool

INTENT
Introduction <i>A little bit about your setting, why you joined the programme and what you wanted to achieve from it.</i> Within our setting we have a baby room that takes children from 9 months to 2 years and a preschool room that takes children from 2-5 years. We have lots of funded children that attend setting and some children who have early years pupil premium. We have chosen to focus this training mainly on the preschool room as we feel they will benefit the most from this course, however, we are going to implement age appropriate parts into the baby room that we think they will benefit from once the preschool room is complete. Our deputy manager suggested that we access the programme as she completed it in her old setting and found it very useful and it is good practice to have a maths champion and deputy maths champion in setting. This will allow us to support children, staff and parents to ensure the children are making the most out of their time at preschool and are gaining confidence in maths before they start school. Staff and parents also need to feel confident in maths to be able to plan and carry out meaningful activities. We hoped that by completing this course we would be better able to support children in reaching their full potential. Myself and another staff member who works in the preschool room were chosen by our managers to become maths champion and deputy maths champion and we were enthusiastic about expanding our knowledge and creating a positive impact within the setting.
How did you decide what to do? <i>What did the audits highlight, what changes did you consider and how did you identify the change/s to be made? Did the changes you considered come from the online training or resources etc?</i> Myself and the deputy maths champion completed the first parts of the course together. Where possible we tried to complete the course together so that we could support each other but due to staffing sometimes it was only one of us that could be off the floor doing the training. We delegated the tasks out as evenly as possible and ensured we communicated what we had done and what we needed to do next to all staff. The courses within the programme were really informative and made us realise how much more we could be doing to support children's mathematical development. We ordered lots of resources such as mathematical books and maths resources for our outdoor area. The staff audits made us realise that we weren't confident with patterns especially as we didn't have the resources to practice. We ensured that this was one of the things we worked on and printed out some resources for all the staff to read through and use to help better their knowledge.
IMPLEMENTATION
What did you change or implement? <i>Outline a positive change, or changes, that have taken place as a result of being part of the Maths Champions programme. How did you plan for it and what did you do? How did you plan to assess the benefit of the change on staff practice and children's experiences?</i>

We looked at the areas from the audit that identified we needed to improve the outdoor area and patterns. We wanted to implement the same maths opportunities that are offered inside to outside. We wanted to keep the resources natural but offer the same opportunities. After looking at various resources and researching what would work best and be safe for the children, we added a maths unit to the outside area that can be accessed at all times by the children. Myself and the deputy explained to the children what each tub contained and what they could be used for.

In the tubs we put natural threading that had slices of wood, each slice had various holes, ranging from 1-10 for the children to thread string through. We provided a range of various sized pieces of wood for the children to construct and use for patterns. We added in shells in varying sizes for pattern making, as well as a tub of sticks and a tub full of conkers, pine cones and leaves. There is also a tub with large pebbles. On some of the pebbles I painted numbers 1-10 on one side and painted ladybugs with the same amount of spots on the other side to match the number. Once this was put outside, myself and the deputy spent time observing the children to see what ideas they came up with and how they chose to use the resources.

The children particularly liked using the lady bird pebbles. They used the numbers on side to line up the pebbles in number sequence up to ten and then had a go at doing to same using the lady bug side. They counted spots on the lady bugs to figure out which one came next in the number sequence.

We observed the children lining up the pieces of wood from smallest to largest, then using the wood to make a tower. The children also transported the wood to construct and make houses for the small world people and garages for the cars. They used lots of language such as 'I need that really big one for the roof for my house', 'Look my tower is so big and it's wibbly wobbly.'

Inside, we also added new resources to existing areas. We added wooden building bricks of various shapes and sizes to the small world area. The children have really loved playing with these building, making various structures, from houses, to bridges, to garages, ramps and towers. The children have helped support each other, discussing which bricks would work best for which part of the structure, saying things like 'This one can go here because it's longer and the cars can go faster', 'We need to put this here because it's a triangle like a roof.'

We added some new shape sorter resources, as the ones we had, had pieces missing. We found these to be lots of interest to children, especially the younger children within the room. I observed children working together to place the shapes on the sorter. This has given the children new language and they were learning shape names. Some of the children were saying the shapes looked like things within the environment, such as, the triangle with holes in looked like cheese.

Within the room each member of staff has an area they set up and develop throughout the year. Myself and the deputy looked at the areas and gave pointers of ways to introduce maths into each area. Some staff asked for support to develop maths with their area and others had great confidence in implementing maths within their area.

Myself and the deputy used our online platform to share maths ideas at home with parents. We have had great feedback from this, and parents have told us the things they have done at home. They said that they didn't realise the simple things they can do to encourage maths through everyday tasks by including their children in doing these with them, such as food shopping, reading books, going on walks and collecting natural resources, singing nursery rhymes.

IMPACT
The success and benefit of what you did:
For children <i>What has been the impact of the changes on children's learning and development? How has being involved in the programme made a difference for children in your nursery?</i> We have seen an increase in the children exploring maths indoors and outdoors with the new resources as they are on offer at all times for them to access. There has been an increase with the younger children within the room to access the maths resources. We are seeing the children working and playing together more to create patterns from the loose parts area and construct within the small world. It is great to see children's confidence growing within maths, and they are using more mathematical language at play. It is great to see the children using maths outdoors with the natural resources that are on offer. We see lots more constructing outside and pattern making. Some of the older children uses natural resources they have found to create their own patterns and they are showing staff the things they have made.
For families <i>What has been the impact of the changes on families? How has being involved in the programme made a difference for families whose children attend your nursery?</i> Parents have given us great feedback, telling us that they didn't realise that the simple things can help support maths learning at home, e.g. letting children help with the food shopping, giving them instructions on how many things they need and how big or small the item is that they need. Parents have said they sing more with the children when in the car. We have had great feedback from children going on walks to collect natural resources with parents and some children have brought things in to show their peers in setting.
For staff <i>How has being involved in the programme made a difference to your staff team/individual practitioners? What has been the impact on their practice?</i> Staff have given us positive feedback saying that at the start of the programme they didn't feel as confident with maths as they do now. Some staff have said they worried they would be teaching the wrong thing, however when it was explained how simple some of the things they were already doing were maths related, they felt more at ease with delivering maths to the children. We have seen more staff engaging in maths activities with children, offering lots of language with increased confidence. The new resources we have implemented in setting are being used by the staff also. We have seen staff delivering group maths activities and playing mathematical games. Staff have said that the maths area outside has worked well and they also use this with the children to help and encourage maths outside. We have noticed that staff are finding their own maths activities to carry out with children. We can see what the children's next steps are with maths and are observing them reaching their next steps to grow and develop.
For the Maths Champion and Deputy Maths Champion <i>How has the programme helped you as Maths Champion and Deputy Maths Champion to develop your own practice? What has been the impact on your practice?</i>

Maths champion programme has helped myself and the deputy increase our knowledge with maths and understand how to deliver maths to children. It has also given us inspiration for new activities and ideas of how to introduce maths in all the areas of the room. The resources tab has been very useful and easy to access and use when needed. It was very helpful to be able to email with things we were unsure of, and the help received was great and kept us going on the right track. When given time frames to complete, things worked better for me as it pushed me to make sure things were getting done. The online training was great and gave both me and the deputy a much better understanding of the concepts of different areas within maths and how we can help and support each other, other staff members, parents and children develop and learn.

For the setting

What has been the impact on your environment?

As a setting we have added so many resources inside and in our outdoor area, which is now very enriched, with lots of maths opportunities in every area benefiting children and staff. We also see many more observations, linked to maths, through children's play. The children are seen playing together more than before, using the resources to support their play. They are accessing all the resources, transporting things around to keep play going; children are playing in larger groups and use lots of maths language.

Next steps

What further improvements might you make and how will you continue to monitor the quality of maths opportunities within the setting?

We plan to further develop maths opportunities within the baby room. The next step is to audit the baby room and see what things we can action in there to support staff and the environment.

We will keep posting maths opportunities and suggestions for home on our online system for parents and carers to see and keep building our relationships with parents.

Myself and the deputy will continue to work together to support staff and each other with research and inspiration to keep maths in each area and keep updating them with resources and doing regular audits. If staff are still wanting support in areas we will continue to help and support them.