

Maths Champions Case Study

INTENT
Introduction <i>A little bit about your setting, why you joined the programme and what you wanted to achieve from it.</i>
I am the senior practitioner for our 3–4-year-old room. I also support the development of our over 2's curriculum. As part of this role, I help to develop the quality of provision across the two rooms and support a team of staff to explore the children's interest and extend their learning. Our nursery takes children from birth to five years, and we are open all year round 7am-7pm. We have 4 base rooms and currently have 41 children on our 3–4-year-old room register. Our nursery is set in an affluent area of Rayleigh which means we have a very small number of funded 2-year-old children. Many of our children attend from 9 months all the way through to their school transition so we get to see their progress they make along their journey. We have a large outdoors area that is currently being developed to enhance our outdoor provision for the children. The children have access to the garden area when they want to as well as our award-winning gardening patch where they get to grow their own fruit and vegetables plus herbs to add to various provocations within the room. The math's champion programme was a great opportunity for us as staff to improve our knowledge and awareness of math's and give us the experience to understand how to improve the children's learning. We wanted to explore how to implement math's into everyday play and within the children's interests and move away from '1+1=2' learning. We were very excited to see how this could impact our children especially after many years of their childhood spent in 'lockdown' due to covid and being at home with parents. We found that throughout that time many parents were using workbooks with their children at home to continue their learning and so they had a basic understanding of numbers but we really wanted to break this down for the children to have the foundations to build on their math's learning and understanding, I took on the role as math's champion and the manager of the setting took on the role as deputy math's champion overseeing the progress and helping with ideas.
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>
I first asked all the staff to read and complete the staff audits. I found this particularly helpful when plotting it all onto the spreadsheet to see which staff were struggling in what areas and what staff felt more confident in math's learning. This showed me we had full time staff with more experience within the childcare sector that had good knowledge of how to support children in math's learning and some newer and part time members of staff who weren't as confident and needed some support with this. The environment audit highlighted that we needed to review our resources we had available. We felt that although we used mathematical language while playing with the children we lacked in resources for natural exploration and learning of everyday math's. With all this in mind I began to work on our action plans, referring to the audits to ensure we were covering everything. The maths champion completed all three online training courses and found 'developing Mathematical Thinking in the Early Years: shape, space, measures, and patterns' to be the most beneficial to myself and the staff. It was very informative and simple to follow all the information and facts. I took notes on all useful information and will use this to provide staff with an overview of the main points to increase their knowledge and confidence within our other rooms in the future. At the time of starting the programme we had many staff changes but still wanted to take advantage of all training and resources available to us so took this opportunity for all staff working in our 3–5-year-old room to complete the shape, space and measure training while I cascaded any important information from the other two training courses to staff members while also modelling this within practice.
IMPLEMENTATION
What did you change or implement?

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?

Once audits were complete, we immediately began to look into opportunities for everyday maths exploration. We wanted children to be able to naturally explore maths in the environment at their own pace. We began by introducing number cards into the construction area by using a movable number line where the children could take each card off, take it where they needed too and then peg it back up. At first, we gave the children time to explore this themselves. We wanted to see what ideas the children had about the numbers and what they would do with them. The children were immediately drawn to the number line, taking them all down and laying them out. We heard discussions about how to put it back together, what number goes where. Children were using the cards to count out the bricks from the shelf and matching them to the correct amount. We were so pleased to see the children's natural interests shine and was great to see how they wanted to get involved. We continued to add more number resources into different areas such as a set of weighing scales, tape measures and began introducing maths language. The staff were great at supporting the children through focusing on open ended questioning and suggesting new ideas around maths learning. After completing the loose parts webinar, I was inspired by the endless list of maths learning opportunities. I began to research into the benefits of loose parts. Although we had some loose part resources, many of these were out of the children's reach and for adults to get out. I wanted this to be in our everyday provision so started to slowly add more loose parts in different baskets on a shelf for the children to access. We began by adding corks, lids and tubes to our construction area as this is a big current interest with our 3–5-year-old children. We saw some great building using these while talking about their different shape properties, using words such as 'round' and 'tall'. This is definitely something we would like to continue to support the children with, introducing more loose parts for the children to explore independently. While introducing these new resources and seeing the impact it was having on the children, we soon realised that we needed a space in the room for the children to have free access to all these new provisions of offer. We set out to create a mini maths area where we were able to have our moveable number line, shape pictures and language to support the children and staff with math language. Since introducing this area we provide new resources each week, allowing the children time to explore these in their own way. Here we have seen such great conversations between children and staff about what they are doing whether this be exploring numbers, counting or shape. This is also something we are hoping to continue to develop, supporting the children's current interests and maths learning.

IMPACT

The success and benefit of what you did:

For children

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?

The maths champion programme has allowed us to review our environment and the resources we have available to the children. As a result of this we have made some changes which has seen massive improvement in children's engagement and an increased use of maths language between children within their play. We have witnessed children discussing together about numbers and how they can extend their own learning such as "lets add these together". By adding things such as number cards for the children to freely explore we have seen an increase in the children's confidence in being able to count and understand what each number means by using different resources to do this. Even the quieter, more reserved children have been exploring these resources, listening to what their peers are doing and copying alongside.

For families

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?

We have had parents comment on how they have noticed at home and on weekends children using maths language freely, talking about shapes and numbers they see in the environment. We are currently in the early stages of developing some maths at home bags for children to take home to show parents just how easy it is to introduce maths at home and will be providing this with some information about maths learning too.

For staff

How has being involved in the programme made a difference to your staff team/individual practitioners? What has been the impact on their practice?

Since beginning all the audits for maths champion, staff feel more aware of what is expected and what we need to do to further the children's learning. After completing the training staff feel much more confident in maths and have the knowledge in how to support children with this. I have observed some lovely math experiences being set out for the children to explore and when reflecting on these, staff are able to notice where they can improve and extend this. Staff are now able to identify gaps in children's learning and know how to support this. I feel current staff in our 3–5-year-old room are much more confidence in knowing what 'maths' really is in early years.

For the Maths Champion and Deputy Maths Champion

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?

As maths champion, the programme has given us access to such a huge range of resources that we will continue to use and use to inspire new staff that enter the setting. It has been great seeing the progress the children and the staff have made throughout. I feel the benefit has been huge for me and the whole process has been so eye opening and inspiring. I have loved learning new things along the way, sharing ideas with staff and watching the children build on the foundation skills of maths learning. It has been a great experience, one that I will continue with all the knowledge I now know. The Deputy champion has provided a supporting role as the nursery manager helping to sources resources and plan time for tasks to be completed. The impact has been noticeable in daily practices and plans to imbed what we have learnt thorough updated induction and ongoing CPD and audits are already in place.

For the setting

What has been the impact on your environment?

Throughout our 3–5-year-old room maths is everywhere. We have a great range of maths resources available for the children to access such as weighing scales, clocks, number lines, measuring tapes and calculators. Through this the progress the children and the staff have made is so noticeable in their play while observing them. We are looking forward to continuing the audits for our environment for maths provision and introduce new and exciting opportunities for maths learning.

Next steps

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

The impact of this programme has been so beneficial, we will be continuing all that we have learnt and now know into our continuous provision. As part of my role, I help to develop our over 2's curriculum so will be exploring math's learning within this and how I can cascade the information I have learnt over to the other rooms. By doing this, children will have a basic understanding of math's before they are transition into the next room. I want to look into what we want to do next, what we want to continue and what we want the children to learn from what we do. Following on from this programme we will be developing math's at home bags. These will be sent home one at a time to show the parents what we do and why we do it. These will be sent home with information about what they children are learning from this particular activity. While we have access to the programme, we will be taking advantage to all training courses and resources for us to use while we can.

Thank you for taking part in the Maths Champions programme.