

Maths Champions Case Study

Champion: Maya Clift

Setting: Happy Days Nursery Derriford

INTENT
Introduction <i>A little bit about your setting, why you joined the programme and what you wanted to achieve from it.</i>
Happy Days is a nursery for children 6 months to 4 years old. It is a large nursery with three baby rooms, two toddler rooms and 2 preschool rooms. It is open all year round and is open from 7am-7pm. It is a nursery which encourages the children to play through free flow, with freedom to play with what toys they enjoy, and to move freely between inside and outside, but also has routine through registers and small group activities, especially when moving into the preschool rooms. The nursery joined the programme as maths is in our everyday lives, and that the course would provide long lasting positive effects on the children that are to go through the nursery. Encouraging more children from a younger age to engage in more activities and experiences that involve maths can give them more knowledge as they get older through schooling and outside world experiences. It was also used to gain insight into the confidence of staff and using maths within the rooms, and how they can support the children through a wider range of activities and what resources would best support that.
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 took part in 3 online courses which opened my eyes to the number of opportunities which we can be using maths within the rooms. The biggest change that I felt needed to happen was implementing new resources. The staff allowed me to see that although they have the knowledge of how to implement maths in their activities, they found that what they had was getting repetitive and that the children weren't engaging in those activities anymore as they were seeing the same things every day. From the online activities I saw that having a wider range of resources such as puzzles, construction, games and items around the room that can be used such as rulers, calculators and bean bags with numbers could encourage the children to be seeing numbers more regularly, and give them a wider range of activities and items that they could choose to play with that were maths focused. I also spoke with staff and saw that there are opportunities for us to also be using maths language with the children, whether it is outside in the garden, when sat at mealtimes or reading a story, it was just having the confidence to use it more regularly. Lastly, I felt that although we are always trying to find ways to encourage maths within the room, the garden was lacking opportunities for children to engage in similar experiences outside. Giving the children the same chance to take part in maths rich activities outside is so important especially when the nursery is free flow, and some children spend just as much time outside as they do inside.
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>

I firstly decided to go around the rooms and see what resources the rooms already had. I found that the baby rooms and toddler rooms already had a range of resources that were suitable for their age range such as bubbles, sand, blocks, and small world play. I also observed lots of opportunities within their rhyme times, story reading and conversations staff were having with the children. I implemented a few new resources after doing the course based on shape sorters and puzzles, as I found this helps not only their mathematics skills, but finger and hand strength, problem solving and perseverance skills.

When I then focused on the preschool room, I found that they lacked a range of visual resources that should be accessible for them such as items that show numbers, patterns and shapes. Resources were then provided such as bean bags that showed numbers and shapes, calculators, rulers, tape measures and a large number grid with dice. These were all placed in baskets that were easily accessible for the children to play with, and objects that provided visual images meant that they were always being exposed to the opportunity to see numbers and patterns. I then observed these new changes to the room and was so happy to see children intrigued in seeing new items and asking questions about how to use them, and what they mean. Having this opportunity to encourage children to question things allows for discussions to be had with both staff and the other peers around them and gives them the chance to work together to problem solve through trial and error.

We also found that the children loved engaging in construction play, whether it was through Duplo, magnetics, blocks or natural materials. We provided a wider range of resources such as different coloured connect bricks and mobilo which challenged their abilities by giving them new ways to fit items together through screws, clips and connectors. When observing the children play with the connect bricks, I noticed that children using cardinality as they were beginning to see differences in quantities and patterns, as they would group things together in different ways. These opportunities gave the staff the opportunity to play alongside the children and ask questions such as 'how what different colours have you got?' and 'can we add and more?'.

Although most staff, through the staff audit, said they were mostly confident, I found that there was a few that needed the confidence to use mathematical language in everyday conversations such as at mealtimes, playing outside and free play. One supervisor had told me that although they are capable, it's about remembering and seeing that maths can be used anywhere. I observed a mealtime with her and was say happy to see her counting with the children when placing down plates and cups and used quantities when measuring amounts such as when pouring water and milk.

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?

This programme has led to some big changes with the different activities that are provided for the children within their free flow play. I have seen an increase in the number of children engaging in construction play, wanting to build, and work together with their friends to construct a range of different things. Doing this helps their cognitive development where they are analysing, using positional language and using their social skills to communicate their ideas.

Within the younger aged rooms, providing children with more puzzles and problem-solving activities has given the children more opportunities to also use their cognitive skills, but has also allowed them to use their fine and gross motor skills which can in turn encourage hand eye coordination.

Having lots more visual mathematics within the preschool room has given all children a chance to see numbers, colours, shapes and patterns. Some children who were more reserved have begun to engage more with asking staff 'what number is this' and asking for help on using the calculators and rulers when measuring.

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?

Using more maths based next steps around number recognition, and small group activities to support children's confidence when working together with other children has been used more regularly.

This allows for the families to see what the staff are working towards that month to support the children within the nursery, and gives them the opportunity to also support this at home, giving families guidance on what they can do and a chance to ask questions on how they may be able to help.

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?

The biggest different with the staff in the nursery is their increase in confidence to use more mathematical language within their everyday conversations. Having supported the staff in understanding what I could do to help, I have given the staff the resources that they required to give them the opportunity to engage more with the children. I have been so happy to see staff having more conversations with the children at times such as meals and through stories, asking questions and getting the children engaged.

The supervisors have been very positive with getting on board and supporting the staff in the room and allowing me to provide for them their needs.

Overall, I feel that the staff have taken on board what I set out for us all to do, and I am now being able to see the positive impacts it has on their confidence with communicating with the children and the wider range of activities and experiences they are able to provide for them.

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 I have had so many new experiences which have increased my knowledge around ways I can use maths within the rooms, and ways I can support others. Completing the online training opened my eyes to concepts I wasn't fully confident on such as cardinality and the wide range of resources shown to us has inspired me to use it within my practice now and in the future.

I felt supported within my course especially those running the course, knowing that they were at the end of an email when I needed support, and the online webinars were very helpful to see first hand things that I could be doing with out nursery.

Thank you so much!

For the setting

What has been the impact on your environment?

The environment has now become a space where children are engaging with a wider range of resources and are especially working together when taking part in constructive play. Children who may have once been more reserved are asking more questions from staff and children on what different toys do and if they can have help. Staff are now more confident when communicating with children in everyday conversations and are finding new ways in which they can use maths such as at mealtimes and story times.

This course has opened lots of new doors for new resources and opportunities and I am excited to keep looking for ways in which I can implement new ideas with the staff and children.



Next steps

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

- The range of resources has been very beneficial within all the rooms, especially within preschool. I am still wanting to provide even more visual maths within the room such as number lines, and patterns, but I feel that the biggest area that needed looking at was the garden.
- This is now being looked at and hopefully will have more opportunities to modify this going into the summer.