

Maths Champions Case Study

Champion: Nazia Akhtar

Setting: University of Bradford Nursery

INTENT
Introduction <i>A little bit about your setting, why you joined the programme and what you wanted to achieve from it.</i>
Our nursery is a private day care nursery that is functional all year round from 07.30 am – 18:00pm. The nursery provides for children from birth to five years across three different rooms. A baby room for ages 0-2 years, a toddler room for children aged 2-3 and a pre-school room for ages 3-5 years. Last year, I was promoted to the post of being an area lead in which I oversee the management of the baby room. This means I am responsible for supervising the room environment and care of the children whilst supporting the development of other baby room staff through helping them develop their skills and abilities. Our nursery joined the Maths Champions programme to create a long-lasting impact on the educational development of the children and support for families. This program created an opportunity to improve the nursery curriculum and help improve maths in our nursery. In addition to this, it also allows our fellow nursery staff to develop their own skills by gaining knowledge and improving teaching practices in maths. As the lead maths champion with the support of my fellow deputy champion, my goal was to integrate maths fluently within the nursery whilst ensuring the children were comfortable to engage with mathematical concepts and general content that is appropriate for their age. The objective was to boost the children's confidence from an early age in mathematics whilst allowing the staff to be equipped to create a naturally stimulating environment.
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>
Both me and the deputy maths champion reviewed the mathematics curriculum. We realised that there was a learning gap among our children and that the staff required more confidence in incorporating maths in the setting. To help alleviate these issues we discussed with the fellow staff members and gathered feedback to help our decision-making process. During the initial audits it was clear that there was a significant need to enhance both mathematical skills of our children and teaching abilities of the staff. To help us create an effective strategy me and the deputy champion completed online modules like the big ideas of number sense and shape, space, measures and patterns. These courses were extremely helpful and informative, providing us with guidance as to how to incorporate mathematics in the daily practices of the nursery. The insights gained from these online modules inspired us to focus on professional development of the nursery staff and to introduce more dynamic mathematical concepts in the curriculum. The changes we implemented aimed to decrease the learning gaps that were identified and boost the overall teaching environment in the nursery. By enhancing these areas, we aimed to create a more enriching learning experience for our children that would help them in their future educational journey.

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?

Our participation within the maths champion programme provided us with a unique opportunity to significantly enhance the mathematical learning environment within our nursery. The primary change we implemented was the introduction of an increased range of mathematical resources across all rooms. This initiative was aimed at enriching the educational experiences of the children and providing a more in depth understanding and awareness to maths from an early age.

The planning phase was very collaborative as it allowed other area leads to be involved. This is important because it ensures a unified approach to improving the maths education in the nursery. We held several discussions to discuss the types of research that would be the most beneficial and methods of how to integrate them within the nursery without disturbing the current curriculum. These discussions amongst the staff were very important in aligning the goals of the nursery.

The addition of the resources was carried out gradually to allow a smooth transition to allow the children and staff to get accustomed to the new materials. A significant addition was loose parts across all the rooms, this was a beneficial resource because it is versatile and can be used in a range of play scenarios and areas of learning. They can be particularly useful for mathematics because the children can use them for counting, sorting and pattern recognition. These resources allow us to create an interactive environment which is engaging for the children and stimulating.

To assess the impact of the changes we adopted a well-rounded approach which would involve both qualitative and quantitative method. Firstly, we regularly consulted the rest of the staff to receive constructive feedback on how the resources have impacted their teaching practices. Also, we carried out structured observations of the children whilst they were engaging with the new mathematical resources to assess and evaluate any improvements the children display with their mathematical skills. This approach of carrying out observations would be beneficial because it allows us to make changes and adjustments to maximise the benefits for the staff and children.

Core activities were also designed to enhance mathematical learning and emailed across the entire nursery team. This ensured all the nursery team received consistent information so that they could prepare in advance to incorporate these activities into their routines smoothly.

Staff were also able to receive comprehensive training sessions that provided them with knowledge on key points of the new mathematical activities and resources. These sessions were in place to showcase the potential benefits for both the children and staff, equipping the staff with knowledge and skills to maximize their use of the new resources.

The implementation of these changes within the setting has been positive in how mathematics is incorporated within the setting. These changes, driven by insights and support from the maths champions programme have developed the nursery in terms of what we can offer educationally. Through future planning and ongoing assessments, we are determined to be improving the teaching practices and learning outcomes for children.

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> Since the maths champions programme was implemented, the children have been introduced to different and new mathematical resources, making maths more interactive and fun. The addition of loose parts has encouraged hands on learning, helping the children with counting, problem solving and recognising patterns naturally. A major improvement has been in the confidence showcased by the children in maths. Many Children who were previously hesitant are now more willing, using the loose parts to actively learn. This boost in confidence is also an example of maths becoming enjoyable for the children. Across all the different rooms, the children have also began to use mathematical language such as identifying shapes and basic counting skills. Overall, the programme has had a positive impact, increasing confidence of the children and allowing mathematics to be easily accessible across the nursery.
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> The Maths Champions programme has helped families as it has allowed them to become engaged in their children's development. Parents are now able to feel more confident in incorporating maths activities into daily routines, and similar to the staff at the nursery the parents have also observed their children beginning to use mathematical language.
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> For the staff, the programme has been significant in improving confidence in teaching mathematics in Early Years. This has been achieved through training and the access to resources on national day nurseries association (NDNA). The staff have gained a deeper understanding of how to incorporate mathematical concepts into everyday activities. This has allowed them to feel more equipped and ready to support the early mathematical development in an interactive manner. The programme also helped staff to reflect on their own practice and share ideas with other staff members. The regular discussions and training sessions created a collaborative environment which allowed staff to build on each other's strengths. As a result of all this there is a significant increase in confidence and enthusiasm amongst the nursery practitioners when delivering maths activities.
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>

Being part of the maths champion programme has been very important in my personal practice and that of the deputy maths champion. One big benefit we gained from it was having access to high quality training resources, this enabled us to have a deeper, enriched understanding of incorporating maths into early years.

Following the previous point, the content we had access to helped us build confidence in supporting children and other members of staff. Alongside the confidence building, as joint leaders of the programme we developed and honed our skills in observations. This is because during the implementation we were required to assess development and areas of improvement.

For the setting

What has been the impact on your environment?

An important change that the nursery benefitted from was from the incorporation of the mathematical resources across all rooms. This included loose parts that fostered an environment of exploration and generally created open space for children to be curious about numbers, shapes and patterns.

Next steps

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

Moving forward we have recognised some improvements to further develop maths within our nursery. One key development would be to establish regular contact with parents. These meetings would allow us to monitor the child's development at home and reinforce maths learning at home.

As maths champions we also have considered the possibility of workshops for parents to help them support their children. Making parents familiar with maths and how to support their children with it would be beneficial as the children are learning even when outside of the setting, in areas they are comfortable in such as their home.

To monitor the maths opportunities within the setting it would be helpful to also carry out observations of the children and staff practice. We also encourage staff feedback as a useful tool to understand how everyone is feeling about this process.