

## Case study: Does improving staff's confidence and knowledge in Maths, progress children's knowledge of Mathematical Concepts?



**Name of setting:** Barton Moss LA Nursery

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**Information supplied by:** Holly Smith (Maths Champion)

**Title:** Does improving staff's confidence and knowledge in Maths progress children's knowledge of Mathematical concepts?

### *Key points of your Maths Champions improvements*

- Refreshed knowledge of all areas of Maths (through individual skills assessments - BSKB - and online courses).
- Staffs confidence within other areas of Maths (planning, delivering and evaluating activities) for example: using open ended resources.
- Gave us a focus for our staff team to work towards –TOGETHER.

### Background detail

*A little bit about your setting and why you joined the programme – what did you want to achieve from Maths Champions*

Our setting is situated in the middle of a large council housing estate. Our intake is generally White British citizens who generally speak English as a first language although we are beginning to increasingly take more children with EAL (predominantly Polish). We have a large proportion of SEN in our setting of which we put reasonable strategies and interventions into place in order to support these particular children.

We decided to join the programme due to our staff's lack of self confidence particularly around Maths; which was highlighted through the confidence audits. This programme worked as 'Maths Training' for our setting and all our practitioners. We are very keen on raising standards within Maths for our children. We were very enthusiastic about finding new ways and innovative resources in order to support our understanding of Mathematical concepts. By signing up to 'Maths Champions' we are able to show that we are trying hard to improve standards of Maths within our setting.

### Section 2

#### *Highlights and lowlights of the programme so far*

*What have you done? What elements have worked really well? What, if any, barriers did you come up against and how did you resolve these? What are the key learning points?*

Both the Maths Champion and the practitioners were very anxious about completing the BSKB assessments due to the fact that most of us hadn't put Maths in practice (of a GCSE

level) for a number of years. We were all very fixed on the fact that we may achieve poor results due to our own lack of Maths practice.

Some of the audits were difficult to complete for the youngest age range as many questions were too complex to expect from children from birth to 2 years old. Also, I was sometimes unsure of who was expected to complete each section (just the Maths Champ, the practitioners or both?).

I found the audits really useful throughout the programme in order to look closely at our areas/practice and to make reasonable adjustments to this to improve our Maths provision. I will use these audits in the future in order to ensure that Maths is incorporated in every area of the room.

I think that the endless amount of electronic resources on the development zone is very useful and very easy to reuse in the future. I think this is a fantastic way of sharing good practice and ideas in order to support each other.

The online courses offered throughout the programme were a fantastic resource and staff feel that they worked well to both refresh knowledge and learn new knowledge that some of them weren't already aware of. They all said that they enjoyed taking part in the online courses and would recommend the NDNA's courses to colleagues and other professionals.

The pre planned core activities were enjoyable for both staff and children as they activities were innovation and mostly the children liked taking part in them. We have made a bank of these activities (along with the resources made) in order to use and adapt them in the future. It was also very interesting to watch and write critically about what we saw and found out when carrying out these tasks.

When completing the action research we struggled to choose just one focus as we felt that during the process we were able to identify a few different areas of development. Although this wasn't a problem or a 'lowlight' as it just gave us the chance to identify other areas that we could work on in the future.

We learnt that sometimes even though we initially don't have much confidence within certain areas/doing some things that it is worth having a go with things and persevering and seeing what results/observations we can generate.

### ***Impact of the programme***

*What has the impact been on your environment, your staff team/individual practitioners?  
What has the impact of the project been on children's development across all age groups or for your parents/families?*

The impact of the programme has overall given staff more confidence and knowledge in order to implement new strategies and ideas into their daily practice. Staff are now more willing to try out new things due to the added confidence that this programme has given them. The impact of the project on our children's development has definitely been

successful as our tracking data shows that all but one child (SEND) made significant improvements when you compare the data 'before' and 'after'. Children seem to be enjoying Maths more than beforehand as many more activities have been 'maths focussed'. Our environment has changed dramatically in terms of aesthetically and practically due to the resources we have added to the rooms. Children seem to be exploring the activities more freely, maintaining their attention within activities for longer periods of time and enjoying the areas a lot more than beforehand.

### ***Did you achieve what you wanted from the programme? If so, how?***

We didn't really go into the programme with any expectations. We are really glad that we took part in the programme as we have learnt a lot about ourselves and our practice. We have been introduced to a lot of new ways of introducing concepts to children. We also really enjoyed using the development zone as part of the project – we found it easy and useful to use. We used all the materials and followed the steps accordingly in order to gather the data that we have. We can see the impact of the programme on our children by comparing the data and can see just by discussions and feedback from the adults that their own abilities have improved during this programme.

### ***How has the programme helped you further develop your own practice?***

All the audits helped us all to consider forgotten things about our practice that we can now implement into our rooms and our practice. They also made us realise that we are already doing a lot of these things already without always realising. We could see what we could change/do differently about particular aspects of our practice by looking closely at the different audits. The programme has allowed us the chance to become more reflective on our practice.

### ***Next steps***

*How are you going to develop your practice further and why, what will the impact be? Who will be involved? How will your practice support good outcomes for children?*

In terms of our 'next steps' I will continue to use the resources on the development zone in order to try out new ideas and share good practice. I will work my way through looking at all the different resources and use them all purposefully at some point – when needed. I will use the knowledge gathered via the online courses in order to further children's thinking/learning. My practice will support good outcomes for the children as we are now more aware of the activities that we are providing. I would also recommend this programme to others as it has been a fantastic way of raising standards within Maths for both adults and children.