

## Maths Champions Case Study

**Champion: Steven Hodson**

**Setting: Highfield Nursery, Chorley**

| INTENT                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| <b>Introduction</b>                      | <i>A little bit about your setting, why you joined the programme and what you wanted to achieve from it.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                          | Highfield Nursery is a maintained nursery school, catering for children aged 2-5. We have 3 classes (a preschool, a room for 2-3 year olds and a complex needs class). Each room has a mixture of ability with some children with SEND accessing each room. The nursery is in an area of high deprivation and we have a high percentage of children either on the EYPP or identified as vulnerable. We joined the Maths Champion programme as we were in a transition phase, devising a new curriculum and wanted to increase staff confidence in maths. We wanted staff to be able to use, and enhance, our existing provision to teach maths through high quality interactions, focusing on specific mathematical language and to be able to identify maths across the other areas of learning.                                                                                                                                                                                                                                                                                                                                                                  |
| <b>How did you decide what to do?</b>    | <i>What did the audits highlight, what changes did you consider and how did you identify the change/s to be made?<br/>Did the changes you considered come from the online training or resources etc?</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                          | I completed the Maths Champion training and reflected on the staff confidence audits and learning environment audits. This was done alongside subject leadership work also. When devising the action plan, we chose to focus on different aspects of the maths curriculum (as identified in the training videos) and staff confidence, using suggested activities and resources to scaffold staff understanding in enhancing their learning environments.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| IMPLEMENTATION                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>What did you change or implement?</b> | <i>Outline a positive change, or changes, that have taken place as a result of being part of the Maths Champions programme.<br/>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>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                          | The most positive change identified through talking with staff and reviewing the audits has to be staff confidence. The majority of staff spoken to scored themselves as more confident in the audits and justified their choice due to the clearer maths progression we have now due to our new curriculum, the use of the Word Aware scheme, Concept Cat and WellComm. There has been a push in using and teaching conceptual language across the nursery as we recognise that we need to develop our children's language to be able to access the national curriculum effectively. The positive changes that have come from the Maths Champion programme would have to be the focus and provided through the use of the audits and the core activities which have helped keep room leads on track with the implementation of a range of mathematical activities. On reviewing the core activities, we reflected that we generally use some of the activities provided as part of our practice but having them backed up from a programme helped staff feel more confident in the purpose of the activities and how to extend learning for some of the children. |



| IMPACT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| <b>The success and benefit of what you did:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p><b>For children</b><br/><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></p> <p>We have seen the most impact in maths being weaved into routine tasks (register, tidy up, snack), transitions and other cross curricular activities (EAD, CL, PD, Lit, UTW) through the use of language and staff being able to identify these opportunities as mathematical. We have seen children being able to:</p> <ul style="list-style-type: none"> <li>- Use fingers to represent quantities, showing different ways of representing a number</li> <li>- Subitising small quantities (objects, dice, in pictures etc)</li> <li>- Using mathematical language throughout play (talking about positional language, language of size, composition of 5) following daily inputs at adult-led times and during transitions</li> <li>- Children using pattern in a range of ways (musical instruments, art and collage, using loose parts, in play dough), mostly creating AB patterns and identifying mistakes</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p><b>For families</b><br/><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></p> <p>We have used activity ideas as part of our Weekend Workout activities, sent to families. I think the biggest impact here would be the next steps provided by keyworkers follow assessments that are then feedback to parents to support learning at home. Staff have felt more confident in articulating the maths learning taking place in the room, identifying progress and providing supportive activities for parents to do at home.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p><b>For staff</b><br/><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></p> <p>On reviewing the staff confidence audit, it is clear to see that the staff team feel much more confident with their understanding of EY maths, how to identify the learning taking place and identifying next steps. On discussing with staff teams, this is mostly related to the current contexts they are working with (e.g. 2-3, 3-4) and moving forwards, staff could develop their knowledge of what comes before and after the stages of development linked to the cohorts they currently work with. When talking to staff about their key children, they have been able to talk about their maths learning clearly and link to the learning that has been planned and delivered in adult-led times. On observing interactions during continuous provision, I have heard more mathematical language being modelled and less closed questions. Alongside this project, we have been looking at different interactions styles, such as commenting and using 'I wonder' statements to promote thinking and this has sat well with the MC programme. Being involved in this programme, and other maths programmes, has helped keep maths high on the agenda and an area that is discussed regularly during staff meetings. As mentioned, the activities were generally part of our practice before entering into the programme but staff have a better understanding of the purpose of the activities now.</p> |
| <p><b>For the Maths Champion and Deputy Maths Champion</b><br/><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></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |



Being part of the programme has helped with subject leadership. There has been clear and supportive templates and meetings that have helped in prioritising what could be done to upskill our staff and improve maths at the setting. The training served as refreshers for training I have been on throughout my career, whether with the Maths Hub or other maths specialists. Having the training at hand to disseminate to staff was useful too.

### **For the setting**

*What has been the impact on your environment?*

Being involved in the programme has helped to highlight any gaps in our provision. We have added more loose parts and games to increase maths learning and we have seen this impact on children's attainment. Using transitions and routine tasks to teach maths, with an 'every second counts' mentality has helped ensure maths is taught daily to all children. We use:

- 5 frame picture registers, talking about the composition of 5 and positional language
- Shadowing to match shapes
- Clear labelling for categorizing
- Actions and sounds linked to quantities during transition
- Action patterns during transition
- Subitising and language of shape and size during snack
- Copying rhythms and patterns to gain attention
- Using 5 frames when singing nursery rhymes (5 current buns etc)

### **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 will:

- Continue to action plan, looking at what needs to be done to upskill staff and ensure provision and interactions are to a high quality

From our current action plan:

- Build in more score keeping and mark making to represent quantities during outdoor physical play
- Develop a bank of construction examples to be displayed at different points of the year
- Continue to develop mud kitchen recipes to involve children's ideas and to follow their interests
- Plan appropriate times across the year to upskill staff on incidental maths teaching and using routines to teach maths to ensure daily delivery of maths