



PROGRAMME REPORT

Family Maths Parental Engagement Programme 2021-2022

Contents

Introduction	Page 1
Success, challenges & learnings	Page 2
- Participation	- Page 2
- Parent workshops	- Page 2
- Becoming a Numeracy Champion	- Page 3
Impact	Page 3
- Increasing parental engagement & establishing parental engagement strategies	- Page 3
- Improving children's confidence, attainment & participation	- Page 4
- Improving parents' confidence in supporting their children	- Page 5
- Stats at a glance	- Page 7
Conclusion	Page 7

Introduction

The Family Maths parental engagement programme aims to promote a maths-positive environment both at home and at school. Parents, carers and families give children their first experiences of maths, and research shows that, in primary schools, family influences have a bigger impact than school on children's attainment. There is also evidence that children are more motivated to learn about maths when their parents talk with them about numeracy in everyday life. So supporting parents to engage with their children around maths is important for children's maths development.

National Numeracy's parental engagement programme aims to improve parents' confidence in supporting their children with maths and thereby improve children's own confidence with maths. We support primary schools to increase parental engagement with this in mind.

This year National Numeracy significantly scaled up our parental engagement programme, going from 3 schools completing the programme in 2020-21 to 17 schools completing it in 2021-22. This included an ongoing cluster in London funded by John Lyon's Charity, where we added 3 new schools to the continuing 3 from the previous year. We also ran the programme with 6 schools in the West Midlands and 5 schools in East Ayrshire. All participating schools were in identified areas of need and had a higher than average number of pupils from deprived backgrounds.

As part of the programme this year, we provided:

- Initial in-person training for project lead teachers and SLT members on parental engagement strategies and how best to use the Family Maths resources
- Online Becoming a Numeracy Champion training for project leads
- A template parental engagement action plan
- Family Maths activities and scrapbooks for all participating children
- Two cluster meetings for each cluster, giving project lead teachers the chance to share ideas, learnings & best practice and access additional support from National Numeracy
- Ongoing remote support across the year
- One parent workshop per school (online or in person) about supporting children to develop positive attitudes towards maths
- Access to the National Numeracy Challenge for parents & carers
- Template communication materials about the project, the workshop & the Challenge for schools to share with parents/carers

For the London schools, there is one year remaining of a planned 3-year project. For the schools in other regions, this was a 1-year project. Data was collected at the start and end of the year to measure the impact of the programme, and we also collected feedback forms from the Becoming a Numeracy Champion training and parent workshops.

The headline impacts seen from this year's programme are outlined in this report. If you would like further information about the programme or its impact this year, please contact anna@nationalnumeracy.org.uk.

Successes, challenges and learnings

Participation

In this school year, more than 100 classes took part in the project across the three clusters. The number of classes participating varied from school to school, with some schools focusing on specific classes and others taking a whole school approach.

From the data received from class teachers, over 2200 pupils took part in the project this year, with 71% of parents/carers in participating classes engaging with their child on the Family Maths activities. In London, this rose to an impressive 91% of parents/carers engaging.

21 teachers attended the in-person training sessions at the start of the programme in 2021, and the project leads reported that they then cascaded this in their own schools to a total of 137 staff.

Across the year, some schools saw challenges related to their specific setting, such as colleague or parent expectations around homework, or a lack of engagement from some class teachers resulting in low take-up in particular classes. While we started the year with 20 schools, three of these felt unable to continue with the programme as the year went on, citing staff absences, workload and staff turnover as reasons for withdrawing. While some of these issues are unavoidable parts of working with schools in need, we have ensured for the year ahead that schools joining the programme are more aware of the commitments needed to fulfil the project before confirming their participation.

Of the schools who remained on board across the year, 11 were awarded National Numeracy's new Parental Engagement Quality Standard, for successful completion of all project activities including data collection.

Parent workshops

The 2021-22 school year saw schools start to return to more of a sense of normality post-lockdown, but the impact of covid was still being felt in the participating schools across the year. Staff absences were widespread, which in turn impacted on project timelines and implementation in some schools, and for much of the year – particularly in the Scottish schools – parents were not able to come into school for in-person activities and events. However, both National Numeracy and the schools have learnt to be flexible about project delivery in the face of covid and we were able to liaise on alternative ways of engaging with parents.

As a result of these adaptations, National Numeracy delivered a mixture of in-person and online parent workshops across the cohort, depending on the needs of the individual schools. 7 schools had in-person workshops and 10 online. Broadly we saw lower attendance at the online workshops, and several schools, when asked what they would do differently, said they would hold the workshop in person if they were to do it again.

However, the workshops did reach over 200 parents/carers in total, with one school reaching 55 parents/carers for an in-person workshop and another school reaching 39 parents/carers for an online workshop. So while in-person is generally preferred, it is still possible to reach good numbers online with the right approach.

The parent workshops are always well received and this year was no different, with 88% of parents who attended a session telling us that they felt more able to support their child with maths as a result of the session.

Becoming a Numeracy Champion

This year for the first time, we introduced our new 'Becoming a Numeracy Champion' training to the parental engagement programme, and this was offered to teachers via online training sessions in the autumn term. From the feedback forms teachers completed about this training:

- 100% of respondents agreed/strongly agreed that as a result of the training, they felt more able to support children in developing positive attitudes towards numeracy.
- 93% agreed/strongly agreed that as a result of the training, they felt more confident working with adults to help them develop positive attitudes towards numeracy in children.
- 100% agreed/strongly agreed that as a result of the training, they felt more able to plan practical next steps to improve the way they support numeracy for children and families.
- 100% would recommend this programme to colleagues.

While this training was clearly effective, both trainer and attendees had some reservations about the online delivery method, so in the 2022-23 school year we will deliver this training as part of the in-person training day at the start of the programme.

Impact

The key aims of National Numeracy's parental engagement programme are to:

- Increase parental engagement in children's maths learning and establish parental engagement strategies in participating schools
- Improve children's confidence, attainment and participation with maths
- Improve parents' confidence in supporting their children with maths

Across the 2021-22 cohort, the data collected from schools shows positive impacts in all of these measures.

Increasing parental engagement & establishing parental engagement strategies

In this year of the project, 68% of participating teachers agreed that taking part in the project had helped them to increase parental engagement in maths. The West Midlands schools were particularly positive on this measure, with 75% of teachers in the West Midlands schools agreeing with the statement. In addition, 63% of teachers across the cohort agreed that as a result of the project they felt more able to support their children with learning maths.

In terms of teachers' practices, positive changes were seen in the proportion of teachers trying to engage parents in their children's learning across all the options we measured, but particular increases were seen in:

- The proportion of teachers who said that they try to engage parents in their children's learning by sharing methods: this rose from 38% at the start of the year to 63% at the end of the year
- The proportion of teachers who said that they try to engage parents in their children's learning through parent and child activities: this rose from just 31% at the start of the year to 58% at the end of the year.

Similarly, when asked to what extent they agreed with the statements “We encourage families to be involved in completing maths homework” and “We encourage families to be involved in maths activities at home”, the average score for teachers rose from 2.3 and 2.4 respectively (both ‘Disagree’) at the start of the year to 4.4 on each statement (‘Agree’) at the end of the year.

Teachers’ confidence in engaging with parents also improved across the year. The average score in relation to the statement “I am confident talking to parents about maths” rose from 2.0 (‘Disagree’) at the start of the year to 4.3 (‘Agree’) at the end of the year.

These improvements in teachers’ confidence and approaches were reflected in the number of parents engaging with their children on Family Maths activities. As already outlined, the data received from class teachers shows that across participating classes, 71% of children had a parent/carer engage with them on Family Maths activities. The rate was particularly high in the London schools, where 91% of parents/carers engaged on an activity.

Teachers saw the value of these activities and of the programme as a whole, noting that the project “raised the profile of maths learning in a practical way at home” and that “parents have more of an understanding of what we are doing in class and are more able to support at home.”

Reflecting this, 94% of teachers told us that they would recommend the Family Maths scrapbook activities to another school.

Improving children’s confidence, attainment & participation

Positive changes were seen across the cohort in children’s confidence, attainment and participation.

To measure the impact on pupil attainment, we asked participating class teachers at the start of the school year to indicate each pupil’s target attainment for maths that year. At the end of the school year, we then asked the class teachers for each pupil’s actual end of year attainment and whether this was at, below or above target. Our aim for the programme is to see 10% of children ‘above target’ at the end of the year, and we were pleased to meet this aim in the 2021-22 cohort. In fact, in both the West Midlands and East Ayrshire cohorts we exceeded this with 12% of children ‘above target’ for attainment.

In addition to this, class teachers are asked to indicate the confidence of each participating pupil on three measures, and small but significant positive changes were seen on all of these measures across the cohort:

- The extent to which children are positive with maths
- The extent to which children participate confidently in class maths activities
- The extent to which children contribute confidently to class maths discussions

When asked about changes seen in children’s confidence as a result of the programme, teachers told us in qualitative feedback that children are “more willing to talk to their families about maths”, “more likely to not give up on a challenge” and “taking a more active role in maths lessons.”

Teachers also remarked on changes in the way that children viewed maths, saying that “pupils see the relevance of maths learning more” and that “children are noticing maths in daily life.”

On pupil surveys, 74% of children said that they like doing the Family Maths activities. When asked why, responses tended to group into a few key themes – that they were fun, that the children enjoyed doing the activities with their family, and that the activities supported their learning. For instance, children said:

- “They are fun to do with Mummy and Daddy.”
- “It grows my confidence”
- “It challenges me”
- “They help me in the areas that I struggle with and they are really fun”
- “They make a hard and worrying subject fun and easy to understand”
- “I like doing these because I like working as a team with my family when everyone is involved”
- “They were all different and I enjoyed doing new things each week.”
- “I did it with my mum she always did them with me and it was a wee bit hard but we just had to figure out how to do them.”

More than one child noted that they liked having the scrapbook to work in because “some people can’t afford [...] paper.” This shows how valuable it is to provide the scrapbooks alongside the downloadable activities so that every child can take part.

Parents and teachers also noted the changes they had seen in children’s confidence since taking part in the programme, saying such things as:

- “My child has enjoyed our time together working on the challenges and has developed more self confidence.” (A parent)
- “Some of our more reluctant learners love talking about their homework activities and saying how they did them as a family with their parents and siblings” (A teacher)
- “It has been wonderful to see all abilities of children take part with their parents confidently at home. The [activities] allow for the children to complete them differently, such as using practical resources or writing down in the book. They are more confident using maths in other lessons and when outside and playing.” (A teacher)
- “Kids come in to school and want to show off their scrapbooks. That shows they are confident with the tasks and want to show off what they have achieved.” (A teacher)
- “My child has really started to enjoy maths.” (A parent)

Improving parents’ confidence in supporting their children

Parents and carers who took part in the programme indicated that various project activities they participated in improved their confidence in supporting their children.

Of parents who completed the end of year survey and told us that they had used the Family Maths activities, 76% said that this helped them feel better able to support their child. This was particularly high in the East Ayrshire cohort, where 84% of parents/carers who used the activities said this.

While only small numbers of parents reported using the National Numeracy Challenge website, those who did so also indicated that this had a positive impact, with 92% saying this helped them feel better able to support their child.

The parent workshops also supported parents in feeling more confident. From the workshop feedback forms, 88% of participants agreed or strongly agreed that as a result of the session they felt more able to support their child with maths learning.

In addition to these self-reported improvements in parents' confidence, the data provided by teachers on the extent to which the parent/carer of each child engages showed small but significant positive changes across all three measures we asked about:

- The extent to which the parent/carer engages with the school
- The extent to which the parent/carer supports their child's learning
- The extent to which the parent/carer engages in conversations about maths

When surveyed at the end of the year, many parents noted the positive changes they had seen in their own and their children's confidence as a result of the programme. For instance, one parent said that "It has help[ed] me to gradually build confidence when completing maths work with my children" and another said: "I find it helpful with our bond and seeing my daughter's confidence growing is reassuring to my confidence in my parenting."

The programme emphasised the importance of parents and carers speaking about maths with their children and exploring the maths in everyday life, and several parents told us that they were now doing this more often with their children:

- "We talk about maths so much more now. We are constantly talking about my daughter's learning and we enjoy doing it together."
- "I feel like I know what he's learning about and can ask him questions relating to what he's learning at other times and in other situations to help him put what he's learning into a wider context."
- "I'm more confident with everyday maths and can share the maths in everyday life with my children."

As the last quote indicates, parents' own confidence with maths affects the way in which they interact with their children's maths learning, and several parents noted that their own feelings about maths had improved as a result of the programme:

- "I have often struggled with math myself, but [...] using her math homework has had a positive impact on myself and my daughter"
- "I've never been that confident with maths but by sitting down together and working out problems/sums it's helped revisit areas that I lack confidence in."

Reflecting this, a teacher also fed back that the Family Maths activities "encourage working together and help in removing the fear around maths that might exist in some children/families."

The results seen across the 2021-22 cohort indicate that this programme provides an effective way for schools to engage parents in their children's learning and improve both parents' and children's confidence as a result.

Stats at a glance

Measure	All regions	London	West Midlands	East Ayrshire
Parents/carers who completed a Family Maths activity	71%	91%	56%	65%
Teachers who agreed/strongly agreed that the programme has helped them increase parental engagement in maths	68%	71%	75%	62%
Teachers who agreed/strongly agreed that the programme has helped children in their class to talk more confidently in maths class	65%	71%	65%	62%
Teachers who agreed/strongly agreed that as a result of the programme they feel more able to support their children with learning maths	63%	76%	50%	65%
Parents who used the Family Maths Toolkit activities who said that this helped them feel better able to support their child (from end survey respondents)	76%	73%	76%	84%
Parents who used the National Numeracy Challenge website who said that this helped them feel better able to support their child (from end survey respondents)	92%	Not available due to low number of responses per region		
Parents who attended the parent workshop who agreed/strongly agreed that as a result of this session, they feel more able to support their child with maths learning (from workshop feedback forms)	88%	90%	87%	Not available due to low numbers
Children who said they like doing the Family Maths activities	74%	82%	67%	70%
Children who were above target attainment at the end of the year	10%	8%	12%	12%

Conclusion

National Numeracy has been running its Family Maths parental engagement programme for a number of years, and the scaled-up programme in the 2021-22 school year demonstrated once again how successful the programme is in promoting parental engagement in children's maths learning.

Improvements were seen across children's confidence, attainment and participation with maths, as well as in parents' confidence with maths and confidence supporting their children with maths. The participating schools were supported to build parental engagement action plans for the subsequent school year, ensuring that the approaches and strategies started in the 2021-22 school year are carried forward beyond the end of their participation in the formal programme.

National Numeracy will be building on this success by delivering the programme in even more schools and supporting more families in the 2022-23 school year.