CHILDREN, YOUNG PEOPLE & SKILLS COMMITTEE	Agenda Item 66 Brighton & Hove City Council

Subject:		**Mathematics in Infant, Junior and Primary Schools in Brighton & Hove**	
Date of Meeting:		**2 March 2020**	
Report of:		**Interim Director of Families, Children and Learning**	
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Ward(s) affected:		**All**	

FOR GENERAL RELEASE

1. PURPOSE OF REPORT AND POLICY CONTEXT

1.1 The report outlines the range of different approaches that the Council has introduced, following government policy and research evidence, to support teaching and learning in mathematics, and the ways that schools in the city have engaged with these.

2. RECOMMENDATIONS:

2.1 That the Committee notes the range of approaches that schools use to improve outcomes for mathematics in the city.

3. CONTEXT/ BACKGROUND INFORMATION

3.1 Introduction

Maths outcomes have historically been below those of Reading and Writing in Brighton & Hove schools. Over time, a range of strategies and projects have been implemented to address this. In the last ten years there have also been changes to the maths curriculum and the national tests for maths, but the aim for pupils to enjoy and succeed at maths has remained the same. Outcomes in the city have risen over time in many schools, as they have nationally and show that Brighton & Hove pupils achieve broadly line with those nationally but maths remains a focus area.

3.2 Past initiatives

Some of the different approaches schools have taken previously include:

3.2.1 As part of the National Strategies, Brighton & Hove City Council were positive advocates of ‘Every Child Counts’ and its component elements. These focus on work with individuals and small groups of pupils, and have a teacher that works throughout the school to promote maths.

3.2.2 In 2013 – 2014 we had a 'year of maths' which had three main strands: Developing Leadership of Maths, Improving Teaching and Learning of Maths and Engaging Families and Communities with Maths. Each of the three themes had an action plan with a range of activities.

3.2.3 In 2015 a continuation of the year of maths there was work on eight themes, each led by a different partner. These were; Transition Project (Y6-7), Lesson Study 1 & 2, Mentoring for maths teachers, Maths Meets, Maths Challenge Partners, Numicon approach, Secondary School Partnership Maths and Success@arithmetic (which is an element of 'Every Child Counts').

3.3 One Strategy – a range of approaches:

3.3.1 Over the last four years there have been several national and local initiatives and developments to support maths. We support the 'mixed economy' approach, which enables schools to make use of the approach that works best for them. This has resulted in a rise over time of eight percentage points in the percentage of pupils achieving the expected standard, an increase of ten percentage points for pupils achieving the higher level, but progress just below national.

	2016		2017		2018		2019	
	B&H	Nat	B&H	Nat	B&H	Nat	B&H	Nat
% Expected Standard +	70%	70%	75%	75%	75%	75%	78%	79%
% High Scaled Score	16%	17%	22%	23%	23%	24%	26%	26%
Progress	-0.5	0	-0.4	0	-0.5	0	-0.5	0

3.3.2 Maths Hubs

In 2014 the government announced the creation of maths hubs across the country. The Sussex Maths Hub receives funding from the government to support the continuous improvement of mathematics. Schools in the city are able to get involved with the Sussex Maths Hub, run out of St Pauls College at Burgess Hill and several schools in the city are represented in the hub leadership team. The hub runs a range of programs through its 'work groups' http://www.mathshubs.org.uk/find-your-hub/sussex-maths-hub/work-groups/ . These include mastery readiness, mastery and courses for all age ranges from early years to post 16.

3.3.3 Nineteen infant, junior or primary schools are part of one of the work groups, mastery readiness or mastery specialists and these opportunities are promoted to all schools. . There is a 'pathway' for schools to follow that will develop their maths teaching and learning across their schools. The maths hub is now starting regular meetings with LAs to discuss engagement and progress to enable the evaluation of impact of their programmes. The first of these is in February.

3.4 Strategic School Improvement Fund (SSIF)

3.4.1 In April 2017, the government launched a £140 million Strategic School Improvement Fund (SSIF). This was intended to help to contribute to the building of a school-led system, aiming to target resources at the schools most in need to improve school performance and pupil attainment.

3.4.2 Regional priorities were identified and maths at Key Stage Two was a priority for this local area. Schools eligible to be part of the projects were identified by the DfE using their maths data and other (up to 30%) of schools that were not technically eligible could be included.

3.4.3 The Sussex Coast Teaching School Alliance, with support from the LA, submitted a successful bid for some of this funding and the project, which involved 17 schools, finished in July 2019.

3.4.4 The SSIF project was designed to promote a mastery approach to maths. It was delivered by a local National Leader of Education, Specialist Maths Teachers from the city who are also part of the maths hub, and used a framework of lesson study led by the University of Brighton. The schools have been very positive about the project and those schools that engaged positively have seen a rise in their maths performance, as the data below from the schools involved shows.

3.4.5 Mathematics outcomes for all pupils for the schools involved in the SSIF project.

	2017	**2018**	**2019**
% Maths meeting the expected standard	**68.2**	**75.1**	**78.4**
% Maths achieving at a higher standard	**17.7**	**21.3**	**25.4**
Maths progress score	**-2**	**-1.14**	**-0.27**

3.4.6 Brighton & Hove City Council maths project, 'It all adds up'

Concerned that there are still schools below national expectations for maths, the Standards and Achievement Team has worked with the Sussex Coast Teaching School Alliance and other schools in the city that have high performance in maths to create a new programme, 'It all adds up'. This programme is based on the learning from the SSIF project above and targets schools where the data suggests standards and progress are below national figures. Other schools have also requested to join the programme, which began in June 2019 and runs until March 2020.

3.4.7 'Every Child Counts'

Every Child Counts has 4 'families' of mathematics intervention programmes, each meeting the needs of targeted groups of pupils. Teachers and teaching assistants can start teaching straight after their first training day and then the training runs parallel with their teaching in their training term.

1. Numbers Count is a Teacher-led, personalised programmes for pupils who *really* struggle with counting, number and calculation.
2. 1st Class@Number is a Teaching assistant-led programme for groups of 4 pupils who need a helping hand with counting, number and calculation.

3. Success@Arithmetic is a Teacher and TA-led programme for up to 3 pupils who need help to master the understanding and procedures for calculations.
4. Talk 4 Number is a Teaching assistant-led programme for groups of 4 pupils who need support to learn the vocabulary of number and calculation and to talk confidently about their mathematics.

3.4.8 Historically city schools have had high engagement with Every Child Counts. However, the level of participation all different aspects of Every Child Counts has fallen. Last year there were four schools doing Numbers Count (down from 18 in 2016-2017) and no schools registered for any of the other elements.

3.4.9 The programmes have all been reviewed and rewritten since the 2013 curriculum was introduced and they adhere to the five 'big ideas' of teaching mathematics for mastery outlined by the NCETM (National Centre for Excellence in the Teaching of Mathematics)

3.4.10 The impact of the ECC programmes is very positive. The programme is run through Edge Hill who and deliver it through local associates. Data shows that pupils who take part in the programmes make accelerated progress.

ECC Interventions		
Led by	**Mathematics**	**Average Progress**
a teacher	Numbers Count	18 months in 4 months
a teaching assistant	1st Class@Number Success@Arithmetic Talk 4 Number	13 months in 4 months

More details are on the ECC website.

3.4.11 The Virtual School for Children in Care has introduced ECC for several pupils to support their learning in maths, but outcome data is not yet available.

3.4.12 A focus on the disadvantaged

3.4.13 Improving outcomes for disadvantage pupils is a city priority. Each one of the programmes has targeted schools with a high percentage of pupils entitled to Free School Meals and who live in super output areas.

3.4.14 The data below shows that the number of pupils defined as disadvantaged in the city has risen by 103 in the last three years. The percentage of pupils who reached the expected standard rose 4.4 percentage points and maths progress schools improved, (see below)

3.4.15 Outcomes for KS2 Maths in Brighton & Hove for pupils defined as disadvantaged.

	2017	2018	2019
Number of pupils	**687**	**742**	**790**
RWM meeting expected standard	**45.3**	**46.8**	**49.7**
Maths progress schore	**-1.65**	**-1.56**	**-1.54**

3.4.16 The SSIF project targeted schools with the highest percentage of pupils from the 20% super output areas and with the highest number of pupils entitled to Free School Meals. The table below shows that for the schools in the project, disadvantaged pupils have made 18.3 percentage points progress, 7.1 percentage points increase in those achieving maths at the higher standards and progress is improving (although still 1.57 below the national expectation).

3.4.17 Mathematics outcomes for the schools involved in the SSIF project – disadvantaged pupils.

	2017	2018	2019
% Maths meeting the expected standard	**48.5**	**57.1**	**66.8**
% Maths achieving at a higher standard	**5.9**	**9.0**	**13.0**
Maths progress score	**-3.73**	**-2.09**	**-1.57**

3.4.18 Every Child Counts is committed to the progress of disadvantaged pupils. Research by Edge Hill states that, 45% of the pupils taking part in Every Child Counts interventions are disadvantaged. They make an average of 13.5 months progress in just 4 months of support – over 3 times the normal rate of progress. Their class teachers report that 94% of them are more confident and motivated to learn afterwards, so they are able to continue to make good progress with pupils making more months (https://everychildcounts.edgehill.ac.uk/tackling-disadvantage/

4. ANALYSIS & CONSIDERATION OF ANY ALTERNATIVE OPTIONS

4.1 The City Council works in partnership with individual schools, the Teaching School Alliances, the Sussex Maths Hub and Edge Hill to ensure that school leaders have access to the different programmes and opportunities. These are promoted at headteacher meetings, through individual school improvement boards and at themed headteacher meetings.

5. COMMUNITY ENGAGEMENT & CONSULTATION

5.1 School leaders were consulted about the different programmes available. 'It all adds up' is based on the learning from other projects.

6. CONCLUSION

6.1 There are a range of programmes and interventions available to schools in the city. Recent government policy promotes the mastery approach and professional

development through the different programmes that are offered by the Hub. The SSIF project enabled progress to be made in subject knowledge and confidence. Edge Hill offers Every Child Counts interventions, which enable pupils to make rapid progress over a short period of time, but need teaching assistants or teachers to deliver them. The Council is using resources from the different maths providers and local expertise to develop maths across the city. Schools are working hard to improve outcomes.

7. FINANCIAL & OTHER IMPLICATIONS:

7.1 Financial Implications:

7.1.1 The Local Authority (LA) has a duty to ensure schools are achieving the best for all pupils and monitors their performance from within existing resources. Schools have delegated budgets and must use these to achieve the best outcomes for pupils. Schools also have Pupil Premium funding from the government and must use this to support their disadvantaged pupils to narrow the attainment gap.

7.1.2 There are no direct financial implications for the LA as a result of the recommendation in this report

Finance Officer Consulted: Andy Moore Date: 15/01/20

7.2 Legal Implications:

7.2.1 The Council as an education authority has a duty to promote high standards of education in its area (section 13A of the Education Act 1996). This report sets out how the LA is seeking to fulfil that duty in relation to the teaching and learning of mathematics.

Lawyer Consulted: Serena Kynaston Date: 15.01.2020

7.3 Equalities Implications:

7.3.1 The focus of the SSIF project and others has had a focus on achievement for pupils eligible for the pupil premium. Both the DfE SSIF project and the LA project have focussed on schools that have the highest percentage of pupils categorised as disadvantaged and with the greatest number of pupils from superoutput areas.

7.4 Sustainability Implications:

7.4.1 Improving maths outcomes for children and young people will contribute to the priorities of a good life and a vibrant economy.

7.5 Brexit Implications:

7.5.1. There are no direct impacts caused by Brexit.

7.6 Any Other Significant Implications:

7.6.1 Crime & Disorder Implications:

7.6.2 The improvement in maths could lead to greater engagement in society and social cohesion.

7.7 Risk and Opportunity Management Implications:

7.7.1 The risk of maths not improving is not giving children and young people the knowledge and skills they need for achieving their possible potential.

7.8 Public Health Implications:

7.8.1 An exciting maths curriculum that leads to good progress will give every child the best start in life and enable all children and young people to maximise their capabilities and have control over their lives.

7.9 Corporate / Citywide Implications:

7.9.1 Improving maths outcomes for children and young people will contribute to the priorities of a good life and a vibrant economy.

SUPPORTING DOCUMENTATION

Appendices:

None

Background Documents

None