
To: Education and Children Policy Board

On: 12 May 2016

Report by: Director of Children's Services

Heading: Numeracy and Mathematics Development

1. Summary

- 1.1. Renfrewshire Council has increased its focus on improving attainment levels in Numeracy and Mathematics across primary schools. All primary schools have been supported through the introduction of a Renfrewshire Numeracy Framework in developing strategies to ensure that all children develop high levels of numeracy skills. These numeracy skills are developed through learning across the curriculum and built upon a shared understanding amongst staff of how children and young people progress in numeracy and of good learning and teaching in numeracy.
- 1.2. The Scottish Government commissioned the policy review "Improving Schools in Scotland: An OECD Perspective" in June 2015. The agreed purpose was to inform the ongoing development of education policy, practice and leadership in Scotland, by providing an independent review of the direction of the Curriculum for Excellence (CfE) and emerging impacts seen in quality and equity in Scottish schooling. It focuses especially on the cycles corresponding to Broad General Education (BGE, i.e. up to student age 15) with the brief being to:
 - Highlight key impacts of the approach taken to developing the curriculum to date.
 - Analyse key aspects of education policy and practice in Scotland, and integrate insights from PISA and other evidence from different countries/regions.
 - Highlight areas where further change or development could add value to an ongoing programme of educational improvement.
- 1.3. This report highlighted particular findings with regards to Numeracy and Mathematics :

"There have been declining relative and absolute achievement levels in mathematics *on international data*. On the most recent 2012 PISA surveys, Scotland was similar to the international average after having been one of the leading countries in maths achievement a decade before." (OECD report 2015); and

“Scottish Survey in Literacy and Numeracy (SSLN) shows that performance in numeracy actually declined between 2011 and 2013, although with a different pattern for children in primary and secondary schools. In primary schools, the drop was due to smaller numbers among the top performers in numeracy, which decreased by 10% (8 percentage points) and 8% (6 percentage points) in P4 and P7 respectively. In S2, the relative size of the top achieving group stayed the same but that of the low performers jumped by 9% (3 percentage points). For different reasons, therefore, there was a decline in levels of numeracy achievement in both primary and secondary education over this period.” (OECD report 2015)

- 1.4. In January 2013, Renfrewshire Council created the post of Numeracy Development Officer with a 0.2 FTE commitment to address issues arising from the 2011 Scottish Survey of Literacy and Numeracy.
 - 1.5. Renfrewshire Council has been allocated £8,344 to date from the Scottish Government to facilitate the sharing of good practice and raising awareness of the Education Scotland Virtual Numeracy Hub, which is accessible through Glow, and therefore assist the development of best practice in Numeracy and Mathematics teaching and learning.
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2. Recommendations

- 2.1. The education and children policy board is asked to note:
 - Renfrewshire Council’s Children’s Services’ progress to date in response to the Government’s commitment to introducing Numeracy Hubs for the sharing of good practice and consistency of experiences across establishments;
 - the allocation of £8,344 provided by the Scottish Government (from the £1.2 million across Scotland) to support the development of the Numeracy Hub Initiative across Renfrewshire.
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3. Background

- 3.1. Renfrewshire Council appointed a Numeracy Development Officer 0.2 FTE in December 2013. A baseline assessment was carried out to establish current areas of priority both in attainment and teacher confidence in the teaching of Numeracy and Mathematics across Primary, Secondary and ASN establishments. The results of this baseline closely matched the trends seen in the SSLN teacher questionnaire results.
- 3.2. Through consultation with staff , analysis of CEM and attainment data resulted in Progression, Active Approaches and Mental Agility being identified as priorities
- 3.3. A cross sector Numeracy Outdoor Learning working party was created and a progression of suggested activities for each Numeracy and Mathematics experience and outcome was produced. Professional learning opportunities were offered via Renfrewshire CPD site and this resource was launched.
- 3.4. Creation of Progression and Support Documents, Pathways and Discrete Assessments was undertaken by Numeracy Development Officer. The aim of this documentation was to ensure that there was a consistency of standards of skills being taught across the authority and to support staff members in understanding the progression of skills at each step of the journey from Early to Second Level.

- 3.5. In December 2014, the Numeracy Development Officer took up post as Numeracy Hub Champion for Renfrewshire Council. The meetings of representatives from each local authority and the Numeracy and Mathematics team from Education Scotland commenced in February 2015. This was an 18 month commitment with a potential extension.
- 3.6. The main objectives of involvement in the Numeracy Hub project are to raise attainment in numeracy and mathematics within Renfrewshire, promote the national numeracy hub and plan and deliver training on raising attainment in numeracy. A grant of £8,344 has been awarded to aid this process and also allow teacher cover for attendance at Numeracy Hub meetings for the Champion. Regular Action Plans and Impact reports are submitted to Education Scotland.
- 3.7. Progression and support materials were launched at a Primary head teacher meeting and shared with Principal Teachers of Mathematics in the Secondary sector in May 2015. Primary head teachers were asked to nominate a Numeracy Champion for their school. The Champion plays an essential role in cascading information to practitioners at school level. This is phase one of the initiative. Phase two will involve Nursery, Pre-five and Secondary establishments with an emphasis on transition.
- 3.8. The Education Scotland Numeracy Hub Grant has been used to purchase resources to pilot and support methodologies in the teaching of mental strategies. SolveIT Blocks and Rekenreks are being used at St. Anthony's Primary School and Todholm Primary School. These resources are being monitored and evaluated using public service improvement methodology.
- 3.9. Presentations on numeracy developments to Pre-five heads of centre and Secondary Head teachers took place in December 2015 and a Secondary Numeracy Development Coordinator was appointed in February 2016 to assist progress in the secondary sector.
- 3.10. The provision of high quality professional learning opportunities and the support materials have resulted directly in early signs of positive impact on teachers attitudes and confidence in the implementation of new teaching approaches in numeracy and mathematics.
- 3.11. At the beginning of the school session 2015-2016 there was a commitment to participation in the Numeracy Champion initiative by all schools that included the Numeracy Development Action Plan in their School Improvement Plan. By the end of school session 2015-2016 all staff in participating schools and Early Years Teaching Team should have received training that has been cascaded down from the Numeracy Development Officer, via the Numeracy Champions. This constitutes 48 Champions delivering in the 49 primary schools plus one member of the Early Years Teaching Team.

Implications of this report

1. Financial Implications

The Scottish Government has committed £1.2 million to the development of Numeracy Hubs between 2014/17. Renfrewshire's allocation is £8,344 within the 18 month commitment. Further funding may follow in 2016/17.

2. HR and Organisational Development Implications

None

3. Community Plan/Council Plan Implications

Children and Young People

- All young people in Renfrewshire will be entitled to learn numeracy and mathematics within their BGE.

4. Legal Implications

None.

5. Property/Assets Implications

None.

6. Information Technology Implications

Use of GLOW site to support implementation.

7. Equality and Human Rights Implications

The Recommendations contained within this report have been assessed in relation to their impact on equalities and human rights. No negative impacts on equality groups or potential for infringement of individuals' human rights have been identified arising from the recommendations contained in the report because for example it is for noting only. If required following implementation, the actual impact of the recommendations and the mitigating actions will be reviewed and monitored, and the results of the assessment will be published on the Council's website.

8. Health and Safety Implications

None.

9. Procurement Implications

None.

10. Risk Implications

None.

11. Privacy Impact

None.

List of Background Papers

"Improving Schools in Scotland: An OECD Perspective" (OECD 2015)

The foregoing background papers will be retained within children's services for inspection by the public for the prescribed period of four years from the date of the meeting. The contact officer within the service is (Laura McAllister, Education Manager (Curriculum and Early Years)).

Children's Services

LMcA/GMcK/LG

28 April 2016

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