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| Report to: | Education Resources Committee |
| Date of Meeting: | 2 May 2023 |
| Report by: | Executive Director (Education Resources) |

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| Subject: | Numeracy and Mathematics - Progress Update |
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1. Purpose of Report

1.1. The purpose of the report is to:-

- ♦ provide a progress update on the strategy for improvement in Numeracy and Mathematics.

2. Recommendation(s)

2.1. The Committee is asked to approve the following recommendation(s):-

- (1) that the Curriculum and Quality Improvement Service (CQIS) Numeracy and Mathematics Progress Update 2022/2023 be noted.

3. Background

3.1. Numeracy continues to be a key priority within the Scottish Government's National Improvement Framework with a specific focus on raising attainment overall and closing the poverty related attainment gap.

3.2. The Making Maths Count Report (2016) highlighted that 'Scotland has a maths problem'. One of the three identified areas to focus on was:

Improving confidence and fluency in maths for children, young people, parents and all those who deliver maths education to raise attainment and achievement across learning.

3.3. Education Scotland published its Thematic Review of Numeracy and Mathematics, 'Multiplying skills, adding value', early in 2019. This review built on the findings of the Making Maths Count report. It reported that although professional learning was deepening the knowledge and skills of staff in Numeracy and Mathematics, it is not yet resulting in significant improvement in outcomes for children and young people.

3.4. The National Response to Improving Mathematics Partnership Board (NRIM) has been established with the aim of realising the ambitions of these two reports, as well as taking into consideration the findings of the most recent PISA and OECD reports.

Education Resources' Lead Officer for Numeracy and Mathematics is a member of this board.

4. Current Performance

4.1. Leavers

Young people leaving South Lanarkshire Council schools' attainment in numeracy is broadly in line with all comparators (National, West Partnership and Virtual Comparator).

Attainment gap for school Leavers (attainment between most and least deprived cohorts) in Numeracy has narrowed between 2017 and 2022. At SCQF level 3, the gap was 5.96% points in 2017 and is 4.42% points in 2022. (a reduction of 1.54% points). At SCQF level 4, the gap was 16.44% points and is 14.84% points in 2022 (a reduction of 1.60% points).

4.2. S3 Achievement of a Curriculum for Excellence Level (ACEL) Data

At 92.0%, achievement of S3 third level numeracy in South Lanarkshire Council is above the national average of 89.1%.

In 2021/2022, the S3 third level numeracy gap was 12.5% points which compares favourably to the National figure of 15.0% points.

In 2021/2022, at 65.1%, achievement of S3 fourth Level numeracy in South Lanarkshire Council is above the national average of 59.3%. This is the highest level since 2016/2017.

In 2021/2022, the S3 fourth level numeracy gap was 32.3% points. Whilst this is better than the national figure of 34.9% points, this is the largest poverty related attainment gap across the measures reported.

4.3. P1/4/7 Achievement of a Curriculum for Excellence Level (ACEL) Data

In South Lanarkshire, the combined attainment in Numeracy for session 2021/22 is 79%. This is an improvement of 1% point on session 2020/21 and brings the attainment of our learners for this measure in line with pre-pandemic levels.

In South Lanarkshire Primary Schools, the overall attainment gap between our most deprived, Quintile 1, and our least deprived, Quintile 5, learners in numeracy steadily reduced by 1% point each year from 2016/2017 until 2018/2019. In 2016/2017, the attainment gap was 17% points, reducing to 15% points by 2018/2019. However, during session 2020/2021, this combined gap increased to 20%, an increase of 5% points.

When broken down, the attainment gap in P1 is 18% points, in P4 is 19% points and P7 is 20% points. The most significant increase is in Primary 1. In 2016/2017, the gap between the least and most deprived learners was 17% points, this reduced to 9% points by 2018/19, an 8% point reduction. During 2020/21, the attainment gap at Primary 1 doubled, increasing to 18% points.

During session 2021/22, the combined gap reduced by 1% point, to 19% which is just below the National figure of 18%. The greatest improvement was in Primary 1 with a reduction of 3% points.

4.4. Acknowledging the impact on learners' numeracy experiences through Covid-19 related lockdowns and interrupted learning during 2020-2022, it is crucial that numeracy development is an area which receives additional focus, and that our most vulnerable children are supported to develop the key knowledge and skills. This is

required at all stages with a particular need to support the early stages of numeracy development and to reduce the poverty related attainment gap at Level 4 in S3.

- 4.5. While it is recognised that there are numerous examples of excellent practice in the learning and teaching of Numeracy and Mathematics in establishments across South Lanarkshire, there is still work to be done to improve consistency. This can be achieved by continuing to improve the core pedagogy in Numeracy and Mathematics in classrooms. Numeracy is also a key workstream in South Lanarkshire Council's Strategic Equity Fund plan, which specifically targets the "attainment gap" between those most and least deprived.

5. Strategy

5.1. Maths Recovery

The South Lanarkshire Council strategy details the roll out of a programme called Maths Recovery.

Maths Recovery is a methodology for core Learning and Teaching in Numeracy and Mathematics to advance the numerical ability of learners at all levels. It prepares teachers to approach mathematics instruction in a new way. It emphasises ongoing assessment, careful observation, gauging student's current knowledge and strategies, and building on them to increase the student's knowledge, ability and self-confidence in mathematics. Maths Recovery also increases teacher knowledge and understanding of the foundations of number and strategies to support learners at all levels. This enables teachers to be more fluent and responsive in their teaching.

Evidence shows that schools who have embedded the pedagogy of Maths Recovery across all stages have seen the greatest improvements in attainment.

Data, and other intelligence, is being used to identify and prioritise schools to receive this training, as they recover from the impact of pandemic.

Although roll out is currently focussed on schools and areas where data identifies need is greatest and to close the poverty-related attainment gap, the longer-term intention is to have all P1-3 teachers trained within 4 years.

We are confident that this strategy will lead to improved outcomes for learners, leading to raised attainment overall and a narrowing of the poverty related attainment gap in Numeracy and Mathematics.

Progress

The first cohort of staff have already completed training in 'The Learning Framework in Number' course, which is specialist intervention training. The majority of this cohort are currently using the Maths Recovery approaches within their own classroom. Seven participants have progressed onto the trainer programme; their journey to becoming an accredited trainer of Maths Recovery will be completed by the end of the 2023-24 session.

The long-term plan is to have these seven accredited trainers (plus additional trainers from future specialist intervention training courses) form an internal team of accredited Maths Recovery trainers.

This will support the roll out of Maths Recovery to all appropriate staff over the next 4 years, embedding this approach across all establishments.

A total of 194 teachers have received training in Maths Recovery to date, with an anticipated figure of over 270 by the end of this academic session.

The training programme is being evaluated at every stage to ensure that it is meeting the needs of staff. Careful analysis of our data will ensure that we are tracking the progress of learners and responding to need as necessary.

5.2. S3 Maths CfE Level 3 and 4 Intervention

Four Secondary schools were identified to receive targeted support in 2022/23 for improvement in both Third and Fourth level CfE Numeracy. The strategy for selection of schools had a particular focus on closing the Poverty-Related Attainment Gap.

In 2021/22 Third level average for the target schools was 79.9%, which is below the SLC average of 92.0% and the national average of 89.1%.

In 2021/22 Fourth level average for the target schools was 37.0%, which is significantly below the SLC average of 65.1% and the national average of 59.3%.

The four schools received input from South Lanarkshire Council Officers and an Officer from the West Partnership with a view to focussing on building capacity in teacher professional judgment and tracking data from the Broad General Education into the Senior Phase.

This support programme will be rolled out further during session 2023/24.

Progress

CfE Third and Fourth Level predictions for 2022/23 show improvement in aggregated achievement of the 4 schools now expected to be 88.8% for Third level and 60.5% for Fourth level. This is a significant improvement for the target schools and will influence aggregated Local Authority data.

Within these schools, there is targeted support for learners not currently on track for Numeracy prior to the final ACEL collections for 2022/23.

In April 2023 Numeracy representatives from all SLC Secondary schools met to discuss the work carried out so far in the target schools and share approaches to moderation and data collection across the authority.

6. Employee Implications

- 6.1. All appropriate staff within South Lanarkshire will receive training in the pedagogical approaches of Maths Recovery.

7. Financial Implications

- 7.1. None

8. Climate Change, Sustainability and Environmental Implications

- 8.1. There are no significant implications for climate change, sustainability and the environment arising from the recommendations in this report.

9. Other Implications

- 9.1. There are no implications for risk in terms of the information contained in this report.

10. Equality Impact Assessment and Consultation Arrangements

- 10.1. This report does not introduce a new policy, function or strategy or recommend a change to an existing policy, function or strategy and, therefore, no impact assessment is required.
- 10.2. Consultation, dialogue, and engagement has taken place with schools, headteachers, teachers and the trade unions on achievement of attainment levels. Support has been provided through professional learning at school and learning community level.

Tony McDaid

Executive Director (Education Resources Resources)

4 April 2023

Link(s) to Council Values/Ambitions/Objectives

- ♦ Education and learning: inspiring learners, transforming learning, strengthening partnerships

Previous References

- ♦ Education Resources Committee – January 2022

List of Background Papers

None

Contact for Further Information

If you would like to inspect the background papers or want further information, please contact:-

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