
Report To:	Education & Communities Committee	Date:	19 January 2016
Report By:	Head of Education	Report No:	EDUCOM/10/16/RB
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Subject:	Raising Attainment in Maths and Numeracy		

1.0 PURPOSE

- 1.1 The purpose of this paper is to update Committee on the measures in place to raise attainment in maths and numeracy for all pupils and to close the attainment gap linked to deprivation.

2.0 SUMMARY

- 2.1 Attainment in the Senior Phase for learning in Inverclyde remains strong against our virtual comparators. National numeracy attainment in the Broad General Education across Scotland, based on 2011 and 2013 Scottish Survey of Literacy and Numeracy data, shows a drop in the percentage of pupils performing well or very well in numeracy between 2011 and 2013. This trend is reflected in Inverclyde.
- 2.2 Whilst our attainment in the senior phase remains high, the attainment gap linked to deprivation reflects the picture across Scotland.
- 2.3 The report details the previous and ongoing work to raise standards in numeracy and mathematics within the context of the Experiences and Outcomes of Curriculum for Excellence and qualifications in the senior phase. This includes progression frameworks, working both nationally and with other Authorities to share and moderate standards, and development of teaching methodology for numeracy and maths. It also identifies the work being undertaken as part of the Attainment Challenge to specifically close the gap in attainment linked to deprivation.
- 2.4 Whilst Inverclyde is in a strong starting position for attainment in maths and numeracy, we as an Authority should constantly seek out improvements to ensure that we get the very best for every youngster in Inverclyde. Next steps for us an Authority have been identified in the paper. These include a more rigorous use of data to identify areas for improvement, ensuring appropriate progression and challenge for all pupils and ensuring that staff have access to high quality CPD (Continuing Professional Development). The National Improvement Framework currently being developed by the Scottish Government will support schools and Local Authorities to identify and moderate national standards.

3.0 RECOMMENDATIONS

- 3.1 It is recommended that the Committee:
- Note the content of the report and the current attainment in numeracy and maths in Inverclyde
 - Note the ongoing developments and next steps to raise attainment in numeracy and maths and to close the attainment gap linked to deprivation.

Wilma Bain
Corporate Director
Education, Communities & Organisational Development

4.0 BACKGROUND

- 4.1 Curriculum for Excellence was introduced in 2010, having been the biggest curriculum change in living memory. 2016 marks the end of the development phase, with the last suite of new qualifications having been developed and implemented. The Curriculum is divided into the Broad General Education and the Senior Phase. Qualifications gained in the Senior Phase are benchmarked on the Insight Toolkit using national and virtual comparators. The Scottish Survey of Literacy and Numeracy gives a snapshot picture across Scotland of pupil progress in the Broad General Education but this is not collated by Authority.
- 4.2 Inverclyde was named as one of the seven Local Authorities to receive money for the Attainment Challenge. The rationale behind the choice of Authorities was the highest proportion of pupils in SIMD 1 and 2 in primary schools. The aim of the Attainment challenge is to close the attainment gap linked to deprivation. Whilst Inverclyde performs strongly against comparator Authorities in almost all measures, our attainment gap is similar to the national picture.
- 4.3 Raising Attainment for All (RAFA) and the Early Years Collaborative are national initiatives which challenge Authorities to continually use small tests of change to improve outcomes for young people and to raise attainment for all pupils across the board.
- 4.4 Whilst Inverclyde is in a strong starting position for attainment, we as an Authority should constantly seek out improvements to ensure that we get the very best for every youngster in Inverclyde.

5.0 CURRENT POSITION

5.1 Attainment in the Broad General Education

National numeracy attainment in the Broad General Education across Scotland, based on 2011 and 2013 Scottish Survey of Literacy and Numeracy data shows a drop in the percentage of pupils performing well or very well in numeracy between 2011 and 2013, in P4 going from 76% to 69%, in P7 going from 72% to 66% and S2 staying at 42%. Using varied assessments from schools, Inverclyde's picture reflects the national trend in numeracy with around 63% of P4 pupils achieving first level, 65% achieving second level in 2014.

5.2 Senior Phase Numeracy

A qualification in Numeracy is obtained either as a standalone unit or as one of the three units which together make up a National Mathematics qualification. The percentage of pupils leaving school with a numeracy qualification at National 3, National 4 and National 5 is usually between 1 and 2% greater than the national average and is also higher than the virtual comparator. This has been a consistent picture for the last five years. Reflecting the national trend, girls continue to perform better than boys. Pupils with Additional Support Needs tend to perform in line with our virtual comparator and the national picture.

5.3 Senior Phase Mathematics

This year was the first presentation of the new Higher nationally and Inverclyde Mathematics departments all presented for the new Higher. Departments along with the link QIO for numeracy felt confident presenting the new Higher due to the work already done on tracking pupil attainment, strengths and areas for development for National 3,4 and 5.

In 2015, across Inverclyde 261 pupils were presented for the new Higher and 62.8% passed. 14.6% of pupils attained an A grade. In 2014, 56.5 % of the 331 pupils passed and 16.6% obtained an A grade. Girls tend to perform slightly better than boys at Higher level. Only a few pupils with ASN are presented for Higher Mathematics so no conclusions can be drawn.

There was an amount of publicity across Scotland about the standard of the exam which was considered to be too testing and this was reflected in the cut off scores to pass the exam. Although an improvement on previous years, Inverclyde's pass rate for Higher remains below

the national average. The rise in the pass rate reflects the schools' focus on ensuring pupils are presented at the correct level.

Inverclyde first presented pupils for National 5 Mathematics in 2014 and again in 2015. In 2014, 318 pupils were presented and 64.2% passed against the national average of 72.0%. In 2015, 327 pupils were presented with 66.7% of pupils passed against the National average of 69.3%. The percentage of pupils passing is improving and getting closer to the National average. At National 5 level girls perform slightly better than boys. Only a few pupils with ASN are presented for National 5 Mathematics so no conclusions can be drawn.

National 4 is an internally assessed award. The percentage of pupils who achieved National 4 in both 2014 and 2015 stays steady at around 34%, which is line with the national average and there is little variation between boys and girls.

5.4 Current developments

Numeracy representatives from all primary and secondary schools worked on unpacking the Experiences and Outcomes to develop a maths and numeracy framework for schools which was used as the basis of maths planning.

Inverclyde staff are working with Glasgow and North Lanarkshire Councils to develop clear lines of progression to assist teachers in planning and assessing numeracy and mathematics. As a result, teachers will have a better understanding of prior learning, will have an overview of the skills contained in each level and will be better equipped to make valid and reliable judgements on where pupils are in their learning journey.

The Scottish Government has instigated a National Numeracy Hub which is an online Glow resource to support CPD in mathematics and numeracy. Staff can develop their knowledge and skills in a variety of mathematical areas to ensure high quality learning and teaching. Inverclyde is fully involved in the National Numeracy Hub. Nationally we are represented by the link QIO on a variety of working groups including the Curriculum Learning Teaching Assessment and Support forum (CLTAS) for Mathematics and Numeracy.

Education Scotland host a National PT network to support secondary mathematics departments. Our representative feeds back to his colleagues on a regular basis. The secondary Maths PTs meet both formally and informally on a regular basis to share good practice and current thinking.

As part of the Attainment Challenge, there is a focus on the stages of early arithmetic learning. A Coaching and Modelling officer for numeracy has recently been appointed. She is working predominantly with the six challenge schools to highlight effective methodology in the teaching of numeracy and mathematics. Resources and evidence based methodologies such as Numicon have been purchased to develop pupils' early number skills. This good practice has already been disseminated to other schools across Inverclyde and early years establishments.

Early years practitioners along with the link QIO for Early Years have worked together to consider appropriate progression in early numbers.

PIPs data is now being better used by schools to track pupils and to help set targets. Primary schools are using data as part of their tracking and monitoring procedures. Now that pupils who undertook PIPS testing in primary have been presented for national examinations, their results have been collated to help monitor and set targets for pupils. A secondary HT recently presented to a meeting of all Head Teachers on how the data can be used within a school to improve pupil attainment.

5.5 Next steps

Using a variety of methods e.g. HT and DHT meetings, school visits by the coaching and modelling officer and QIO visits, we will ensure that all staff are aware of the support and resources available at Local Authority and national level in mathematics and numeracy.

Through the Attainment Challenge, high quality CPD will be sourced to upskill practitioners in current methodologies to ensure high quality learning and teaching.

Staff will develop a firm understanding of what it means to achieve a level using progression frameworks, professional dialogue and national resources. Moderation within Inverclyde and across other Authorities will ensure consistent standards.

In line with developments for the National Improvement Framework, schools have been asked to use SEEMIS to collate pupil progress at P1, P4, P7 and S2 this year. This will allow us to monitor and report on standards of numeracy across the Authority.

Secondary Head Teachers have asked to have in depth meetings to use the Insight Toolkit to forensically analyse data subject by subject and this will start with Mathematics. This will build on the current self-evaluation practice using exam data to ensure improvement at whole school and department level.

The National Improvement Framework is coming on stream. Using this, and other information we will continue to use data to analyse SIMD levels and target interventions to enable us to close the attainment gap in numeracy and mathematics.

6.0 IMPLICATIONS

Finance

6.1

Financial Implications:

One off Costs

Cost Centre	Budget Heading	Budget Years	Proposed Spend this Report £000	Virement From	Other Comments
N/A					

Annually Recurring Costs/ (Savings)

Cost Centre	Budget Heading	With Effect from	Annual Net Impact £000	Virement From (If Applicable)	Other Comments
N/A					

Legal

6.2 There are no legal implications.

Human Resources

6.3 There are no human resources implications

Equalities

6.4 Has an Equality Impact Assessment been carried out?

Yes See attached appendix

No This report does not introduce a new policy, function or strategy or recommend a change to an existing policy, function or strategy. Therefore, no Equality Impact Assessment is required.

Repopulation

6.5 There are no repopulation implications.

7.0 CONSULTATIONS

7.1 Head teachers, The Quality Improvement Team and Attainment Challenge Officers have been consulted in the preparation of this report.

8.0 CONCLUSIONS

8.1 N/A

9.0 BACKGROUND PAPERS

9.1 N/A