



**Principal Moderator's Report
for Using Mathematics
at Key Stage 3**

**2019 Session
(Step One)**

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1. Introduction

2016/17 was the fifth year of statutory implementation of the assessment and moderation arrangements at Key Stage 3. This report deals with the quality assurance moderation of teacher judgements in Using Mathematics.

The purpose of external moderation is to confirm to schools and other education partners that the standards schools are applying in teacher assessment are appropriate. The focus of moderation is on demonstrating an agreed understanding within a school as opposed to the performance of individual pupils.

As with 2015/16, in February 2017 a selection of schools were required to provide a school portfolio in Using Mathematics representing the range of levels likely to be reported in May. For 2016/17, there was a departure from including five samples of pupil work in a school submission and instead only three samples of pupil work demonstrating breadth across the 'Requirements' and the three strands of 'Knowledge and Understanding' were required. This arrangement is to allow for one sample to have a focus on Number and Algebra, one sample to have a focus on Shape, Space and Measures and one sample to have a focus on Handling Data. Continuing on from previous series, there was no requirement for at least one response to a CCEA Approved or Exemplar Assessment Task. This arrangement is intended to ensure that teachers can demonstrate their agreed understanding of a particular level using whatever pupil work they feel suitable. Eight schools participated in this first stage of moderation for Using Mathematics in 2016, referred to as 'Moderation Step One'.

2. Range and Type of Work

Generally, school submissions showed a good range of work from across the three strands in 'Knowledge and Understanding'. However, this was the first year that only three samples were required at each level and we would have liked to have seen three distinct pieces of work submitted at each level – one piece for each 'Knowledge and Understanding' strand. The work submitted for a level should demonstrate a breadth across the 'Requirements' and the three strands of 'Knowledge and Understanding' at that level. This was not always the case in the submissions we received and as such, some school submissions lacked the breadth required for moderation. Submissions continued to include work from the CCEA 'Task and Exemplification Library', tasks from CCEA Standard Setting Events and those designed by individual teachers. It is important that the guidelines associated with each task are followed, the task is set in an appropriate context and it contains suitable mathematical content and structure for the level for which it is submitted. For example, the

appropriate pupil stimulus for a sample must be given to the pupils or, a task for higher levels must not be too structured, otherwise the sample may not be verified. The cross curricular nature of Using Mathematics is still not very evident, with Mathematics departments very much the main source of material for moderation.

3. Accuracy of Judgements

Eight schools provided school submissions for moderation this year and seven schools were verified. The use of a school submission allows each school to select work that provides the best evidence available to demonstrate that they understand the standards required at each level. This work can come from any department across all three years of Key Stage 3.

The reasons for samples not being verified this year are similar to previous years and are covered by the following main points:

- Tasks should be set in a suitable context to fulfill the Using Mathematics ‘Requirements’. This should include the fact that at the higher levels there should not be too much structure.
- The ‘Knowledge and Understanding’ demonstrated within a sample should be at the same level for which it is being assessed, alongside the ‘Requirements’.
- The work submitted for a level must be correct otherwise it is not a suitable sample to demonstrate that level. Incorrect work does not show evidence of a lower level. Each level must contain correct work that demonstrates the standards for the level as described in the Levels of Progression.
- When samples demonstrate a range of levels it is often difficult to verify the stated level when multiple levels are evident within a single piece of work. A sample should evidence an understanding of a particular level. If possible, only the relevant work at the level being evidenced should be submitted. Another option is to highlight, using the EMA6M form or through annotation, what work represents the level being demonstrated so as to indicate which section(s) of the work you want considered as evidence.
- Handling Data samples continue to highlight the most issues. Data only needs to be presented one way at the level being claimed. For example, block graphs at Level 2, bar graphs with axes given at Level 3, bar graphs independently drawn at Level 4 and dual bar graphs at Level 5. There is no need to include pictograms or pie charts as additional charts when they do not add anything further to the work. At the higher levels there should be good analysis of the information and results so that the ‘Requirements’ are met and at Level 7 two sets of data must have been compared and analysed.

4. Administration

The following points should be noted to help with the moderation process and when administering the tasks:

- The stimulus for each task needs to be included for all samples submitted so that the moderators can clearly see what the pupil has been asked to do and that an appropriate stimulus has been used.
- There is no need for *all* calculations to be worked out using pen and paper, and the appropriate use of calculators is encouraged. As long as a pupil can demonstrate at least once what technique(s) and method(s) they are using for a particular calculation then it is enough and does not need to be repeated over and over.
- Tasks, if possible, can be focused on a particular level and this normally means they are shorter in length.
- In addition to the Levels of Progression, the Expansion of the Levels of Progression in Using Mathematics (1 – 7) can be used to help with both planning and make assessment judgements. This document can be found on the CCEA website.
- Information provided on the EMA6M form and any annotation on the pupil work is useful for the moderation process. Although annotation is not a requirement, indicating why a sample is a particular level helps when verifying standards at moderation.
- The requirement this year, for the first time, was that only three samples should be submitted at each level to cover the breadth of the three strands of ‘Knowledge and Understanding’. To fulfil this requirement it is recommended that no sample from the same task be used more than once for a particular level. However, a sample from the same task can be used for more than one level when appropriate.

5. Conclusion

The moderation arrangements for 2016/17 allowed schools to demonstrate their understanding of the standards as outlined within the ‘Levels of Progression’. While participation was largely incomplete as a result of ongoing industrial action, the work submitted from those that did take part has shown a further increase in an understanding of the standards and an apparent growth of confidence in assessing pupils and making associated judgements.

Thank you to those schools who took part in moderation and provided a school submission this year. I would encourage everyone, whenever possible, to avail of the opportunities offered by CCEA for help and support, which includes the CCEA website, teacher events and school visits.

Principal Moderator: Gordon Black

Date: September 2017

Key Stage 3 Statutory Assessment**Northern Ireland Summary
2017****Using Mathematics**

		Levels							
		QQ*	1	2	3	4	5	6	7
Boys	No. of pupils	0	0	25	159	484	671	554	313
	%	0.0	0.0	1.13	7.21	21.94	30.42	25.11	14.19
Girls	No. of pupils	0	5	10	95	355	639	609	361
	%	0.0	0.24	0.48	4.58	17.12	30.81	29.36	17.41
Total	No. of pupils	0	5	35	254	839	1310	1163	674
	%	0.0	0.12	0.82	5.93	19.60	30.61	27.17	15.75

NOTES: * QQ = Working towards level 1

As a caveat when interpreting these results, it is acknowledged that these Levels of Progression assessments for Communication, Using Mathematics and Using ICT, introduced since 2012/13, need time to embed and the Department recommends caution when analysing data from the first years' implementation.

2016/17 data have been produced based on submitted returns from approximately 24% of post primary schools. The remaining schools did not submit returns due to industrial action.