

ACME's response to the Department for Education consultation on 'performance descriptors for use in key stage 1 and 2 statutory teacher assessment for 2015/2016'.

December 2014

1. About ACME

The Advisory Committee on Mathematics Education (ACME) is an independent committee, based at the Royal Society and operating under its auspices, that aims to influence Government strategy and policies with a view to improving the outcomes of mathematics teaching and learning in England and so secure a mathematically enabled population.

2. This response

ACME has developed this draft with advice from ACME's Outer Circle, 36 independent mathematics experts, and from members of the wider mathematics community. The paper has also been reviewed and commented on by the Joint Mathematical Council (JMC) and the Royal Society.¹

3. ACME principles on performance descriptors

3.1 ACME agrees that the system of levels was rightly removed and believes that there is a need for performance descriptors at the end of a key stage.² Good performance descriptors are important in internal assessment by teachers and inform daily teaching.

3.2 ACME principles on performance descriptors:

- Performance descriptors should support assessment for learning mathematics in the classroom as a key lever to raising standards. They should reflect the National Curriculum aims, thus encouraging connections between topics and the development of reasoning. They should identify the key ideas in that stage of learning, which enable students to progress to the next key stage.
- Performance indicators should help teachers to fine-tune their understanding of learners' needs and tailor their planning and teaching accordingly. Performance descriptors should not encourage teaching to the test or put undue pressure on learners.
- The purpose of performance descriptors is not only for summative assessment but also to inform teachers at the next key stage of students' readiness for the next key stage. Performance descriptors for mathematics should not restate the programme of study, but rather should summarise what needs to be tested at the end of a key stage.

¹ This response draws on ACME's previous responses during the National Curriculum review, <http://www.acme-uk.org/policy-advice/current-areas-of-focus-for-acme/curriculum-review>. In addition, ACME responded to the primary accountability consultation, in which it highlighted issues around proposed changes to national tests and the impact that they have on teaching and learning, <http://www.acme-uk.org/media/13914/acmepaccountability2013.pdf>. ACME also wrote to the Standards and Testing Agency about the National Curriculum assessment 2016 sample materials for mathematics published in July 2014, highlighting that sample questions must emphasise the significant aims of the National Curriculum, fluency, including conceptual understanding, reasoning and problem solving

² <https://www.youtube.com/watch?v=-q5vrBXFpm0>.

4. Summary of response

4.1 The proposed performance descriptors:

- compartmentalise learning and risk a 'tick box' approach being followed. Instead of a long list of bullets other more holistic means of assessment could be utilised. Exemplification materials could be developed which show what a child at a key stage could be expected to do, for example exemplifying problem solving and reasoning in an area of content.
- do not align themselves with National Curriculum aims and overemphasise procedures. The performance descriptors should not be a restatement of the curriculum content but should be a holistic description of mathematical behaviours that reflect the aims of the curriculum.
- are very different at key stage 1 and only one at key stage 2. National standards for each key stage should be similar in style and format (from key stages 1 to 4).
- contain slack wording and ambiguities. Attention must be given to the precision of language.
- will be inaccessible to most parents. The language used to report to parents needs to be much simpler and clearer than is currently proposed.

4.2 The process involved in developing performance descriptors has not been made widely available.

There needs to be more clarity about the expertise used in the development and refinement of performance descriptors. In the consultation document here is little detail about the proposed trialling system. Details of the proposed trial including its methodology should be made public.

5. New performance descriptors after levels

5.1 There is a need for performance descriptors within a system where there is no other basis for teacher assessment.³

5.2 National Curriculum levels became embedded in the shared language of educational assessment in England. They were closely linked to curriculum content, contrary to what is stated in this consultation document.⁴ However, there were issues with National Curriculum levels. When levels were introduced in 1988, levelling was supposed to happen 'towards the end' of a key stage and at no other time.⁵ Care needs to be taken so that performance descriptors do not inherit some of the negative aspects of levels.⁶

5.3 Performance descriptors do not need to be a long list of bullets describing techniques and procedures. There is a need to consider different models that would encourage more holistic learning.⁷ For example teachers could assess a selection of pupils' work, looking at written work but

³ In its response to the primary accountability and assessment consultation in October 2013 ACME expressed concerns about giving schools complete autonomy over assessment, given the risks of proliferation of different systems, <http://www.acme-uk.org/media/13914/acmepaccountability2013.pdf>.

⁴ Levelling would allow pupil progress to be 'defined in terms of the national curriculum, and the stages of progress to be marked by levels of achievement as derived from that curriculum' (Department of Education and Science and the Welsh Office, 1988, p.30). <http://www.nfer.ac.uk/publications/99940/99940.pdf>.

⁵ <http://www.educationengland.org.uk/documents/pdfs/1988-TGAT-report.pdf>.

⁶ There was an issue of unintended consequences around levels. The National Curriculum suggested levelling at the end of a key stage, but accountability pressures led in due course to the levelling of each piece of work, and sometimes three times in a single lesson. Accountability could distort a new system in unexpected ways.

⁷ The original National Curriculum assessment framework (TGAT, 1988) included multiple 'statements of attainment' lists similar to those proposed in the consultation. They intended to characterise the levels within each 'attainment

also observing pupils doing mathematics and talking about mathematics. Other possible alternatives to aid assessment could include summary statements related to the National Curriculum aims, publication of planned learning outcomes, and content and exemplifications of what these planned learning outcomes might look like at the end of each key stage. International approaches should also be considered, including the importance of teacher being seen as professionals in assessment.⁸

5.4 In the proposals there are four different performance descriptors at key stage 1 and only one at key stage 2. It is argued that this is because of national testing at the end of key stage 2. However, the national standards for each key stage should be similar in style and format (from key stages 1 to 4). The proposed GCSE grade descriptors (key stage 4) are very different in format.⁹ It should be possible to use the performance descriptors to plan progression to the next key stage. A mapping exercise needs to be undertaken to ensure coherence.

6. Performance descriptors and teachers

6.1 If teachers understand assessment, they can encourage learning and progress and improve accuracy of assessment.¹⁰ Current proposals are unwieldy and too detailed to be of use for teachers. It is difficult to see how this framing of the descriptors could lead to anything but a ‘tick box’ exercise for teachers and school leaders.¹¹

6.2 If teachers understand the purpose of performance descriptors, they can use them to encourage learning and progress and improve the accuracy of assessment. It would be very challenging for a teacher to use four performance descriptors of considerable detail and prescription, as is proposed for key stage one.

7. Aims of the National Curriculum and the proposed performance descriptors

7.1 In section 8 of the consultation it is stated that the performance descriptors are closely aligned to the new National Curriculum.¹² However, ACME is concerned that the current performance descriptors do not encapsulate these aims and overemphasise procedural aspects and the acquisition of techniques. This comes at the expense of encouraging reasoning and problem solving and deep conceptual understanding. A criticism of levels was that they compartmentalised the learning of mathematics. The design of performance descriptors should ensure that this does not happen again.

7.2 In the National Curriculum the importance of depth over breadth is highlighted and it is stated that ‘pupils who grasp concepts rapidly should be challenged through rich and sophisticated problems before any acceleration through new content’. The proposed performance indicators privilege fluency over reasoning and problem solving.

target’ in a criterion referenced, teacher-led assessment system. However, for teachers they proved atomistic and unworkable. In 1994 the Dearing Review was commissioned to review National Curriculum assessment. The outcome was the replacement of statements of attainment by more holistic, narrative “level *descriptions*” of characteristic student ‘behaviours’ at each level, <http://www.educationengland.org.uk/documents/dearing1994/>.⁸<http://www.oecd.org/education/school/oecdreviewonevaluationandassessmentframeworksforimprovingschooloutcomes.htm>.

⁹ <https://www.gov.uk/government/publications/grade-descriptors-for-gcse-graded-9-to-1>.

¹⁰ <http://www.ofsted.gov.uk/sites/default/files/documents/surveys-and-good-practice/t/The%20impact%20of%20the%20Assessing%20pupils%20progress%20initiative.pdf>;
<http://www.nuffieldfoundation.org/sites/default/files/files/The-role-of-teachers-in-the-assessment-of-learning.pdf>.

¹¹ <http://www.tlrp.org/pub/documents/assessment.pdf>.

¹² In mathematics, the three aims of the curriculum are to ensure that all pupils become fluent in the fundamentals of mathematics, reason mathematically and can solve problems by applying their mathematics to a variety of routine and non-routine problems.

8. Proposed performance descriptors and reporting to parents

- 8.1 When the Department for Education argued for the removal of levels they said ‘we believe this system is complicated and difficult to understand, especially for parents. It also encourages teachers to focus on a pupil’s current level, rather than consider more broadly what the pupil can actually do’.¹³ In the case of the proposed performance descriptors, the amount and complexity of performance descriptors would not fully redress this issue. It is unlikely that all parents would understand the implied order of the terms such as ‘exceeding’ and ‘working towards’.
- 8.2 Performance descriptors should enable parents to gain a good understanding of their child’s progress so that they can support their learning. ACME recommends that helpful and unambiguous language is developed for reporting to parents so that they know at a suitable level of detail what their child can do and how to support them.

9. Reviewing the consultation responses and next steps

- 9.1 There are a number of ambiguities of language in the consultation such as the names of the performance descriptors and what terms such as ‘range’ ‘basic’, ‘simple’, ‘embedded’ and ‘more complex’ mean. These terms should be clearly understood and communicated. ACME and the wider mathematics community, including the subject associations, can offer more detailed information on a number of ambiguities and inconsistencies.
- 9.2 In section 8, it is stated that the performance descriptors have been ‘drafted with experts, including teachers, representatives from Local Authorities, curriculum and subject experts’. As ACME has made clear in several consultation responses, there is a need for transparency in developing curriculum and qualifications and documentation related to these reforms.¹⁴ Greater clarity regarding these processes is needed and should be made widely available.
- 9.3 It is stated in the consultation that these draft performance descriptors will be trialled in a representative sample of schools during the summer term 2015. Further details on this, including the sample size and the precise methodology, should be made public. There needs to be a robust and valid trial. There also needs to be testing of how performance descriptors are understood by parents.

¹³<http://www.naht.org.uk/welcome/news-and-media/key-topics/assessment/assessment-commission-resources/>; https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/297595/Primary_Accountability_and_Assessment_Consultation_Response.pdf.

¹⁴ <http://www.acme-uk.org/policy-advice/current-areas-of-focus-for-acme/a-level>.