

Submission to the Consultation on the Office for Standards in Education (Ofsted) draft Education Inspection Framework 2019

The Royal Society of Chemistry's response to Ofsted's consultation [Education inspection framework 2019: inspecting the substance of education](#), April 2019

Proposals

Framework proposals

Proposal 1

To what extent do you agree or disagree with the proposal to introduce a 'quality of education' judgement?

Strongly Agree

We welcome the recognition that a well-planned and sequenced curriculum is central to a high-quality education, and that this curriculum should allow all learners to progress in their skills and knowledge. We strongly support the inclusion of learners with SEND and those from disadvantaged background in a broad curriculum that sets appropriately aspirational expectations. We also agree that specialisation should not occur too soon; specifically, all young people should study the core sciences of biology, chemistry and physics until the age of 16, as part of a broader curriculum.

The Royal Society of Chemistry has an ongoing project to develop a vision for an appropriate curriculum in chemistry. We have established a framework that foregrounds the core ideas – covering conceptual knowledge, procedural knowledge and investigative skills – that should feature in the chemistry curriculum at ages 11–19. Future stages of this project will develop a framework for the science curriculum at primary (in collaboration with the Association for Science Education, the Institute of Physics and the Royal Society of Biology), and think in more detail about sequencing of core ideas within the curriculum. We will gladly share the outputs of this work with Ofsted to inform HMIs' understanding of the key elements that make a successful chemistry curriculum.

We note that the inspection framework and the draft handbooks frequently use terms such as 'knowledge' and 'concepts'. Without disputing the importance of core knowledge and concepts, we hope Ofsted agrees that the term 'knowledge' can be interpreted broadly, and should be taken to include procedural knowledge. Developing understanding of the practices of the sciences should form a key part of any curriculum, including the approaches scientists take to increase our knowledge of the world and the role of empirical enquiry. Practical work should be embedded within the sciences at all stages to support these understandings and help develop technical skills. The Gatsby Good Practical Science Benchmarks [1] provide a useful reference for evaluating good practical science in schools. Additionally, learners should gain an appreciation of the varied roles the sciences play in society and how the learning gained in the classroom is relevant to learners' lives and experiences. This is part of developing cultural capital, and enables young people to make informed subject choices. All of these aspects should be considered in evaluating the quality of education in the sciences.

There are several findings from recent research into the timetabling of GCSE sciences in schools [2] that we would like Ofsted to be aware of, so that HMIs can be alert to potential issues:

- GCSE Combined Science is not timetabled separately for each discipline in 49% of schools surveyed; for separate science GCSEs this is the case in 19% of schools surveyed. Teachers reported that learners in combined science classes were less likely to be able to differentiate between the disciplines, where separate timetabling was a contributing factor. We strongly

favour learners gaining an appreciation of the individual scientific disciplines, as this can help with conceptual understanding and support learners making informed choices about further study. This should not preclude teachers helping learners to see the connections between the disciplines.

- It is reasonable to assume that GCSE Combined Science is intended to be allocated twice the timetabled lessons of a single award GCSE, and the total of the three separate science GCSEs three times that amount. However, none of the schools surveyed allocated time in those proportions. In particular, 91% of schools allocate less time to a separate science GCSE than to other single award GCSE options. This raises questions about whether adequate time is made available for learning in the sciences, and whether that learning is appropriately accessible for learners across all attainment levels.
- We also see that teaching of science GCSEs is more likely than other subjects to begin in Year 9. We would not want to see this trend result in a narrowing of the overall Key Stage 3 curriculum. However, given that this practice is widespread and the decision may be an understandable reaction to the amount of content in the reformed GCSEs and available time across the curriculum in Years 10 and 11, we also would not want to see schools automatically censored for taking this decision. A Year 9 start for GCSEs could be implemented in very different ways, and each individual situation should be assessed on its own merits.

At primary, we have seen that science has been de-prioritised in many schools since the removal of Key Stage 2 SATS in the subject – as also reported on by Ofsted [3]. We do not advocate a return to SATS for science, but there must be an expectation that primary schools give science a position in their curriculum that reflects its status as a core subject. We ask that Ofsted feature this consideration in their inspections of primary schools.

We are concerned by paragraphs 177 and 180 in the School inspection handbook, which put great emphasis on judging the impact of a curriculum by achievement of learners in national assessments and examinations. Ofsted must realise that it is impossible for all learners to achieve good results in qualifications such as GCSEs and A-levels, due to the comparable outcomes approach to grading. It is well documented that learners from economically disadvantaged backgrounds attain, on average, lower educational outcomes than their peers [4]. The reasons for this are complex, and of course we should expect schools and colleges to do what they can to support these learners and close any attainment gap. However, it is likely that not all factors can be mitigated by the institution – especially in secondary and further education where performance is highly correlated to prior attainment. The guidance on personal development (paragraph 201) takes into account that learners are affected by environments outside the school. We recommend reviewing the section on curriculum impact from this same point of view to ensure that HMIs can take into account external factors that may have a bearing on the results achieved by learners in a school.

We note and applaud Ofsted's intention to not create unnecessary workload for teachers, and that HMIs will not ask to see materials such as individual lesson plans and pupil-tracking information. Ofsted will be aware that some schools may perceive the requirements for curriculum documentation very differently from how they are intended, and make plans to produce far more extensive documentation in a shorter timeframe than is strictly needed. Ofsted should take every opportunity to communicate clearly what is expected, and what is not expected, to avoid unnecessary pressures being put on teaching staff – many of whom already have a very high workload.

We are also reassured by Ofsted's intention to apply a transition period to their judgements on development of curriculum plans – we have discovered through our own curriculum vision project that this can take significant time, which teachers will have to commit alongside existing workloads. We support the suggestion in Prof Daniel Muijs' comments [5] that an extension of the transition period beyond 12 months will be considered. Some education providers are starting from a low base, and it may take several years for them to produce and embed a curriculum along the lines that Ofsted is asking for. This may especially be the case in some primaries where science has been de-prioritised in recent years [3], and where specific expertise in science is not always present. Where schools are part way through the process of developing curriculum, HMIs should be mindful of their starting point, and the way in which the requirement to develop an effective curriculum has been balanced against the requirement for senior management to be realistic about managing staff workload and to consider teacher wellbeing.

We welcome the emphasis on support for teachers in the implementation of the quality of education criteria. In particular, that leaders should 'provide effective support for those teaching outside their main areas of expertise'. This is important in the sciences where teachers are often deployed outside of their specialist science discipline. In a recent survey [2] 38% of schools reported that fewer than three teachers were allocated to a typical GCSE combined science class. Further quantitative and qualitative evidence determined that even in cases where three teachers were allocated, this does not necessarily equate to three individuals with disciplinary expertise in each of biology, chemistry and physics.

The most effective teachers have good subject knowledge [6]. A teacher trained in one science discipline does not automatically have the knowledge and expertise to teach another science discipline without further training. In situations where teachers are required to teach outside of their area of expertise, for example because of staff shortages in a particular science discipline, HMIs should check that they are given time and opportunities to develop their subject knowledge and pedagogical content knowledge in advance of having to teach the unfamiliar material.

We also believe that teaching outside their area of expertise can increase teachers' workload and consequently have a negative impact on retention. Research from the USA found that first year teachers who were given a less challenging course load and taught a single subject, were less likely to leave [7]. Therefore, we recommend that Ofsted consider the extent to which schools allow new teachers to focus on just teaching their specialist science discipline.

1. <https://www.gatsby.org.uk/education/programmes/support-for-practical-science-in-schools>
2. This is soon to be published research commissioned by the Association for Science Education, Institute of Physics, Royal Society, Royal Society of Biology and Royal Society of Chemistry. An online qualitative survey generated usable responses from 513 schools, representative in term of region, type of school and Ofsted rating. A qualitative interview stage allowed further exploration of the decisions made in timetabling at ten schools. The organisations would be happy to engage further with Ofsted on the initial findings from this report, policy implications and recommendations for teachers and school leaders.
3. Ofsted (2019) Intention and substance: further findings on primary school science from phase 3 of Ofsted's curriculum research.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/777992/Intention_and_substance_findings_paper_on_primary_school_science_110219.pdf
4. Education Endowment Foundation (2017) The attainment gap.
https://educationendowmentfoundation.org.uk/public/files/Annual_Reports/EEF_Attainment_Gap_Report_2018_-_print.pdf
5. TES (2019) Ofsted could give schools extra time to develop curriculum.
<https://www.tes.com/news/ofsted-could-give-schools-extra-time-develop-curriculum>
6. Coe, R., Aloisi, Sutton Trust report (2014) What makes great teaching? Review of the underpinning research. <https://www.suttontrust.com/wp-content/uploads/2014/10/What-makes-great-teaching-FINAL-4.11.14-1.pdf>
7. Donaldson, M. & Johnson, S. (2010) The Price of Misassignment: The Role of Teaching Assignments in Teach For America Teachers' Exit From Low-Income Schools and the Teaching Profession. Educational Evaluation and Policy Analysis 32: 299.
<https://journals.sagepub.com/doi/abs/10.3102/0162373710367680>

Proposal 2

To what extent do you agree or disagree with the proposed separation of inspection judgements about learners' personal development and learners' behaviour and attitudes?

Agree

Effective discipline within schools is associated with teacher satisfaction, which in turn affects retention [1]. An added advantage of separating out learners' personal development from their behaviour and attitudes is that inspectors will be able to gain more of an insight into the working conditions for staff in the school.

1. [Sims, S \(2017\). TALIS 2013: Working Conditions, Teacher Job Satisfaction and Retention. Statistical working paper.
https://dera.ioe.ac.uk/30448/1/TALIS_2013_Evidence_on_Working_Conditions_Teacher_Job_Satisfaction_and_Retention_Nov_2017.pdf](https://dera.ioe.ac.uk/30448/1/TALIS_2013_Evidence_on_Working_Conditions_Teacher_Job_Satisfaction_and_Retention_Nov_2017.pdf)

Maintained schools and academies

Proposal 4

To what extent do you agree or disagree with the proposed focus of section 8 inspections of good schools and non-exempt outstanding schools and the proposal to increase the length of these inspections from the current one day to two days?

Don't know

We agree with the proposed focus of section 8 inspections to cover key aspects of the quality of education criteria as well as pupil behaviour and staff workload.

However, we do not have sufficient evidence from our networks to allow us to hold an opinion about increasing the length of these inspection visits.

Proposal 6

To what extent do you agree or disagree with our proposal not to look at non-statutory internal progress and attainment data and our reasons why?

Strongly Agree

We are supportive of Ofsted's plan not to use schools' internal performance data for current pupils as evidence during an inspection. Excessive, unnecessary data collection can add to teachers' workload pressures. Since unmanageable workload is probably the most important factor contributing to poor teacher retention [1], we hope that this change to the inspection framework will encourage school leaders to reflect on the internal assessment data they ask their teachers to provide.

1. National Audit Office. (2017, September). *Retaining and developing the teaching workforce*. Retrieved from <https://www.nao.org.uk/wp-content/uploads/2017/09/Retaining-and-developing-the-teaching-workforce.pdf>

Additional comments in relation to the detail set out in the draft school inspection handbook

We welcome the changes to the leadership and management criteria which encourage leaders to value and carefully develop their staff. For example, the change in emphasis on staff improvement through '*rigorous performance management and appropriate professional development*' in the 2015 common inspection framework, to a more supportive approach where leaders are asked to '*focus on improving staff's subject, pedagogical and pedagogical content knowledge*' and an understanding that '*the practice and subject knowledge of staff are built up and improve over time*'.

We are also pleased to see specific mention of leaders taking account of the pressures on school staff and in particular, their workload and wellbeing.

We support the new emphasis on aligning professional development of teachers and staff with the curriculum. However, it is important that science technicians are included in this as they have a vital role in the provision of practical work in the sciences.