

Pauline Rodger from Holt Primary School discusses how moderation of working scientifically is developing in her school

Our context

Holt Primary School is a village school in which teachers work as a team within a climate of respect and trust. We were fortunate to take part in the Bath Spa TAPS (Teacher Assessment in Primary Science) research project, which also overlapped with undertaking Gold PSQM (Primary Science Quality Mark). As a result, teacher confidence in facilitating practical, child-led enquiry and pupil engagement in science increased, enabling us to trial and develop school-wide systems for assessing and tracking pupil progress. We used the TAPS pyramid to audit our assessment strategies, at both class and school level. Adopting a range of Assessment for Learning (AfL) strategies was at the centre of our school-wide development. As a result of this, we found that we were no longer reliant on bolt-on summative assessment systems, as we were more familiar with the curriculum and aware of progression, and so were ready to begin moderating to validate assessment judgements and ensure consistency across the school. Prior to this developmental work, moderating activities had little significant impact and were often perfunctory, providing little critical feedback.

How moderation began in our school

We held termly staff meetings in which, initially, teachers brought along their own choice of pre-assessed examples of work to discuss - we recorded our responses on a given format. The open choice helped to instil confidence and ensured that the work came out of what was being studied and not something specifically created. This progressed to bringing fewer, but specific, examples pertaining to a pre-decided subject, skill or year group focus and became an addition to other staff meetings. The work samples could be concept-based or working scientifically; making a clear distinction between these was the first step in raising awareness of the need for smarter, focused planning of learning objectives, assessment criteria and

therefore more effective moderation. Based on the principle of pair and share, teachers were asked to discuss their samples of work and then present to the whole group. At this stage, it was very much about 'talking science', evaluating resources we used to inform judgements and identifying what the challenges were. Typical questions were: how had the teacher arrived at the judgement, do we all agree and understand the judgement and how do we resolve issues of difference? These professional discussions were beneficial on so many levels in supporting our teaching and assessment practice as well as developing consistency in judgements.

Many discussions related to how to we interpret children's responses differently: what of the mismatch between what we think we know that children are understanding and how effectively they communicate that for assessment purposes and, therefore, how reliable it is for moderation of professional judgements. We recognised that objectivity was difficult if each piece of work needed to be accompanied by a teacher's verbal or written annotation, and also if we have a vested interest in ensuring that moderation validates our judgements for assessment/tracking purposes. For example, child A and child B had been working on the same friction activity and, in their recorded work,

child A had stated that the car went the fastest on the wood because there was less friction', but child B stated that 'the car on the carpet lost because the carpet slowed it down because it was sticky'. We discussed whether there was a difference in the understanding shown here - which, if either, shows better understanding, and what part does vocabulary and any conversations the teacher had with them play? This was about 'drilling down' and identifying precisely

what a child understood and could communicate; and also about how well teachers understood the concepts. As moderators, we needed to know how the teacher arrived at her judgement, and the professional learning point was clarity of learning objectives and knowledge of success criteria.

As a subject leader, these sessions provided insight into further areas for CPD and identified a need to agree resources that would support our judgements:

- The Collins Snap Science scheme: straightforward guidance for making judgements.
- The National Curriculum, Interim Teacher Assessment Frameworks and STA exemplification.
- ASE's PLAN resources: annotated collections of children's work.
- CIEC Working Scientifically:
 Assessment and Progression of Enquiry Skills.
- TAPS Focused Assessment database: plans and examples.

By agreeing a 'go to' core of reference documents, teachers felt more in control and clearer about moderation requirements.

Developing moderation as a

We have started to test our judgements through cluster moderation – nervewracking, but essential – facilitated by being part of a Learning Collaborative, where science subject leaders from several local schools meet. Initial cross-school moderation took place in term 5 to impact the validity of end-of-year assessments, but now happens on a more regular basis. This proved hugely beneficial for us all, each of us being at different stages of the process. It raised much useful discussion and offered new



ideas for dealing with common issues. A Year 6 (age 11) example of cross-curricular work proved contentious: a super explanation text (met Year 6 writing objectives) of how to make a simple circuit, but the science content was not meeting Year 6 objectives for electricity – only managing a Year 4 (age 9) level.

As we looked at different presentations of work from across the schools. it was apparent that it was difficult to moderate judgements with efficiency and confidence - we needed to see 'what a good one looks like'. Alongside the National Curriculum, an excellent resource that we used was PLAN, the ASE exemplification materials. One school had replicated the work of 'Julie' in the Year 6 electricity file - to try to ensure that her pupils demonstrated 'expected'. This was a useful place to start if it supported the teachers in gaining insight and understanding of the detail of the requirements. To facilitate greater success at subsequent meetings, a proforma has been developed so that teachers bring a range of pre-assessed and premoderated work to the meeting, which can then be discussed, annotated, copied and returned for dissemination in schools cross the cluster.

Conclusion and impact

We found that embedded, school-wide AfL strategies helped teachers to become more confident in their own and each other's assessment judgements and so moderation activities became more reliable, efficient and rigorous. We now maintain a regular cycle of moderation, to check consistency in judgements. As we work on a 2-year topic cycle, teachers work across each phase to moderate judgements at the end of joint units

taught. The process of jointly moderating work has brought teachers together to work supportively and is an excellent forum for the Science Subject Leader to identify CPD; to be consistent and certain of judgements, teachers need to be certain of their subject knowledge and the progression within it.

Moderation is

now seen not as an outcome that necessitates portfolios of work – but as a process of engagement with subject knowledge and understanding of children's conceptual development. Moderation is agreement of assessment – to ensure parity of judgements and understanding of standards promoting better outcomes for children's learning. It can be achieved meaningfully when a school has a rich science culture and teachers engage in a range of ongoing formative assessments and professional discussions

References and resources

ASE PLAN resources. Available from: https://www.ase.org.uk/resources/ primary/plan/

CIEC (2014) Working Scientifically: Assessment and Progression of Enquiry Skills. York: CIEC. Available from: http://www.ciec.org.uk/pdfs/primary/ working-scientifically.pdf

DfE (2013) National Curriculum.

Snap Science resources. Glasgow: Collins Learning.

Standards and Testing Agency (2016) Teacher assessment exemplification. Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/515329/STA-Ex2016-KS2-Science-ES.pdf

Standards and Testing Agency (2017) *Interim teacher assessment frameworks*.

TAPS Focused Assessment database. Available from:

https://pstt.org.uk/resources/curriculummaterials/assessment

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See Pauline discuss active involvement of pupils here: http://tinyurl.com/HoltTAPS