



Department of Education, Sport and Culture

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Moderation of Science Record 2018-19

Date – 21st May 2019

School – Henry Bloom Noble School

Moderators – redacted

School Context

Henry Bloom Noble School is predominantly a two-form entry primary school, NOR 360. Most pupils transfer to Ballakermeen High School in yr 7 and there are good transition links.

The Science coordinator was appointed in September 2018 as a TLR responsibility. She has attended Science Coordinator meetings throughout the year and participated in Science CPD opportunities. She also invited in the Science Moderator team before moderation to gain an understanding of the process.

The role of Science coordinator was largely unfilled prior to this current year and has not been on the School Improvement Plan for a number of years. As part of building a curriculum for the school, there has been research into schemes of work that would support the assessment guidelines. Cornerstones, concept cartoons, ItsLearning pages with resources and useful websites for scientific discussion has been introduced in this school year, but it is too early to assess the impact of such strategies. The school currently uses the e-tracker to

support teacher assessment and this is passed onto new classes at the end of each academic year with curriculum coverage information. The Science Coordinator felt that the assessment process was a strength as it is not cumbersome for teaching staff.

Activities During Visit

Moderators met with the Science coordinator, reviewed planning and assessment material, moderated science evidence provided and interviewed pupils.

Evidence of in house moderation

This has been in two staff meetings, where staff shared best practice and examples of SC1.

Verbal feedback given – To the Head teacher and Science Coordinator

Moderation Focus

Two pupils assessed at 2a and two pupils assessed at 4a. Focus was on overall attainment.

Overall Comments:

The school was welcoming and the Deputy Head Teacher's office was provided for the moderators. The Science Coordinator was released for discussions and pupils interviewed were polite, enthusiastic and very responsive. All pupils interviewed thoroughly enjoyed science.

The teachers had prepared evidence of assessment for each pupil, all work was marked and planning was available to review.

Everything was well organised by the Science Coordinator and although the usual process of moderation needed to be adjusted for the KS1 student to attend a class trip, the moderation session ran smoothly, which the moderators appreciated.

Individual Students:

Student 1 - yr 2

Level: 2a

Evidence provided: A variety of evidence including book work, medium term plans, e-tracker for SC2, 3 & 4, observation sheet which includes SC1 (L2), worksheets, tables, classification activities, photographs, quotes noted from student.

The Moderator agreed with this level because:

There was clear use of dialogue and effective questioning with response from child in book work. When interviewed the student showed enjoyment of the subject, explaining that she "liked finding about how things are made." The student was very clear when explaining how to stay safe and what risks were involved in investigations. She spoke about a challenge table where her class was able to do little investigations independently. The teacher supports this area with resources. When asked about finding out information, the student explained that she sometimes uses iPads but did not use texts to research. She explained that often the teacher gives the class the key information.

Student 2 - yr 3

Level: 2a

Evidence provided: A variety of evidence including book work, medium term plans (Cornerstones), observation sheet which includes SC1 (L2), e-tracker, worksheets, tables, charts, graphs, classification activities, photographs, ICT activities, thinking maps, diagrams, investigation sheets (from Science moderators course).

The Moderator disagreed with this level because:

The evidence provided and the student interview showed that this student was working at level 2c. He indicated that he is usually told the answers by the teacher and that when he carries out investigations, he places equipment "where Miss tells me to". The interview indicated that the pupil is very dependent on teaching staff and his peers, often talking about one or two students that do the investigations for him while he watches. He was able to articulate what the value of working within groups was. There was little evidence of independent learning. The student was very focused on behaviour whenever an investigation was mentioned, relating his choices to staying safe. The use of iPads to research was discussed and he explained that his friend measured raindrops with rulers. When asked how he recorded information he stated that he 'keeps it all in my head' so I can tell the teacher.

Student 3 – yr 6

Level: 4a

Evidence provided: A variety of evidence including book work, lesson plans, worksheets, assessment e-tracker, tables, mind maps, line

graphs, bar charts and presentation of learning (ICT), investigation planning proforma (Science moderators), diagrams, photographs.

The Moderator disagreed with this level because:

The evidence found by the moderation team, through both bookwork and a lengthy interview, supports a level of 4b, however, with more data handling, explicit evaluation teaching and mathematical conventions being applied to his learning, this student will be able to attain a 4a. Also, there wasn't enough independent evaluative strand evidence. The interview indicated that the student enjoyed science and teacher feedback showed the use of challenging questions to promote further thinking. He liked planning investigations and was able to discuss variables being changed with confidence as well as make real life links to science.

Student 4 – yr 5

Level: 4a

Evidence provided: A variety of evidence including book work, lesson plans, Medium term planning, worksheets, assessment e-tracker, tables, mind maps, line graphs, bar charts and presentation of learning (ICT), investigation planning proforma (Science moderators), diagrams, photographs.

The Moderator disagreed with this level because:

The evidence gathered through both bookwork and a lengthy interview show that this student is currently working at the higher end of 4c. The confidence levels when speaking were not high, and questions needed to be rephrased to gather evidence. If maths books had been available they would have aided evidence of data handling at a high level 4 as the student did indicate that graph work had been completed in maths. The interview indicated an enjoyment of science with collaborative discussion and question generation happening in class. He said that sometimes the class could create questions to investigate while at others times it was directed by the teacher. The student was also able to explain potential risks to others in practical activities but discussion indicated that he relied on help from friends a great deal.

Strengths:

All the children clearly enjoy science in the school and it was obvious that Science is happening on a regular basis throughout the school. The range of activities were interesting and vast.

In some classes the dialogue within the book allows students to reflect and develop a deeper understanding of what they have learnt. Whole class discussions were clearly evident in written work, observation sheets and when speaking to the KS1 student (who obviously valued these times).

In KS2, there is obvious vocabulary extension, for example in properties of metal (sonorous, malleable & lustrous). This shows a clear link to ongoing literacy development across the school. The school realises it needs to have conversations around improving science and the science coordinator is aware of the necessity to begin the process of gathering evidence to support the school's understanding of their strengths and weaknesses. This does need further work as there is evidence of an inconsistency with coverage and in-depth thinking opportunities. This future robust monitoring will make a huge impact. (As discussed with Science Co.)

The Science Co is seeking ways to develop the teaching of science through CPD and curriculum development and has had discussions with members of the Science moderating team to further this.

Areas for development:

While clear investigations are taking place and are being used to develop scientific understanding, there was a lack of evidence of the children's input in the planning elements of the investigations and opportunity for further, independent questioning.

There was lots of classification is recorded, but when these skills are developed, teachers then need to ensure they extend learning through other investigation styles.

Some investigations in UKS2 were not challenging (classifying of 2 legged and 4 legged animals) and lacked scientific rigour, such as using repeated observations to develop accuracy, use of mathematical conventions and refuting or supporting ideas with scientific evidence (both from research and from investigations). There was misunderstanding of the differentiation between fair testing (chemistry) and pattern seeking (biology, physics). Investigations tend to stop before data handling has been fully completed, results analysed and evaluation strand looked at.

To ensure higher Level 4 attainment, independent analysis and evaluation needs to take place. We would recommend explicit teaching on data handling, conclusions and evaluations. Using measuring equipment other than timers (iPads) and rulers is important to extend data collection. Using decibel readers, amps and volt meters would be a great way to extend the investigations that the students were doing.

It is suggested that there is continued further internal moderation and that if required further support from the moderation team is sought.

Signed (Moderators) – redacted Date – 21st May 2019

Signed – (HT)

Date -