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4 February 2010

Mr S Clark
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Dear Mr Clark

Ofsted 2009-10 subject survey inspection programme: mathematics

Thank you for your hospitality and cooperation, and that of your staff, during my visit on 25 and 26 January 2010 to look at work in mathematics.

As outlined in my initial letter, as well as looking at key areas of mathematics, the visit had a particular focus on the effectiveness of the school's approaches to improving the quality of teaching and learning in mathematics.

The visit provided valuable information which will contribute to our national evaluation and reporting. Published reports are likely to list the names of the contributing institutions but individual institutions will not be identified in the main text.

The evidence used to inform the judgements included: interviews with senior leaders, mathematics staff and students, scrutiny of relevant documentation, analysis of students' work and observation of nine lessons.

The overall effectiveness of mathematics is satisfactory.

Achievement and standards

- The proportion of students attaining grade C or better in GCSE mathematics rose last year and is now close to the national average with more students gaining the highest A and A* grades. However, in each of the last two years eight or nine students who have been following alternative programmes in Key Stage 4 have failed to gain a mathematics qualification.
- Learning and progress are satisfactory for students on the mainstream Key Stage 4 programme. This reflects lesson observations during the visit and

data on students' progress. Students make better progress in lessons where they are given more time to do mathematics for themselves.

- Students are very well behaved in mathematics lessons and enjoy the subject. However, they do not have enough opportunities to think for themselves and many therefore work slowly because they have not developed confidence.

Quality of teaching and learning of mathematics

The quality of teaching of mathematics is satisfactory.

- All the lessons observed were taught satisfactorily. Each had clear learning objectives and work planned at different levels to meet students' needs. They included a whole-class session to introduce the main learning objective, usually preceded by a short 'warm-up' activity. The effectiveness of these two aspects depended on the extent to which they permitted all students to engage in learning.
- Teachers who gave students time to work independently or in groups generally moved about the class to check on students' progress. This was a positive feature of their lessons, but they nevertheless did not always pick up on important misconceptions or common difficulties.
- Some inexperienced and non-specialist mathematics teachers are still developing their subject expertise. In a few lessons, their presentation of mathematical ideas was slightly muddled and the tasks they gave to students were not well matched to the learning objectives.
- A weakness in some lessons was that most of the students were passive, either listening to the teacher or watching as a volunteer worked at the whiteboard. Teaching assistants had no clear role during these activities, which often went on too long, slowing the pace of learning.
- Students' books show inconsistency in the way topics are taught, the amount of work completed and the quality of marking. For example, while some books were marked regularly and included useful advice for students, others were mostly self-marked, with little oversight by the teacher being evident.

Quality of the curriculum

The quality of the mathematics curriculum is inadequate.

- Arrangements are inadequate to ensure that mathematics qualifications are obtained by all students who join alternative Key Stage 4 programmes, such as those involving college attendance or work-based learning.
- The department has an outline scheme of work which provides a schedule of modules of work, each containing a list of learning objectives. However, there is insufficient guidance on a number of matters including which learning objectives are intended to be used in different ability sets and how best to teach particular topics; for example to ensure the consistent development of conceptual frameworks. Moreover, although some work in

using and applying mathematics is specified, it is not clear how students should progressively be taught the necessary skills.

- Students have regular opportunities to use an internet-based learning resource for homework and for personal revision. However, their use of other software that might support their understanding, such as spreadsheets, graph plotters, logo and geometry packages, is intermittent.
- The mathematics rooms provide a stimulating environment for learning mathematics, with a mixture of posters, students' work and quotes from prominent mathematicians.
- There is a clear system of summative assessments to monitor students' progress, which is used effectively to identify those who are underachieving. Additional support is provided for targeted students, but some students would like more revision support that is open to all.

Leadership and management of mathematics

The leadership and management of mathematics are satisfactory.

- The school's well-established system of subject reviews supports your realistic evaluation of mathematics as a subject that needs to improve. You are now tackling the issue relating to alternative programmes described above.
- Lesson observations are accurate and provide some guidance for teachers on how to improve. However, they do not always have enough focus on the mathematics-specific aspects, such as how a topic is presented, how concepts are developed or how visual aids are incorporated.
- The school's satisfactory capacity to improve in mathematics is further demonstrated by the improving GCSE A* to C and A*- and A grade pass rates.
- There is not enough guidance for teachers or monitoring of their work within the department to ensure consistent practice. In part, this is because the responsibilities associated with the two main leadership roles are not clearly specified.

Subject issue: the effectiveness of the school's approaches to improving the quality of teaching and learning in mathematics

- Teachers attend suitable professional development courses and the acting head of mathematics has benefited from observing good practice in other schools.
- There is satisfactory support for non-specialists from their more experienced colleagues, but not enough systematic discussion about how best to teach different topics or how to use assessment well in lessons.

Areas for improvement, which we discussed, include:

- ensuring that all students gain a mathematics qualification

- providing time in all lessons for students to work independently or in groups so that teachers can monitor their progress and adapt their teaching accordingly
- clarifying the leadership responsibilities in mathematics to ensure that:
 - consistency is established in marking, the use of homework and the quantity and quality of work in students' books
 - schemes of work are revised to include guidance on what each ability group should be taught and how topics should be presented to develop students' understanding, confidence and independence.

I hope these observations are useful as you continue to develop mathematics in the school.

As I explained in my previous letter, a copy of this letter will be sent to your local authority and will be published on the Ofsted website. It will also be available to the team for your next institutional inspection.

Yours sincerely

Stephen Abbott
Her Majesty's Inspector