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Mr A Henshall
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Dear Mr Henshall

Ofsted 2010–11 subject survey inspection programme: mathematics

Thank you for your hospitality and cooperation, and that of the staff and students, during my visit on 4 and 5 October 2010 to look at work 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 without their consent.

The evidence used to inform the judgements included: interviews with staff and learners; scrutiny of relevant documentation; analysis of students' work; and observation of parts of 14 lessons and an individual tuition session.

The overall effectiveness of mathematics is good.

Achievement in mathematics

Achievement in mathematics is outstanding.

- Attainment is high. In recent years, students have joined the school with above average attainment and made good progress to reach high standards at GCSE. Over one third of students gain the highest two grades, A* or A. The school's inclusive ethos is evident in the caring support that ensures students do not fall through the net, although a few of those who are lower attainers or expected to gain grades B or C make less progress than their peers.
- In the sixth form, students make satisfactory progress at AS level. They are taught in groups which span a range of prior attainment at GCSE and in which some struggle. Students taking A level and further mathematics make good progress.

- Students make good progress in many lessons and overall because of teachers' support if they are stuck, their conscientious attitudes, and their positive response to the school's high expectations of homework. Although students develop a strong grasp of mathematical procedures, not all have a sufficiently deep understanding of the underlying concepts to stand them in good stead for the future.

Quality of teaching of mathematics

The quality of teaching of mathematics is good.

- Teaching is good or better in many lessons. This strong teaching engages students in a wide range of different activities that challenges them to think hard. It structures well the introduction of mathematical concepts and the ways in which students' progress is constantly checked and acted upon.
- Nevertheless, in some classes, teaching is not consistently good. This is because it emphasises the skills for carrying out mathematical procedures without building firm understanding of the concepts or developing the reasoning required to use and apply mathematics. On occasions, students spend a long time listening, which limits their opportunity to solve problems.
- Students speak highly of the good relationships with their teachers and the assistance they are given in and out of lessons if they are stuck or have been absent. Teachers help students to develop the confidence to indicate what they do not know and to ask for help. They give clear explanations and work well with teaching assistants to focus support effectively.
- Teachers have a good overview of their students' progress and help them to improve. However, they do not promote independence well, for example through requiring students to estimate and check answers in a variety of ways or by involving them in self-assessment of their understanding against clearly understood criteria and charting their next steps towards their target GCSE grade or National Curriculum level. Students rely unduly on referring to answers provided in books or by their teacher.

Quality of the mathematics curriculum

The quality of the mathematics curriculum is good.

- The range of courses and support is tailored well to meet students' needs. High attainers can study further mathematics at AS or A level. There is a choice of A-level units and a suitably wide admission policy for AS level. Good evaluation identified that the impact of the policy for entering high attainers early for GCSE had shortcomings and has been curtailed this year. Students following a Diploma course do not miss any mathematics lessons and receive additional lessons on functional skills. Provision for lower attainers offers a personalised modular approach which they find motivating. Students at risk of falling behind, and those with special educational needs and/or disabilities, receive well-targeted support or

individual tuition. Strong systems for supporting students who have been absent or changed teaching groups ensure their progression.

- New Key Stage 3 schemes of work ensure that all students have opportunities to use and apply mathematics in a range of contexts, although the development of these skills is not systematic. Key Stage 4 schemes of work have not been revised in the light of the new GCSE specifications. Some conceptual approaches are widely used but guidance does not ensure them for all students.
- Students use a mathematics software package for some homework and for additional help on the areas they find difficult. Sixth-form students have hands-on opportunities to use information and communication technology (ICT) to study graphs in lessons, but not all year groups have consistent access to ICT in lessons to develop their understanding across the mathematics curriculum.

Effectiveness of leadership and management of mathematics

The effectiveness of the leadership and management of mathematics is good.

- You and senior leaders make accurate evaluations of the quality of provision and its impact. You set high expectations and tackle weaknesses.
- Mathematics team members are strongly committed to improving outcomes. They achieve this by sharing good practice and including innovative approaches provided by the advanced skills teacher, rather than through support from a clearly specified vision with linked systems to raise quality and ensure consistency of entitlement for all students. While planning has contributed to improved outcomes, it lacks clear priorities, measurable success criteria and a focus on improving teaching.
- Accurate scrutiny of students' work has identified areas for development, for example in the range of work set and in marking, and has led to improvement. Monitoring of teaching has been effective in informing support where there were weaknesses, but sometimes has given insufficient weight to the progress of all students or systems for supporting areas for development.
- Challenging targets contribute to high aspirations and attainment. Careful tracking of students' progress leads to early intervention and support, although there is room for improved analysis of data, including for separate aspects of the subject.

Areas for improvement, which we discussed, include:

- further raising the quality and consistency of teaching by:
  - increasing students' understanding of concepts
  - providing a systematic development throughout each year group of the reasoning and problem-solving essential for using and applying mathematics and the new GCSE specification
  - increasing students' independence in assessing the degree of their understanding and considering how to improve

- articulating more clearly the vision and key priorities for improvement, supported by sharper monitoring systems and measurable success criteria.

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

As explained previously, a copy of this letter will be published on the Ofsted website. It may be used to inform decisions about any future inspection. A copy of this letter is also being sent to your local authority.

Yours sincerely

Gill Close
Her Majesty's Inspector