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Mr G Martin
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Dear Mr Martin

Ofsted survey inspection programme – mathematics

Thank you for your hospitality and cooperation, and that of your staff, during my visit on 21 and 22 September 2009, to look at work in mathematics.

As outlined in our initial letter, as well as looking at key areas of the subject, 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. All feedback letters will be published on the Ofsted website at the end of each half term.

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

The overall effectiveness of the subject, mathematics, was judged to be outstanding.

Achievement in mathematics

Achievement in mathematics is outstanding.

- Students achieve well in this school because most teaching is good and some is outstanding. They are well engaged by most lessons and their attainment is above average. They behave well and make a good contribution to their own learning, through self assessment and involvement in extra-curricular revision clubs. What lifts achievement to outstanding is the tremendous enjoyment students gain from mathematics. For example, the sixth-form 'applications of number' group

showed good levels of interest because the students felt that the mathematics they were learning had relevance to the real world. One commented that the work on percentages, in the context of the strength of alcoholic drinks, 'makes sense now'.

- The school's mathematics, computing and science specialist status has played an outstanding role in raising achievement and in improving teaching and learning.

Quality of teaching of mathematics

The quality of teaching of mathematics is good.

- Teachers generally present mathematics as a subject that should make sense. Students are engaged through a variety of approaches, some very imaginative. Some lessons provide good opportunities for students to use mathematics in context, such as work on tax calculations.
- Lessons often include an exploratory phase, where students have a chance to apply the mathematics they already know in a new context. Although this approach is generally favoured, and is promoted strongly by the director of mathematics, it is not yet included in the guidance to teachers. There is much sharing of resources, but no consensus on the most fruitful ways of presenting formal approaches to topics like ratio, percentage or trigonometry.
- All teachers make some effort to move around the classroom to check on students' progress. However, the extent to which the information gained is used to guide the lesson is variable. The school has been working on this issue.
- The school has well developed arrangements for students' self-assessment in Key Stage 4 that enable students to identify specific gaps in their learning. Students then have access to suitable extra work via the virtual learning environment (VLE), which they can access at school or at home. This aspect of assessment is outstanding.

Quality of the mathematics curriculum

The quality of the mathematics curriculum is good.

- The mathematics curriculum is strong, with different programmes being designed to meet the needs of particular groups of students. For example, able students are stretched by early entry to GCSE, so they can take an additional mathematics qualification in Year 11. This encourages many to continue with mathematics, and sometimes further mathematics, in the sixth form.
- The mathematics department has developed good academic guidance and there is a high take-up of the revision sessions run before and after school. Students whose performance is on the borderline for grade C at GCSE are also entered early to help keep them motivated, but with provision to take the examination again if they do not meet their target grade.

- Specialist status has influenced the development of a very good VLE, which includes in-house videos on A-level mechanics and aspects of GCSE revision, as well as links to web-based mathematics resources.
- The schemes of work are helpfully presented on the VLE as a set of modules, each hyperlinked to a more detailed description. They do not indicate the department's preferred teaching approaches, though the director of mathematics and the advanced skills teachers provide good guidance to less experienced staff.

Effectiveness of leadership and management of mathematics

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

- School leaders track and monitor students' performance rigorously, and intervene with any student who is at risk of underachieving. The school has also made a considerable commitment, under the present headteacher and the director of mathematics, to improve students' understanding and enjoyment of mathematics, while maintaining examination results.
- The quality of subject leadership is high, with close attention being paid to how lessons are taught. There are very strong systems to monitor and evaluate, with a clear focus on moving teaching from good to outstanding. Nevertheless, in the school's own lesson observation records, mathematical details that might help improve teaching further are not always noted.

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

- The school has very good systems for improving teaching and learning that address the needs of new or inexperienced teachers, making excellent use of the expertise of well-established teachers to support others. Advanced skills teachers play an important role in developing teaching and learning within mathematics and across the post-16 provision.
- There is regular discussion of teaching and learning in mathematics, backed up by formal accreditation through a Master of Education programme that involves five mathematics teachers in co-coaching. The director of mathematics has an important role in spreading good practice to other subject areas.

Areas for improvement, which we discussed:

- giving greater emphasis in lesson observations to the small details that distinguish outstanding teaching from good teaching
- supporting less experienced teachers by:
 - helping them to make better use of assessment during lessons to respond to individual needs
 - formalising guidance, in the schemes of work, on the most fruitful approaches to particular topics

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

As explained in our previous letter, a copy of this letter will be sent to your local authority and local Learning and Skills Council 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