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Mr E Ferguson  
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Dear Mr Ferguson

Ofsted 2008-09 subject survey inspection programme: mathematics

Thank you for your hospitality and co-operation, and that of your staff, during my visit on 23 and 25 March 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 made included interviews with staff and students, scrutiny of relevant documentation, analysis of students' work and observation of nine lessons.

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

#### Achievement and standards

Achievement in mathematics is satisfactory, although outstanding in the sixth form. Standards are average.

- Students arrive at the start of Year 7 with standards which are average overall. Results at GCSE and in National Curriculum tests are also broadly average overall with, for example, 58% of students attaining grade C at GCSE in 2007 and in 2008. While this represents satisfactory achievement and was a significant improvement on earlier years, when progress had been inadequate, it masks variation in achievement between different groups of students. Those who arrive in school with standards which are above average make very good progress, whereas some other groups make insufficient progress. In 2008, the proportion

that attained the highest grades A\* or A at GCSE rose to a fifth, which is above the national average.

- Achievement in the sixth form is outstanding. Based upon their average point score at GCSE, a significant number of the students who start the course are predicted to attain low grades but most make excellent progress with half those entered for A level in 2008 attaining grade A.
- Students' attitudes towards mathematics vary. Students in the sixth form and in higher ability groups are very positive. In other groups, whilst students recognise the importance of the subject, their attitudes tend to vary according to the quality of teaching they receive. Most students behave well, although some classes are over boisterous and a few less motivated students disrupt lessons.

### Quality of teaching and learning of mathematics

The quality of teaching and learning of mathematics is satisfactory.

- The mathematics faculty includes many well qualified teachers who have a range of experience. They are enthusiastic and have good subject knowledge. For two years, there has been no head of faculty and some posts are filled by temporary teachers. Some teachers have yet to develop secure relationships with all their classes, resulting in some disruption and a slow pace of learning. However, teachers are working increasingly effectively as a team to plan and share ideas.
- There is some good teaching. For example, the interest of a Year 7 class was gained by introducing algebra as a mind reading exercise. A Year 8 class developed confidence in manipulating expressions to solve equations because the teacher engaged them in a variety of activities which increased their understanding. Throughout the lesson, he encouraged students to explain their reasoning when responding to challenging questions. Sixth form students are helped to develop their understanding beyond the syllabus. In a lesson on dot and scalar products, good links were made to their applications in real life, before students were challenged to carry out mathematical proofs.
- Much teaching remains over reliant on the completion of repetitive exercises, usually from textbooks. As one Year 11 student said, 'Textbooks are tedious.' Others agreed and felt they could be 'engaged more in lessons' if all teachers used 'a variety of ways of teaching'. Not all students experience sufficient opportunities to work collaboratively.
- Good use is made of computer-linked whiteboards, with some teachers using the interactive features very effectively. However, apart from using commercial software for revision and homework, students rarely use other forms of information and communication technology, such as graph-plotting packages and graphical calculators, themselves.
- Some aspects of assessment are good. Students' progress is tracked carefully and work is marked regularly. Some use is made of self and peer assessment, but strategies such as the use of mini-whiteboards, which enable teachers to assess students' responses and to address misconceptions immediately, are under used.

### Quality of the mathematics curriculum

The quality of the mathematics curriculum is good.

- New schemes of work are being developed. Those for Years 7 and 8, which will be fully in place for September, are exemplars of good practice. Each unit has ideas on how to teach the topic, with hyperlinks to a variety of websites and encouragement for teachers to adopt a good range of learning styles. There are appropriate references to functional mathematics and regular opportunities for students to investigate and appreciate the applications of mathematics.
- The breadth of the post-16 curriculum is particularly good. Students are offered a choice of units at AS and A level, including further mathematics. The co-ordinator has produced excellent materials on the applications and history of mathematics.

### Leadership and management of mathematics

The leadership and management of mathematics are satisfactory.

- Whilst the lack for nearly two years of a subject specialist to lead the faculty is a significant weakness, it is a tribute to the effectiveness of the key-stage co-ordinators and their line manager, a deputy headteacher, that results have improved during this period. The teachers in the faculty are developing as a team: meetings are no longer dominated by behavioural issues but are used to share ideas in order to improve teaching and learning.
- Leaders are aware of the strengths and weaknesses of the faculty. They understand what good practice is and are heading in the right direction. However, whilst significant improvements have been made in some areas, such as developing a new curriculum, some instability in staffing over the last two years has slowed progress and initiatives have yet to have sufficient impact on the attainment of the under-achieving groups of students.

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

- Under the direction of a deputy headteacher, good progress has been made in improving the quality of teaching and learning. Teachers have been encouraged to work together to improve their practice and key-stage co-ordinators have been empowered to develop initiatives. A whole-school focus on assessment for learning and the development of a variety of learning styles is having a positive impact within mathematics. Students welcome, for example, increasing opportunities to work collaboratively.

Areas for improvement, which we discussed, included:

- raise achievement, particularly for students of average and below average ability
- build upon the good practice which exists, to encourage all teachers to broaden their repertoire of teaching strategies, including discussion and collaborative work, to enhance students' understanding
- recruit an effective subject leader to co-ordinate initiatives that promote good practice.

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 will be published on the Ofsted website. It will also be available to the team for your next institutional inspection.

Yours sincerely

David Bain  
Additional Inspector