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Dear Mr Wright

Ofsted 2007-08 subject survey inspection programme: mathematics

Thank you for your hospitality and co-operation, and that of your staff, during my visit on 11 and 12 February 2008 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 six lessons.

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

Achievement and standards

Achievement in mathematics is satisfactory. Standards are high.

- Standards at GCSE and in National Curriculum tests are high. Students arrive at this selective school with standards which are well above average. They make satisfactory progress during Key Stage 3, with 85 per cent of Year 9 attaining Level 7 or better in National Curriculum tests in 2007. Overall, students make insufficient progress in Years 10 and 11. Although almost all attain grade C or better at GCSE, the proportion attaining the highest grades A* or A, just over a third in 2007, is not high enough. Too many are satisfied with just obtaining a grade C.
- Achievement post-16 is also satisfactory. Standards are average. The proportions attaining the highest grades, A or B, fell in 2007. Although large numbers of

students opt to study mathematics post-16, a significant proportion choose not to study mathematics beyond AS Level.

• Students' attitudes towards mathematics are satisfactory overall, but vary widely, as does their behaviour. Whilst most behave well, some are inattentive and hinder the progress of others. Students commented that they respond best where teachers use praise and rewards rather than sanctions. Others indicated that making the work more relevant would improve their attitudes. As one student said, 'It is often boring, lacks creativity, and I find it useless.' But another commented, 'I really like having to think logically.'

Quality of teaching and learning of mathematics

The quality of teaching and learning of mathematics is satisfactory.

- The quality of teaching varies widely. Whilst some is very good, a minority is inadequate. There have been many changes in staffing over the last year. There is a good mix of experience within the department, although a number of classes are currently taught by teachers whose main subject expertise is other than mathematics. Some teachers have yet to develop secure relationships with all their classes, which results in some disruption and a slow pace of learning.
- Students experience insufficient variety in lessons, with the emphasis placed on learning mathematical routines rather than developing students' understanding. Too often, students are asked just for the answer, rather than how they achieved it. In the better lessons, they are encouraged to discuss their ideas and explain their reasoning, but in others are discouraged from collaborating. As a Year 9 student said, 'Working with someone else helps you understand.'
- Computer-linked whiteboards are used very effectively by some teachers, but others, as students say, 'just use them as an ordinary whiteboard.' The department has led in their introduction across the school.
- Opportunities for students to use and apply their mathematics are limited. One Year 11 student said. 'Sometimes I think, when am I ever going to use it?'
- Assessment procedures are good. There is careful tracking of progress through regular use of common tests, with 'gap analyses' used effectively to identify areas in which students need to improve. Teachers' marking is helpful and some good use is made of self-assessment by students during lessons.

Quality of the mathematics curriculum

The quality of the mathematics curriculum is satisfactory.

- Schemes of work vary in quality. Some contain good advice on approaches to teaching, others are just a list of topics to be covered. Overall, lesson planning insufficiently promotes students' conceptual development and understanding. Graph-plotting software is beginning to be used effectively, particularly with the sixth form, but, in general, opportunities to use information and communication technology (ICT) and investigative approaches to learning are under-developed.
- The breadth of the curriculum post-16 is good, with courses in mechanics, statistics, decision, pure and further mathematics. Good use is made of national and local mathematics competitions in Key Stage 3. Until last year, breadth for the ablest students at Key Stage 4 was encouraged with all entering GCSE statistics in Year 10. This has now ceased, with abler students covering some of the content of AS modules alongside their GCSE mathematics course.

Leadership and management of mathematics

The leadership and management of mathematics are satisfactory.

- Because of the many changes in teaching staff this year, departmental leadership has concentrated on addressing the issues that this has raised. Good support, for example, is being provided to a newly qualified teacher.
- Departmental evaluation and planning lack rigour. For example, the department's improvement plan lists nineteen actions to raise achievement, but few address improving the quality of teaching and learning.
- Insufficient note is taken of students' views. They recognise good teaching and learning. Year 11 students, for example, indicated that lessons could be made more relevant and interesting and that there was too much emphasis on punishments rather than praise and on working in silence rather than talking about their work.

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

- The school has introduced a number of initiatives to improve the quality of teaching and learning across departments, but with limited effect. A teaching and learning development team, set up to improve the spread of good practice, stalled over producing a policy, whilst the results of a programme of departmental reviews have yet to be used developmentally.
- Sharing some aspects of good practice within mathematics teaching has been effective, as with, for example, the introduction of computer-aided whiteboards. But, overall, departmental planning is insufficiently focused on improving the quality of teaching and learning.

Inclusion

Inclusion in mathematics is satisfactory.

- Whilst grouping students by ability is used effectively overall, some are placed in groups according to their attitudes rather than their mathematical ability. In some groups this has an adverse effect on the progress of others.
- Tracking of students' progress is sound, but intervention programmes have yet to raise the proportion achieving the highest grades at GCSE or A Level.

Areas for improvement, which we discussed, included:

- raise achievement, particularly the proportions of students attaining the highest grades at GCSE and A Level
- encourage all teachers to broaden their repertoire of teaching strategies to include a greater variety of stimulating activities that deepen students' understanding and provide them with opportunities to explain their reasoning and to work collaboratively
- focus leadership, planning and evaluation on improving the quality of teaching and attitudes to learning.

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