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Mrs Betty Elkins  
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Dear Mrs Elkins

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 4 and 5 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, observation of six lessons and meetings with consultants working with the school.

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

#### Achievement and standards

Achievement in mathematics is inadequate. Standards are below average.

- Students make insufficient progress, particularly in Years 7 to 9. They arrive at the school, most years, with standards which are above average overall. In 2007, the proportions attaining Level 5 in National Curriculum tests in Year 9 and grades A\* to C at GCSE in Year 11 were both about ten per cent lower than those attained nationally.
- Standards have declined over the last three years, a period when the school has experienced serious difficulties in recruiting mathematics teachers. Boys' achievement has fallen dramatically. In 2007, two fifths attained grade C or better at GCSE compared to over three fifths in 2004.

- Students' attitudes towards mathematics vary widely, in the main because of inconsistencies and weaknesses in the quality of teaching they have received. Some are positive about the current provision and appreciate their teachers' support in enabling them to catch up; others are frustrated. One student said, 'When I first came I was quite good at mathematics, but I went downhill.' But another commented, 'I have learnt so much more this year.' Most behave well, but some classes are very noisy. Another student said, 'Some just don't listen to what the teacher says.'

### Quality of teaching and learning of mathematics

The quality of teaching and learning of mathematics is inadequate, but improving.

- The quality of much teaching is satisfactory with some good features. Evidence from discussions with students and the school's self-evaluation indicate that the quality is improving. However, learning is inadequate in too many lessons, in part because teachers have not yet developed secure relationships with all their classes.
- There have been many changes in staff in recent years, which have hindered students' progress. Since September 2007, the department has had a full complement of qualified mathematics teachers. While some are inexperienced, others have considerable experience overseas. As yet, however, they have not developed a consistent approach to the teaching of mathematics.
- In some lessons, teachers adopt an investigative approach; students experience a good range of activities and are encouraged to discuss their work in groups. But other lessons are over teacher-directed and not all the tasks increase students' understanding. For example, setting several National Curriculum test questions as a starter activity serves little purpose if the questions are not marked immediately and feedback given.
- Computer-linked whiteboards are beginning to be used effectively to support teaching. When given the opportunity, students enjoy using them to explain their reasoning.
- Teachers' marking is sound. In response to a school initiative on 'Assessment for Learning', some teachers give good advice to students on what to do to improve and self-assessment by students is encouraged. But not all classes are set regular homework. One student commented, 'We were meant to do revision tasks from the internet. We didn't, so the teacher gave up setting us any.'

### Quality of the mathematics curriculum

The quality of the mathematics curriculum is inadequate.

- Although new schemes of work have been developed, these provide little more than an overview of the topics to be covered with some textbook references. There is no guidance on teaching methods, or exemplar unit or lesson plans, which could help promote the professional development of an inexperienced department.
- The department has bought a good range of computer software, but this is not referenced in the schemes of work. Students make insufficient use of information and communication technology (ICT) such as graph plotting packages, and are given few opportunities to use and apply their mathematics.

- There is a limited range of enrichment activities. Intervention is targeted at improving examination results; for example, Year 11 students appreciated sessions focused on completing coursework tasks. Some abler students in Years 8 and 9 benefit from involvement in masterclasses and competitions.

### Leadership and management of mathematics

The leadership and management of mathematics are inadequate.

- You have an accurate view of the strengths and weaknesses of the department, which were highlighted in a subject review last autumn.
- Leadership of the department has yet to provide a sufficiently clear direction for development. Planning is insufficiently rigorous. Some improvements have been made; students are particularly appreciative of the improved environment, but inconsistencies in approaches to teaching have not been addressed effectively.
- Insufficient note is taken of students' views. They recognise good teaching and learning. As one said about working in groups, 'We can help each other. Explaining to others makes me sure I can remember.'

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

- A broad range of strategies have been used to improve the quality of teaching and learning. Resources and the accommodation have been improved, and an additional teacher has been employed since January to reduce class sizes. Substantial advisory support has been received, including a mathematics consultant whose work is funded jointly with other local schools. He works closely with the least experienced teachers, as well as providing courses to meet training needs.
- Students and teachers are clear that teaching and learning have improved this year, but that the quality remains inconsistent.

### Inclusion

Inclusion in mathematics is inadequate.

- Grouping students by ability is not used effectively, with some placed in groups according to their attitudes rather than mathematical ability.
- Tracking of students' progress is sound, but intervention programmes have yet to result in a significant improvement in the achievement of boys.

Areas for improvement, which we discussed, included:

- raise achievement, particularly of boys, in all years
- ensure all teachers adopt a range of teaching strategies which enhance students' understanding through problem solving, discussion, collaboration and opportunities to explain their reasoning in response to challenging questions
- develop schemes of work that support good quality teaching and ensure all students receive sufficient opportunities to use ICT and to appreciate the applications of their mathematics.

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