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Mr C Lee
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Dear Mr Lee

Ofsted 2009-10 subject survey inspection programme: mathematics

Thank you for your hospitality and cooperation, and that of your staff, during my visit on 3 to 4 November 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 staff and students, scrutiny of relevant documentation, analysis of students' work and observation of nine lessons.

The overall effectiveness of the subject is satisfactory.

Achievement in mathematics

Achievement in mathematics is satisfactory.

- The mathematics department has had to overcome a number of challenges in the last year. The period from 2006 to 2008 had been characterised by low and declining standards in mathematics with widespread underachievement. In September 2008, the department was short-staffed and faced its weakest Year 11 cohort for some time. It is, therefore, to the school's credit that the provisional 2009 GCSE results are better than those of 2008.

- While standards in mathematics are still well below average, the majority of students are now making satisfactory progress. The biggest improvement has been in the proportion of students gaining the top GCSE grades of A* and A, which is now more than 10% compared with less than 1% in 2006.
- The quality of learning is improving and varies between satisfactory and good. There are some examples of good discussion activities and revision strategies. In one Year 11 lesson, students worked through past examination questions to reinforce their understanding of probability. However, students in some classes do not experience a wide enough variety of exercises on each topic to secure their learning. The quality of students' presentation, particularly in lower sets, is sometimes unsatisfactory.
- The school has a very high proportion of students with special educational needs and/or disabilities, the majority of whom make good progress in mathematics. Many of these are supported within the school's special unit for students with communication and language difficulties. However, several students with less acute special educational needs and/or disabilities have underachieved in recent years.
- Students' attitudes and engagement in mathematics lessons are satisfactory and sometimes good, particularly in higher sets and the special unit mathematics groups. Behaviour has improved as mathematics teachers have applied the new whole-school behaviour policy. However, some students are not used to thinking for themselves and are over-reliant on the support they receive from adults.

Quality of teaching of mathematics

The quality of teaching of mathematics is satisfactory.

- Teaching is improving. It is more effective in lessons where the students have a discussion or other exploratory activity, or a sequence of exercises that includes challenge and variety. This aids the development of mathematical understanding. Some satisfactory lessons are too focused on teaching students to apply rules in routine, single-step questions. Exercises set in these lessons lack the variety and challenge that students need if they are to secure full understanding or to develop resilience in problem-solving.
- All lesson plans identify those students who have special educational needs and/or disabilities, but only a few include specific strategies to meet their needs, or an explicit role for the teaching assistant, where one is deployed. Nevertheless, teaching assistants provide useful general support for individuals or groups.
- Teachers move around the class while students are working to assess their progress and offer support. The information they gather is sometimes used to adapt the next phase of the lesson, but not consistently.

- Marking is regular and nearly always includes a comment. Some shortcomings in students' work are highlighted, particularly ones of presentation, though they are not consistently followed up to check that students have taken note. There is rarely any specific guidance that will help a student to improve. This is because students often write answers only. One exception is in higher-tier GCSE classes, where students generally show enough working to give the teacher something to examine when things go wrong.

Quality of the mathematics curriculum

The quality of the mathematics curriculum is satisfactory.

- As the only full-time mathematics teacher, the head of department is working in difficult circumstances to improve the schemes of work, for example by including more opportunities for students to use mathematics in context. At present, there is limited guidance for teachers on pedagogy or on which of the differentiated strands are intended to apply for different ability groups.
- Students follow a modular GCSE course, starting in Year 9. At least half are entered for GCSE in Year 10, with most taking the examination again in Year 11, to try to improve their grades. The policy of early and repeated entry appears to be motivating for most of the students involved, but the few who settle for their Year 10 grade may not be reaching their full potential.
- Those attaining high grades in Year 10 progress to a free-standing mathematics qualification in Year 11. This course was sensibly selected in consultation with the local post-16 college. Lower-attaining students also take a BTEC level 1 course, which includes more mathematics in context.
- There are many intervention and revision programmes, including after-school and holiday revision classes, withdrawal of some students from certain other lessons, use of an e-learning package for revision, general mentoring and individual tuition. These have played a significant role in improving results.
- The mathematics specialism is having a satisfactory impact in mathematics. The extra resources have helped to halt the decline in mathematics results. The department has been equipped with interactive whiteboards and access to an e-learning website.

Effectiveness of leadership and management of mathematics

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

- Leaders have acted to halt a decline in mathematics, demonstrating a satisfactory capacity for improvement. There are signs of improved provision: a curriculum revision has begun, but has a long way to go; teaching has improved, staffing issues resolved and inadequate teaching eliminated.

- In most respects, senior managers and the head of mathematics have a good understanding of the strengths and weaknesses of the department. For example, the recent self-review notes that formative feedback is an area for further development, and the department has identified a dip in girls' achievement since the coursework element of GCSE mathematics was removed. Nevertheless, the department has not analysed in enough detail the mathematics results of students with special educational needs and/or disabilities. Nor has it liaised sufficiently with the special needs coordinator, whose analysis of the latter group is more rigorous.

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

- The main reasons for the recovery in attainment and progress in 2009 are: the whole-school focus on behaviour management; the provision of extra resources supported by National Challenge funding and the school's specialist status; careful monitoring of students' progress; and the intensive programme of interventions, particularly with students who might otherwise not attain grade C.
- The quality of teaching has improved since the vacant mathematics posts were filled in February 2009. Since then, teachers have been working together to improve the curriculum, trying out new ideas and sharing them informally and in meetings, and occasionally observing each other teach. However, there is not yet a clear strategy for developing teachers' subject expertise to help them select the most effective approaches to different topics.

Areas for improvement, which we discussed, include:

- raising standards and further improving progress in mathematics by:
  - identifying and tackling individual mathematical needs better, particularly for students with special educational needs and/or disabilities who are supported at school action plus level
  - ensuring that all students who take GCSE in Year 10 continue to study mathematics in Year 11 to get the best possible qualifications
- improving the quality of teaching by:
  - continuing to revise the schemes of work in mathematics to incorporate guidance on effective teaching approaches and a greater emphasis on using and applying mathematics
  - setting a greater variety of problems on each topic, including more that go beyond routine single-step exercises, so that students develop a deeper understanding
  - devising a strategy to improve teachers' subject expertise so that mathematics is consistently taught in ways that promote understanding

- improving the monitoring and evaluation of mathematics to ensure consistency in teaching and to ensure that the progress of groups is given due regard.

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

Stephen Abbott
Her Majesty's Inspector