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Mr A Timms  
Headteacher  
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Dear Mr Timms

Ofsted 2009-10 subject survey inspection programme: mathematics

Thank you for your hospitality and co-operation, and that of your staff, during my visit on 1 and 2 June 2009 to look at work 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. Feedback letters will be published on the Ofsted website at the end of each half-term.

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 evidence used to inform the judgements made included interviews with staff and students, scrutiny of relevant documentation, analysis of students' work and observation of seven lessons. Sixth-form provision was not inspected as the students were on study leave.

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

Achievement and standards

Achievement in mathematics is good though standards are below average.

- In recent years, students have made good progress. Standards are well below average when students join in Year 7; the gap is the equivalent of about six months' worth of progress. By the age of 16, standards are still below the national average, but the gap has been narrowed.
- Although still below average, the GCSE A\*-C pass rate in mathematics is rising. As a result, the school has improved its success rate in achieving five or more GCSE passes at grade C or higher, including mathematics and English from 19% to 30%. The school's assessments of students' current performance suggest that the figure will increase further in the next two years.
- The school has been very successful in closing the gaps in progress and attainment between boys and girls that existed until recently. Boys are now making at least as much progress as girls.

- Students are supported very effectively to maximise their GCSE grades. Teachers provide good support outside lessons through revision classes and a Saturday club. Students are involved in identifying their learning needs. All have access to a web-based support package that allows them to work on areas of weakness.
- The school's specialist status in mathematics and computing has had a major impact on improving standards. Specialist college funding has provided extra staffing to allow smaller classes and additional programmes to support students at risk of under-achievement.

### Quality of teaching and learning of mathematics

The quality of teaching and learning of mathematics is good.

- Most of the lessons seen in the inspection were designed to develop students' understanding. The teachers used a variety of methods to get students thinking including practical work on probability and measurement and group work on interpreting graphs. They brought out key ideas through good questioning. Students responded well to the interactive whiteboards. For example, a dynamic presentation helped students in one class to understand translations of shapes.
- However, there is some variation in the amount of conceptual development incorporated by different teachers. Two satisfactory lessons focused more on giving students instructions on how to answer certain types of questions, but without involving them enough in thinking for themselves. In addition, some of the 'real-life' contexts used in questions tackled by students were unrealistic. For example, the data on temperatures used in a lesson on negative numbers included freezing temperatures in the tropics.
- Assessment is good overall. There is a strong element of self-assessment. For example, students analyse their test papers to help identify areas where they need to improve. Most teachers monitor students' work well during lessons, assessing their progress effectively and tailoring support to individual needs.
- Marking varies in quality from satisfactory to good, being better in Year 10 than Year 8. Much marking is regular and effective, but some books are marked less frequently, missing key errors. The attention paid to presentation, the quality of diagrams and the quality of students' explanations is inconsistent.

### Quality of the mathematics curriculum

The quality of the mathematics curriculum is satisfactory.

- Schemes of work are regularly updated and there is lots of informal discussion on the best teaching approaches. However, there is no guidance for teachers about expected lines of development, or how a topic needs to be covered at one level in order to support extension at a higher level.
- GCSE statistics is sensibly offered as an option, with additional lessons, so that it supports students' learning of mathematics. Apart from those taking GCSE statistics, most students have few opportunities to use computer software such as spreadsheets and graphing applications that might help to improve their mathematical understanding.
- The revised Year 7 scheme of work includes materials from the Cognitive Acceleration through Mathematics Education project, which develop students' ability to use and apply mathematics for themselves. However, students in other year groups are not guaranteed similar opportunities and are not assessed on

their learning in this area. The incorporation of new materials on functional skills from an awarding body pilot is only partially addressing this issue.

## Leadership and management of mathematics

The leadership and management of mathematics are good.

- The head of department and senior leaders have a good understanding of the strengths and weaknesses of mathematics provision. Their improvement planning in the last few years has been effective in raising standards and improving the achievement of boys in particular. The head of department plays a strong role in tracking students' progress and in leading interventions for those underachieving.
- A major contribution to improvement has been the whole-school action to improve behaviour and attitudes towards learning, which are now good. Year 10 students confirmed that the improved discipline has helped their learning.
- Good monitoring ensures that all teachers comply with the policy of recording learning objectives and that they keep to the assessment schedule. However, some inconsistency in marking still occurs. Tests taken by students are analysed to show areas of weakness for each student and to provide an overview, so that areas of general weakness can be identified.

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

- Most teachers have good subject expertise. The good professional development includes specific courses, meetings and regular visits from a National Strategy consultant and strong informal support from a team that works together well.
- Departmental leadership is being developed well. Delegation of responsibility to the second in department is building capacity and the head of department benefits from the local subject-leader network and regular update meetings.

Areas for improvement, which we discussed, included:

- introducing a systematic review of the schemes of work with the aim of ensuring that topics are presented consistently by all teachers, and coherently over time
- making sure that students get equal opportunities to
  - learn to use and apply mathematics, and to be assessed on these skills
  - use computer software as a tool to solve mathematical problems and to promote their understanding of mathematics
- ensuring that the 'real-life' contexts used in questions tackled by students are meaningful and realistic, so students can learn the arts of interpreting and validating their solutions.

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