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Dear Mrs Witheford

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 15 and 16 June 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 ten lessons.

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

Achievement and standards

Achievement in mathematics is satisfactory and standards are above average.

- Standards in mathematics have improved sharply in the last year and are now above average. Since attainment on entry to the school is also above average, this represents satisfactory progress.
- For the previous three years, achievement in mathematics had bordered on inadequate as GCSE results declined. The slower-than-expected progress affected all three of the main ethnic groups, girls at all levels and boys whose attainment had been above average at age 11.
- A significant factor in the improvement has been the closer monitoring of students' progress, which has enabled the department to identify underperforming students and give them extra support. In addition, revision programmes for all students have been strengthened.

- Students are very well behaved in lessons. When they are challenged to think for themselves, most students respond positively. Those who waited for others to do the thinking made less progress.
- There is no formal assessment of students' progress in using and applying mathematics.

Quality of teaching and learning of mathematics

The quality of teaching and learning of mathematics is satisfactory.

- Of the ten lessons observed during the inspection, five were judged good and five satisfactory. The quality and inventiveness of lesson planning is generally good, and teachers provide clear explanations. Variations in the quality of assessment affect the quality of learning.
- In the most effective lessons, the teachers move purposefully around the class when students are working independently. They make sure all can get started, then watch students as they work to assess their progress and to address any misconceptions that emerge. The information they pick up helps them to tailor their teaching to meet students' needs. In satisfactory lessons, this type of assessment is less well developed, so learning is less personalised.
- Lessons help students to develop their skills in using and applying mathematics, and in articulating their thoughts. Examples seen during the inspection include: good use of a card-matching exercise to generate discussion among students on factors and multiples; a well-chosen, challenging problem on surface areas of cones and cylinders; practical drawing work to motivate work on enlargements and the creation of posters to illustrate how mathematics is used in the media.
- Teachers are conscientious in reviewing answers so students can check their own work and seek help if necessary. In some cases, the teachers also collect books regularly to mark a few questions in greater depth, so they can diagnose any errors and comment on other matters, such as the way answers are set out, the correct use of symbols and the accuracy of diagrams. However, the frequency and quality of this type of marking is inconsistent. Consequently, students do not get enough guidance on how to improve.

Quality of the mathematics curriculum

The quality of the mathematics curriculum is satisfactory.

- The schemes of work for Years 8 to 11 provide limited support for inexperienced teachers. There is little guidance on the department's preferred approaches to teaching different topics, or on the depth of coverage expected for different sets. The Year 7 scheme of work is more detailed.
- All teachers are committed to presenting mathematical ideas in ways that help students to make sense of them. Where possible, teachers present new topics by drawing ideas from the students, so they gain experience of using the mathematics they know in novel ways.
- Students occasionally use computers in their mathematics lessons. For example, one class had used specialist graphing software to investigate the properties of graphs with similar equations. However, there is no mechanism to guarantee that all students get similar opportunities.
- At present, students in Years 10 and 11 have three 50-minute mathematics lessons a week. At 10% of their curriculum time, this is below average. The

decision to increase mathematics to four lessons a week from next year will allow teachers more time to consolidate learning for all students, and to cover the higher tier GCSE topics in greater depth.

Leadership and management of mathematics

The leadership and management of mathematics are good.

- The senior leadership team has a very clear understanding of the strengths and weaknesses of mathematics provision. For example, the decision to appoint the head of Year 11 as acting head of faculty helped the department to appreciate the importance of good mathematics results to the students' overall achievement. Students' views have also been taken into account.
- The newly appointed head of faculty has made a good start: during her first week in post, she observed each mathematics teacher to identify individual and departmental priorities. The mathematics team has welcomed her arrival and is committed to further improvement under her leadership.
- The monitoring of compliance with the department's marking policy has been lax.

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

- The key actions of leadership include recruiting an experienced head of department and creating a second assistant role, giving more mathematics time in the curriculum, providing a mentor for new and recently qualified teachers, and providing protected departmental meeting time for the sharing of good practice. This has halted the decline in mathematics and created the capacity for further improvement.

Areas for improvement, which we discussed, included:

- improving teachers' skills in monitoring students as they engage in independent and group work, assessing their understanding, identifying misconceptions and intervening with any students who are slow to get started
- ensuring that every teacher marks students' work regularly in order to:
 - target topics where the teacher's expertise is most needed to identify how students can improve their work
 - advise students on how to improve the presentation of their solutions
- using the department's regular 'good practice' discussions to further develop the schemes of work, for example by:
 - jointly planning some strong 'lead lessons' and indicating preferred approaches to teaching key topics
 - customising schemes of work to guide the teaching of different sets in the same year-group
 - indicating links to common homework and assessment tasks.

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