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Dear Mr Ward

Ofsted 2009-10 subject survey inspection programme: mathematics

Thank you for your hospitality and cooperation, and that of your staff, during my visit on 25 and 26 January 2010 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.

The evidence used to inform the judgements included interviews with staff and students, scrutiny of relevant documentation, analysis of students' work and observation of parts of 10 lessons.

The overall effectiveness of mathematics is satisfactory.

Achievement in mathematics

Achievement in mathematics is satisfactory.

- Students make satisfactory progress in lessons. They learn methods effectively but their understanding of the concepts behind them is not as strong. Progress is also satisfactory over students' five years of compulsory secondary schooling, although it is better during Key Stage 4 than Key Stage 3.
- In the sixth form, students have chosen to study mathematics and work particularly hard. The closer match of work to their needs and emphasis on developing their independence enables them to make good progress at AS and A level to attain above average standards.

- Students join the school with a wide range of attainment that is broadly average overall. The school's data show that attainment at the end of Key Stage 3 was broadly average in 2008 and rose in 2009 to just above average. At GCSE, students reached significantly above average standards in 2009 after a drop in boys' performance in 2008, and almost a quarter attained grades A* or A.
- Behaviour is good and students are keen to do well.

Quality of teaching of mathematics

The quality of teaching of mathematics is satisfactory.

- Teachers have strong subject knowledge, which contributes to their clear explanation of methods. They have good relationships with students, who work hard in lessons and find their teachers very helpful.
- While the most successful lessons include activities designed to develop understanding, such as practical demonstrations, much teaching is satisfactory and some is inadequate. Students spend too long listening to explanations or working on repetitive questions that do not challenge them sufficiently, and some lower attainers are not clear enough about what they need to do. Teachers make adjustments to the lesson when many are struggling, but they do not check sufficiently carefully how well all students are doing. Teaching conveys the steps in methods but does not help enough students move away from relying on referring to reminders, through developing their independence and understanding of the underlying concepts. Too many students find some work too easy for them to make better than satisfactory progress, especially in Key Stage 3.
- Teachers are increasingly using a wider range of resources, including interactive whiteboards and mini-whiteboards, to check students' progress and encourage them to try out and improve their methods. They are involving students more in discussion in pairs and presenting their results to the class.
- Lesson planning is informed by some analysis of areas students found difficult in assessments. The setting of homework and marking are variable, with some books containing much work that is unmarked by students or teachers. In some classes, students assess each other's work and identify areas for improvement, but this is not widespread. Students know their target and current levels or grades, but are not familiar with all of the criteria for reaching their target.
- Teaching in the sixth form gives greater opportunity for students to discuss anything they are unsure of with their teachers, and regular detailed marking helps them to improve.

Quality of the mathematics curriculum

The quality of the mathematics curriculum is satisfactory.

- It meets students' needs and prepares a substantial number of them to continue with AS and A level in the sixth form. Support for students who

are hearing impaired ensures they have effective access to the curriculum. Some students who join the school with low levels of mathematical knowledge are given additional lessons, although this is not coordinated with the provision in their mathematics class. Targeted revision programmes in Year 11 contribute considerably to students' performance. All students follow a GCSE course and are entered for a numeracy test.

- In the sixth form, students have the choice of studying mechanics, statistics or decision mathematics, but not further mathematics. Functional skills and GCSE re-sit classes are also provided. Entry dates are flexible, so those who are ready can take examinations sooner than others.
- Schemes of work are based mainly on textbooks and neither personalised to the school's context nor fully up-to-date. There are some shared resources, but no guidance on using activities to build concepts is available. Students have little opportunity to use or apply mathematics. With support from the local authority, new Year 8 materials for shape and space were written last year and other materials are being developed to match the new National Curriculum.
- One mathematics classroom is equipped with a full set of computers, but it is not used effectively enough to give all students hands-on experience across the mathematics curriculum. Since the beginning of this term, most mathematics rooms have had interactive whiteboards, although teachers' expertise is variable and there is no specialist graphing or geometry software.

Effectiveness of leadership and management of mathematics

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

- The school has improved students' performance at Key Stage 3 and, following a dip, at Key Stage 4. A sharper system for monitoring students' attainment and use of performance management targets have helped teachers focus more effectively on supporting Year 11 students to meet challenging targets. Nevertheless, some assessments of students' ongoing attainment recorded in the monitoring system have not matched with examination results closely. Analysis of weak subject areas in assessments is also beginning to inform curriculum planning.
- Leaders made accurate judgements in the lessons observed jointly during the inspection. Monitoring of lessons has led to slow improvement. It identified the need for more involvement by students, but did not emphasise students' understanding or teachers' continual checking of this.
- Line management is contributing to improvement planning that identifies some pertinent actions, although not priorities, and recognises the need to improve teaching. Actions are not coupled sufficiently with measurable impact to underpin continual improvement in teaching.
- The curriculum leader successfully encourages staff to contribute ideas and feel part of a team focused on developing more interactive teaching.

- The school's evaluation of examination performance leads to the accurate judgement that progress is satisfactory, but there is room for more comparison of student groups with national figures and for analysis of the overall progress towards targets by teaching groups in each year.

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

- The sharing of good practice between departments and the school's central training on increasing engagement have contributed to an increase in group work and interaction in mathematics lessons.
- Using support from the local authority has been an effective method for widening the range of materials and activities used, and reducing the time students spend listening passively, but there is more to do in these areas and in increasing the emphasis on understanding.

Areas for improvement, which we discussed, include:

- increasing students' progress so that it is good in each year group through raising the quality of teaching to good by:
 - placing a greater focus on developing understanding
 - providing challenge for all students
 - monitoring understanding more thoroughly during lessons and adapting teaching accordingly
 - increasing students' independence through self-assessing their work against level and grade criteria
- putting more emphasis in the schemes of work on developing:
 - understanding of concepts, including through interactive use of computers
 - use and application of mathematics
- identifying clear priorities with measurable outcomes in improvement planning.

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

Gill Close
Her Majesty's Inspector