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01 June 2009

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Dear Mr Sweeney

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 27 and 28 April 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 lessons.

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

Achievement and standards

Achievement in mathematics is good and standards are well above average.

- Students join the school with attainment that is slightly above average and reach standards that are significantly above average at GCSE. Their progress is good, being fastest during Key Stage 4. Since 2007, students have made improved progress at Key Stage 3 which has enabled them to reach well above average standards. In 2008, a higher proportion of boys than girls reached the highest grades at GCSE. The top sets of Year 10 students are entered for GCSE statistics and reach high standards.
- Students join the sixth form with average standards and are making good progress to attain above average standards at A level, although some experience difficulty with the subject at AS and do not reach the grades of which they are

capable. Standards and progress have improved in the last two years. A small number of students also study further mathematics: they make satisfactory progress to reach average standards.
- Students work hard in lessons and behave very well. Their excellent attitude to learning and relationships with their teachers help them to do well.

Quality of teaching and learning of mathematics

The quality of teaching and learning of mathematics is good.

- The good teaching and learning enables students to make good progress. Much teaching is consistently good and some is outstanding. There is also some satisfactory teaching.
- Teachers care about the students and want them all to do well. They relate well to the students and work hard to support them. Students appreciate this.
- In the best lessons, work is meticulously planned to meet students' needs, and assess how well they are doing. Teachers' excellent subject knowledge is used to adapt lessons to match students' responses. Tasks excite and involve all students actively in solving interesting problems, encouraging them to think and understand. Information and communication technology (ICT) is used extremely well to gather assessment evidence and to demonstrate concepts. Students use it themselves to explore and to increase their understanding.
- In many lessons, teachers give clear explanations and set high expectations for the pace and quantity of work. They use mini-whiteboards particularly well to ascertain what students know and understand, and to encourage them to use rough working to try to solve problems.
- In satisfactory lessons, students are not always given appropriately challenging work that involves them all effectively, for example during group work. Teachers do not move around the room specifically to check students' methods or see if they are stuck. Potentially rich activities are not consistently planned well enough to ensure that all students can make good progress. Some students are not clear about what is expected or why they are doing the work. Sometimes, teachers spend too long talking so students do not have long enough to work independently.
- Books show some marking that is thorough in checking errors and helping students to correct them. Support is often provided orally, with much of the written commentary being praise or about presentation. Sometimes neither student nor teacher has marked the work so it is unclear whether it is correct.
- Across the department, various methods involve students in setting targets, in particular after tests, which they find helpful in focusing them on areas of weakness. However, the targets they write are expressed in terms of general behaviours they wish to amend, such as revising more or completing homework, rather than the specific part of the subject they aim to improve. Students do not routinely use GCSE grade criteria or National Curriculum level descriptors that are displayed on classroom walls to assess their progress towards targets.

Quality of the mathematics curriculum

The quality of the mathematics curriculum is good.

- The schemes of work set out the content in detail to ensure coverage of all requirements and to incorporate activities that give conceptual introductions.

They also include references to a good range of ICT resources and hard-copy materials. Some of these are well-selected activities for developing skills in using and applying mathematics, although there is no planned sequence to ensure that all students receive structured teaching of these skills. Even though there is no additional guidance for teachers to ensure each student receives an appropriate conceptual introduction to topics, the staff provide much informal help to each other and to new teachers and this underpins the good quality of provision.

- Students benefit from a good range of software and ICT resources used by teachers to illustrate concepts clearly and involve them interactively, such as through all entering responses to assessments through handsets. They also have many opportunities to use computers themselves to explore mathematics, including through an individualised package that they use both in class and for homework. The ICT laboratory in the mathematics block facilitates this and is well used.
- High attainers take statistics GCSE in Year 10, achieve good results and go on to do well in mathematics GCSE. Take-up at A level is increasing, and further mathematics is studied via the Further Mathematics Network.
- The mathematics and computing specialism has brought many benefits, including mathematics days for the whole school, primary school and community lessons, a new mathematics block, and ICT hardware and software.

Leadership and management of mathematics

The leadership and management of mathematics are good.

- The head of department took up the post this year and has successfully brought the whole team together to share work and support each other very well. All members are valued and have a shared goal for the students to do well.
- Senior leaders have taken good steps to develop the quality of leadership and management of mathematics and to support the improvement of teaching. The high quality of reflection and awareness of staff, and improvement in students' attainment and progress, indicate good capacity for continued improvement.
- Observation of lessons by the head of department and the advanced skills teacher identifies accurately key areas for development and is carefully followed by targeted support that has led to improvement. Some evaluation is generous because it does not give sufficient weight to all students' learning and progress.
- Evaluation and analysis have identified important areas for development, but have not prioritised the key ones for driving up the quality of teaching to consistently at least good, increasing students' understanding and ensuring entitlement for all. Students' views are not systematically included. A substantial part of the action plan focuses on the provision of ICT-based learning, but without measurable success criteria expressed in terms of impact. The department has rightly recognised the need to use targets and tracking more effectively to raise achievement throughout each year group.

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

- The expertise and support from the advanced skills teacher has made a real difference to teaching quality for a number of experienced and new staff. In addition to effective targeted support, observation and discussion of his teaching has made an impact throughout the department.

- The department's openness to trying new ideas has improved teaching, for example through developing expertise with ICT.
- The school's focus group on teaching and learning has enabled sharing of ideas and joint approaches to teaching issues across core departments.

Areas for improvement, which we discussed, included:

- increasing the emphasis in lessons on thinking, understanding, conceptual approaches, and developing skills in using and applying mathematics
- developing students' independence through greater challenge and use of self-assessment against targets and national criteria
- identifying key priorities in action planning, with measurable success criteria expressed in terms of impact.

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

Gill Close
Her Majesty's Inspector