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Miss A Whelan
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Dear Miss Whelan

Ofsted 2011–12 subject survey inspection programme: mathematics

Thank you for your hospitality and cooperation, and that of your staff and students, during my visit on 27 and 28 March 2012 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 without their consent.

The evidence used to inform the judgements included: interviews with staff and students; scrutiny of relevant documentation; analysis of students' work; and observation of eight lessons.

The overall effectiveness of mathematics is outstanding.

Achievement in mathematics

Achievement in mathematics is outstanding.

- Students enter the school with attainment which is above average. They make rapid and sustained progress during Key Stages 3 and 4. Levels of progress are much higher than national as is the progress for groups of students. The achievement of the relatively small numbers of students who study mathematics in the sixth form has risen and is now good.
- Students have very positive attitudes to mathematics. Behaviour observed was exemplary. Relationships are excellent; students respect each other and their teachers. Students show exceptional independence and work well in groups. They take great pride in the presentation of their work, and set it out very clearly with each stage of working shown.
- In lessons, students make progress that is consistently good or better. Work is challenging with a clear emphasis on developing thinking and

reasoning skills as well as conceptual understanding. Through the 'Building Learning Power' initiative, students are able to think for themselves and persevere when they encounter challenges, showing confidence that they will succeed.

Quality of teaching in mathematics

The quality of teaching in mathematics is outstanding.

- Lessons are engaging and challenging. Teachers have high expectations of their classes and ensure that students use correct mathematical language, methods and conventions. Understanding is developed in lessons through a variety of tasks which promote investigation, discussion and progression.
- Misconceptions are explored in lessons: students are sometimes asked to look at example work and identify the errors that have been made. The subsequent discussions deepen and enhance their understanding.
- Teachers are particularly adept at questioning students, and expect them to give full answers. This not only allows teachers to assess how well students are progressing but also enables students to have an in-depth understanding of how to extend their learning. The use of mini-whiteboards and 'thumbs up' ensures that all students participate fully and enables teachers to assess each student's understanding.
- Teaching assistants are deployed very well to engage and support individual students and they also teach parts of lessons. Group work and discussion lessons are features of the department's work which, in turn, develop students' mathematical reasoning and communication skills.

Quality of the curriculum in mathematics

The quality of the curriculum in mathematics is outstanding.

- Schemes of work are comprehensive and give clear guidance on how to build upon and extend prior learning. Students have regular opportunities for solving problems and investigating within mathematics.
- Students take part in many enrichment activities. These include whole days such as a 'code breaking day' and regular activities including mathematics challenges and a 'maths puzzle club' which develops students' problem-solving skills. Students also receive training to lead numeracy sessions in local primary schools.
- Information and communication technology (ICT) is a regular feature of lessons. It is used to model mathematical scenarios and to promote conceptual understanding, for instance in a Year 12 lesson where students used a graphing program to try to find the equation of a curve. Through seeing the effect of changing the values of variables, they were eventually able to replicate the curve and find its equation.
- The department provides individual support for students and weekly mathematics workshops for each of the key stages. These are attended by targeted students but also by others who choose to attend.

Effectiveness of leadership and management in mathematics

The effectiveness of leadership and management in mathematics is outstanding.

- You have a very clear vision of what it means to be outstanding. This ambition has been shared by the mathematics team which has brought about sustained outstanding achievement, under the excellent leadership of the subject leader. She has a very clear overview of individual teachers' strengths and a realistic understanding of areas for further development. All of this demonstrates excellent capacity to improve.
- Challenging performance targets are set for each member of the department to bring about the highest expectations of students' achievement coupled with personalised professional development for all members of the team that includes the sharing of best practice. Specialist mathematicians work alongside their non-specialist colleagues to develop their practice. Strategies to delegate responsibilities are effective.
- Links with primary schools are strong. The mathematics teaching assistant works with potentially vulnerable Year 6 pupils to aid their transition. Students' views are sought regularly and the information gained is analysed thoroughly to inform department development planning.

Areas for improvement, which we discussed, include:

- continuing to improve achievement in the sixth form.

I hope that these observations are useful as you continue to develop mathematics in the school.

As explained previously, a copy of this letter will be published on the Ofsted website. It may be used to inform decisions about any future inspection. A copy of this letter is also being sent to your local authority.

Yours sincerely

Simon Rowe
Additional Inspector