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Mr J Shannon  
Headteacher  
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Dear Mr Shannon

Ofsted 2010–11 subject survey inspection programme: mathematics

Thank you for your hospitality and cooperation, and that of the staff and students, during my visit on 8 and 9 July 2010 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 10 lessons.

The overall effectiveness of mathematics is good.

Achievement in mathematics

Achievement in mathematics is good.

- Students join the school having attained broadly average standards in national Key Stage 2 mathematics tests, although fewer than average reached the higher Level 5 in the current Year 7 and 8 cohorts. Boys' attainment on entry is considerably stronger than girls' in Years 8 to 11.
- Attainment at GCSE has been average during the last three years but the results represent an upward trend in students' progress from their starting points. This year, results from units taken so far show that attainment is poised to rise sharply with over 70% predicted to gain A\* to C grades and a small rise in A and A\* grades. In 2009, two Year 10 sets took GCSE statistics; 75% attained A\* to C grades.

- Students in Year 10 are making good progress in lessons. It is likely that the 2010 GCSE results will represent good achievement with many Year 11 students meeting or exceeding challenging targets. Students who have special educational needs and/or disabilities make good progress.
- Attainment at Key Stage 3 has also risen in recent years. The quality of learning is more variable than in Key Stage 4 but is satisfactory overall.
- At both key stages, students' skills in using and applying mathematics and in algebra are not developed consistently well. A group of Year 10 students commented constructively that it would be helpful to meet more problems throughout their learning of a topic rather than at the later stage of practising examination questions.
- Behaviour in lessons is good. Students generally concentrate hard and collaborate well when given the opportunity. They appreciate the help teachers provide within and beyond lessons.

### Quality of teaching of mathematics

The quality of teaching of mathematics is good.

- Teaching is strongest in Key Stage 4 where the department has focused its attention on raising attainment. Much of the teaching elsewhere has good features but teachers' inexperience has meant that good progress is not secured consistently.
- The best teaching is characterised by skilful questioning that probes students' understanding and builds on responses with further questions, allowing opportunity for self- or peer-correction. These teachers anticipate and tackle misconceptions. Learning is sequenced carefully with an emphasis on conceptual understanding.
- In all the lessons observed, relationships between teachers and students were good. Teachers planned a range of activities that included working in groups on investigative tasks and interesting, purposeful outdoor activities. Teachers who are less experienced in teaching mathematics did not always pick up clues to students' thinking during whole-class or individual interactions. Scrutiny of students' work showed some weaknesses in developing progression in key concepts.
- The quality of marking is variable but with examples of good practice in identifying misconceptions and helping students to understand the next steps. Some marking was cursory.

### Quality of the mathematics curriculum

The quality of the mathematics curriculum is satisfactory.

- The schemes of work provide adequate coverage of the mathematics curriculum but, as the subject leader and second in department have identified, require further development, particularly in relation to problem-solving. The schemes lack guidance on approaches and activities that promote conceptual understanding. Less experienced teachers also require a better indication of depth and progression for different topics.

- While students use information and communication technology for revision and practice, its role as a tool for learning mathematics is underdeveloped.
- The department is thoughtful in its use of early entry for GCSE, re-sit of units, and alternative qualifications, ensuring the benefit for each student is paramount. A range of interventions, such as individual sessions and revision classes, is having a positive impact on GCSE results. The subject leaders rightly recognise that 'quality first teaching' is the best sustainable strategy for raising attainment further.
- The school's science specialism has enabled the staffing of additional mathematics sets in Key Stage 4 which is providing the opportunity to deepen higher attainers' experience of A and A\* material while focusing on grade C for other students.
- Various extra-curricular activities, such as a mathematics club for primary pupils and entry into mathematics competitions, enrich some students' mathematical experiences.

#### Effectiveness of leadership and management of mathematics

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

- The way that the team of staff teaching mathematics has worked together during its staffing difficulties is a tribute to the department and to you as headteacher. Those teachers whose specialism is not mathematics have worked with enthusiasm and commitment, drawing on their good pedagogic skills.
- The department's self-evaluation is broadly accurate and leads to the identification of appropriate areas for improvement. Development planning follows the school's format but shares the same weaknesses, in particular the emphasis on completion of tasks rather than their impact. Line management is supportive, with challenge for underperformance in the past, but there is scope to sharpen the way the effectiveness of the department's monitoring activities is checked.
- The head of department's use of assessment information is good. Coupled with teachers' professional views, it underpins grouping of students and decisions about examinations, while analysis of strengths and weaknesses in students' performance informs future teaching.

Areas for improvement, which we discussed, include:

- increasing the proportion of students who attain grades A or A\* at GCSE
- making better use of best practice within the department to secure good or outstanding learning for all students, particularly by:
  - ensuring all lessons focus on developing understanding and are sequenced to provide depth of learning and progression in key concepts
  - improving teachers' use of assessment in lessons to pick up clues about students' thinking and modify teaching accordingly

- strengthening schemes of work by providing guidance for teachers on:
  - developing problem-solving and investigative skills
  - approaches and activities that aid understanding and build progression
- sharpening the monitoring of day-to-day learning and teaching.

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 sent to your local authority and will be published on the Ofsted website under the URN for your school. It will also be available to the team for your next institutional inspection.

Yours sincerely

Jane Jones  
Her Majesty's Inspector