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Ms K Ryan  
Headteacher  
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Dear Ms Ryan

Ofsted 2010-11 subject survey inspection programme: mathematics

Thank you for the hospitality and cooperation of the deputy headteacher, and that of the staff and students, during my visit on 17 and 18 May 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.

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 and two students working with the learning mentor.

The overall effectiveness of mathematics is inadequate.

Achievement in mathematics

Achievement in mathematics is satisfactory.

- Attainment is low but is rising at GCSE. It was significantly below average in 2008 and 2009, although the 2009 GCSE target of 48% of students gaining grades A\* to C was met. Results of unit examinations taken to date show standards are poised to rise much closer to average in 2010: the wide range of strategies to optimise students' performance is bearing fruit. Students appreciate the way teachers and senior staff have given generously of their time to help them prepare for examinations.
- Teachers' assessments at the end of Key Stage 3 in 2009 showed a sharp fall in the proportion of students reaching Level 5, the standard expected of 14-year-olds. In part, this reflects the lower prior attainment of the cohort. More usually, around three quarters of the students reach Level 5.

- Students' progress is satisfactory. It is currently stronger in Key Stage 4 than in Key Stage 3. The school acknowledges that the extensive efforts to raise attainment in Year 11 are not sustainable in the longer term and that ensuring all students make good progress is the key to improvement.
- There is some variation from one year to the next in the progress of different groups of students, including those who have special educational needs and/or disabilities, but no consistent pattern of underachievement.
- The quality of learning in lessons is satisfactory overall. Students, particularly girls, are often passive and can be reluctant to offer answers and ask questions. Many depend on their teachers for support but respond well when teaching is skilful, enthusiastic and challenging. Weak numeracy skills sometimes impede students' progress.
- Behaviour is generally satisfactory. Most students are cooperative but not all take sufficient care over the mathematical presentation of their work.

### Quality of teaching of mathematics

The quality of teaching of mathematics is satisfactory.

- Most of the teaching is satisfactory, but there is a core of good practice, confirmed through scrutiny of students' work. Strengths include teachers' accurate explanations and the way students' learning of a topic is sequenced. However, when explanations are not supported by visual representations, some students struggle to grasp the concept or technique being taught. Teachers miss some opportunities to amplify key points or make connections with bigger underpinning mathematical ideas.
- The best teaching focuses clearly on developing understanding, using questioning skilfully to establish what students know already and building on their responses. These teachers are successful in encouraging students to persevere and think for themselves.
- There is scope to improve teachers' use of assessment in lessons. Most teachers move round the class while students work to check their progress and pick up on errors and misconceptions. When asking the class questions, they tend to take answers from individuals and so do not know how well other students understand.
- Scrutiny of students' books shows unacceptable variation in the quality of marking. Some is cursory or infrequent and some misses important errors in students' working. In some classes, students mark much of their own work, but in others the work goes unmarked. Teachers do not all have sufficiently high expectations of students' presentation and accurate use of mathematical notation.
- There is variability in the depth and breadth of students' learning in mathematics. Repetitive exercises are prevalent in some classes and not all students are presented with a wide range of problems to investigate and solve. Moreover, too few students benefit from using information and communication technology either as an aid to understanding, for instance in demonstrating the effect of a rotation, or as a tool for learning, such as through using dynamic geometry or graphing software.

## Quality of the mathematics curriculum

The quality of the mathematics curriculum is satisfactory.

- Schemes of work provide adequate coverage of the mathematical content at each key stage. However, as the department acknowledges and has recently started to address, insufficient attention is given to the development of students' skills in using and applying mathematics.
- The schemes are closely related to examination specifications and published textbook series. Accompanying teachers' handbooks provide some guidance for staff. However, teachers, need more help in using approaches and resources that promote conceptual understanding. This is especially true for those who are inexperienced or specialists in other subjects
- Next academic year, the school plans to increase the time for mathematics in Years 8 to 11. Coinciding with the planned revision of schemes of work, this provides an opportunity to design a rich mathematical learning journey for students of all abilities. Proposals to complete GCSE by the end of Year 10 have not been fully considered to ensure that they will help all students to reach their potential and provide a suitable platform for continuing into further or advanced study.
- A range of strategies is helping students in Years 9 to 11 to optimise their performance in unit examinations. These include: two extra classes in Year 11, taught by senior staff; revision classes after school; and a residential weekend. After-school lessons are provided for those targeting A or A\* grades or who are studying GCSE statistics. Students benefit from targeted support provided by a mathematics teaching assistant and the learning mentor, both of whom show initiative in the ways they work with students.

## Effectiveness of leadership and management of mathematics

The leadership and management of mathematics are inadequate.

- The top priority this year has been to raise standards at GCSE. The department has worked very hard on this, and with success. Senior leaders, two of whom are mathematicians, are equally committed to securing the best outcomes for students. However, a lack of rigorous departmental management systems and weakness in strategic leadership mean that improvement is short term and a recurring need for intervention and catch-up is not being tackled adequately.
- Arrangements for monitoring and evaluating the work of the department are inadequate. Many aspects of teachers' work, such as lesson planning, are not monitored at all. In other areas, there is insufficient rigour to identify and follow-up inconsistencies and weaknesses.
- The curriculum leader analyses assessment data and monitors students' progress. However, this information is not used to raise questions about the quality of provision; for instance to identify topics with which students struggle so that teaching approaches and resources might be reviewed.

The weak performance of many lower attaining Year 9 students in 2009 has not been explored.

- The lack of robust information drawn from a range of monitoring activities means that self-evaluation is not well grounded and is sometimes overgenerous. Moreover, there is no robust mechanism by which to drive rapid and sustainable improvement, for instance in the quality of teaching. The small action points that build incrementally to better practice are not being identified or followed up.
- Although the school's procedures for departmental line management are followed, they are not robust enough to ensure that improvement is being secured across the department's work. As well as ensuring greater rigour, there is a need to develop the leadership and management skills of the post-holders.

Areas for improvement, which we discussed, include:

- raising attainment in both key stages, including in using and applying mathematics, and increasing students' fluency in numeracy skills
- improving the quality of teaching by ensuring:
  - a systematic approach is adopted to tackling weaknesses and inconsistencies
  - good practice is shared effectively
  - assessment capitalises on students' oral and written responses
- revising schemes of work, ensuring they secure students' progression in mathematical understanding and skills, and incorporating:
  - opportunities for all students to use and apply their mathematics and solve problems
  - guidance for staff on approaches and resources, including practical activities and ICT
- introducing appropriate management systems and practices to underpin effective development of the department's work and to hold it to account for its performance and the quality of provision.

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

As I explained in my previous letter, 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