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Ms S Ramsay  
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Dear Ms Ramsay

Ofsted 2008-09 subject survey inspection programme: mathematics

Thank you for your hospitality and co-operation, and that of your staff, during my visit on 20 and 22 January 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 satisfactory.

#### Achievement and standards

Achievement in mathematics is satisfactory and standards are below average.

- Students' attainment on entry to the school is well below average. In recent years, standards at Key Stage 3 have also been well below average. There have been some improvements, but the school's data for 2008 shows a dip, due mainly to a fall in boys' attainment. In contrast to this, an increased proportion of girls reached higher levels, attaining Level 6 or above. In 2007, progress between Key Stages 2 and 3 was below average. The data for 2008 indicate that it has remained so.
- Standards at GCSE continue to improve. In 2008 they rose from significantly below average. They are now closer to average but still below it. Girls attain more highly than boys. Some high attainers have taken GCSE or AS units early

and have reached high standards. The 2008 GCSE results mark exceptionally high progress, in the top one per cent nationally for those students with prior attainment data.

- Current data on Key Stage 3 students' levels indicates that some have made little progress since Key Stage 2 whilst some appear to have improved then regressed. From this information it is difficult for the school to evaluate current progress and standards.
- The differential progress across key stages arises partly from the careful intervention programme provided in Key Stage 4 and the students' growing sense of responsibility that the school has successfully nurtured.
- Students work well and the amount of off-task behaviour slowing learning in lessons has diminished, although there is still some. The older the students, the keener they are, with more of them completing homework and taking up additional support. Students say they enjoy mathematics more in Key Stage 4 because they are more focused on the importance of doing well. Students enjoy the online homework and some lesson starters or games that make them think hard.

## Quality of teaching and learning of mathematics

The quality of teaching and learning of mathematics is satisfactory.

- Teaching is improving but variable. It has a number of good features but it is not consistently strong enough to enable students to make good progress across each year group.
- The good professional relationships in lessons enable students to feel free to ask questions and make mistakes. Teachers use focused praise and build students' confidence successfully. They apply a range of behaviour management strategies effectively.
- The strong elements of teaching include teachers' use of good subject knowledge and high expectations to help students understand some harder ideas and reach high standards. Teachers' questioning encourages students to give explanations and to listen to and comment on each other's responses. Teachers use information and communication technology (ICT) to clarify methods and motivate students. Practical work and group activities help students to discuss and develop concepts. Teachers' awareness of the misconceptions that students may reveal is planned well into lessons to help students overcome them. Support staff are well briefed on the aims of the lesson and the type of support to provide.
- Teaching was less effective where work was not appropriately challenging. Sometimes it was too hard or students were expected to work through it too quickly or superficially to be able to understand it. Conceptual understanding was not developed well enough through the structure of the activity. Teachers' demonstration led students through too many small steps for them to build their own independence in problem solving and there were too few opportunities for discussion or group work. Reasoning was not extended through questioning or use of sufficiently deep learning objectives with a shared knowledge between teacher and students of why they were doing the work. Teachers did not monitor effectively enough where students were having difficulty to help them overcome this, or ensure that all students were involved.
- Marking of online homework provides a useful record of students' strengths and weaknesses but few opportunities are taken to mark students' working out or provide them with written guidance on how to improve. Students are aware of

their areas of weakness after taking tests but are not involved in ongoing self-assessments against their target levels or grades, or of what they need to do to improve.

## Quality of the mathematics curriculum

The quality of the mathematics curriculum is satisfactory.

- The curriculum is improving. The Year 7 scheme of work builds on the renewed framework for secondary mathematics, bringing together a range of resources and encouraging more practical and interactive teaching. The Key Stage 4 scheme of work provides brief reference to topics and is an area the school has rightly identified for improvement.
- Schemes of work do not include specified activities to build concepts or guidance on effective ways to introduce concepts to increase students' understanding.
- Some investigatory activities in lessons and in the whole-school 'super learning day' help students to increase their skills in using and applying mathematics although there is no structured development of these skills.
- Students benefit from work presented on interactive whiteboards, but they report very little hands-on use of computers across the breadth of the mathematics curriculum.
- Higher attainers have the opportunity to take GCSE early, study GCSE statistics and take AS units in Year 11. They attend many lessons outside school hours and reach high standards. These opportunities motivate them well, building their capacity and their interest in further study of mathematics.
- The school provides much additional support, revision and intervention, in particular for Year 11 students.
- The online homework introduced this year has increased the proportion of completion. The provision of materials through the virtual learning environment has broadened students' interest and encouraged them to access a wider range of resources for revision.

## Leadership and management of mathematics

The leadership and management of mathematics are satisfactory.

- Leaders and managers have effectively contributed to raised standards and progress at Key Stage 4 and improvements in teaching, although progress and standards remain low in Key Stage 3. They have also enabled staff to develop confidence and expertise as part of a team that works together successfully to share ideas and is committed to raising standards and progress.
- Widening of responsibility through the appointment of two assistant curriculum leaders for mathematics is leading to developments in the Key Stage 3 curriculum, increased use of ICT and broadening of the range of teaching and learning strategies.
- The school has an accurate view of the overall quality of provision in mathematics. Although planning and evaluation are not sharply enough focused on the key issues for development, line management has contributed to improvements in these areas. Documentation and monitoring do not ensure that every child receives their full entitlement to appropriately challenging curriculum and learning opportunities.

- Observation of lessons has led to improvements in teaching, some of which have been substantial. Nevertheless, the extent of its impact has been limited because it is not recorded frequently enough, sometimes does not focus enough on students' progress so reaches a generous judgement, and lacks specificity in the areas for development and how they will be carried forward.
- The school has correctly identified that assessment and tracking are not identifying students' attainment and progress rigorously enough to enable steps to be taken at an early stage to ensure students are not falling behind. Much assessment is based on tests and some baseline data for informing targets has been missing. Steps have been taken to address this.

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

- The whole-school approach to teaching through the 'consistency management and co-operative discipline' programme is having an impact on the organisation, behaviour management and questioning in mathematics lessons, but is not leading to as wide a range of strategies, such as group work and discussion, as was intended.
- Support through the Secondary Strategy and attendance at the local authority's 'good to outstanding' sessions are giving teachers good ideas and insights into more interactive and practical ways of teaching. Sharing of ideas amongst the members of the department and developing of the new Key Stage 3 scheme of work have been key catalysts to changes in teaching style.
- Peer observation is helping teachers to identify areas for development.

Areas for improvement, which we discussed, included:

- improving progress and standards at Key Stage 3
- raising teaching quality in lessons through increased focus on conceptual understanding
- involving students more in self-assessment against clear learning objectives and their targets so they build an overview of their progress and how to improve
- increasing accuracy of assessment of levels or grades and monitoring of students' progress
- sharpening evaluation, planning and monitoring to focus on key issues and record improvement against them.

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