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Dear Mrs Thompson

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 26-27 February 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 nine lessons

The overall effectiveness of the subject, mathematics, was judged to be satisfactory. This represents significant improvement in a relatively short time. The department is fully staffed following a period of considerable difficulty in recruiting suitably qualified and experienced mathematics teachers.

Achievement and standards

Achievement in mathematics has improved and is satisfactory. Standards are below average.

- Achievement in mathematics had been falling for a number of years but the new team has halted the downward trend and standards have started to rise. Students' achievement is improving. Much of the team's work has, quite understandably, been based around improving students' grades in their GCSE

examinations through some very targeted support. This drive now needs to be extended to ensure greater emphasis on understanding and more opportunities for students to use and apply their mathematics in a variety of scenarios.

- In 2008, GCSE results were well below average and students had made limited progress. These poor results also lowered the percentage of students who gained five or more GCSE passes at grades A* to C including English and mathematics.
- Results at A level are generally in line with expectations for those students who complete their courses. However, in the last few years, many students who start A level have not gone on to complete the two year course. This is changing: the majority of students in the lower sixth are intending to go on to complete A level. Moreover, next year, a large number of students are opting to study A-level mathematics.
- The school has a well developed tracking system to analyse carefully the progress of students towards their targets. Data show the majority are in line to achieve or better their target. The school's data for GCSE examinations in 2009 indicate that the proportion of students gaining an A* to C grade would rise from 40% to around 47% and, overall, attainment will be far closer to the national average than for a number of years. Given students' starting points, which are below average, this would demonstrate much improved and satisfactory progress.
- Students across all years know their targets and are aware of how well they are progressing towards them. The school sets targets in Year 7 but these are not sufficiently challenging for some students.
- Students' attitudes towards mathematics are satisfactory and many speak very favourably of the support available to them when attending mathematics clinics and also within lessons. Behaviour is good in lessons and there are often good relationships between staff and students, particularly in the sixth form.

Quality of teaching and learning of mathematics

The quality of teaching and learning of mathematics is satisfactory.

- Much of the teaching has been directed at improving examination performance. Lessons generally start with an activity which is based around students answering questions which are then explained by the teacher. While these sessions often include the use of electronic whiteboards, opportunities to use them interactively or for dynamic demonstrations of work on graphs and transformations are underdeveloped. In some instances, teachers make good use of targeted questions but too often interaction between students and the teacher is limited within these sessions.
- The major element of the lesson involves teachers' exposition followed by students answering a number of similar questions. Teachers are active in monitoring the work around the class and quickly intervene when students need additional help.
- The better teaching has greater vibrancy and much more participation by students; for example in lessons when students worked in groups to investigate a problem and when students were 'grouping' themselves together to show the connection between 'top heavy' fractions and mixed numbers.
- Books are generally well marked, sometimes indicating the level at which the student is working and often giving advice on how to improve or to extend the work.

Quality of the mathematics curriculum

The quality of the mathematics curriculum is satisfactory.

- Schemes of work are based around existing resources and examination syllabi. The department recognises the need to update these but the priority has been on improving students' achievement and rates of progress.
- The new scheme of work for Year 7 allows greater opportunities for students to work collaboratively and to develop their investigating and reasoning skills. However, there are limited opportunities for students to develop these skills in other years. The use of information and communication technology (ICT) is not well identified or incorporated within schemes across all years, although students say they do sometimes use computers when learning about graphs.
- The school is piloting functional skills GCSE next year and has started to plan how these may be incorporated into schemes of work. Students designated as gifted and talented receive additional support and challenge. The school uses adult on-line qualifications to ensure all students gain appropriate accreditation.
- Students develop mathematics skills within the school's specialist area; for example, considering proportionality in art or how pattern and transformation geometry are related especially in some of the art work of different cultures.
- In the sixth form, additional classes allow students to be taught A-level further mathematics.

Leadership and management of mathematics

The leadership and management of mathematics are satisfactory.

- The subject leader has been successful in galvanising the team and stopping the downward trend in standards and achievement. There is good informal monitoring and support for colleagues but, as yet, no formal monitoring of the work of the department has been carried out by the subject leader. Staff discuss elements of good teaching but these activities are not formally shared or recorded.
- You have ensured very good encouragement and guidance for the mathematics team through well focused support from senior leaders. The coherent overview of the core subjects has ensured departments can learn from each other and make progress in improving the work of the school.
- The local authority had been effective in supporting the department with targeted intervention strategies and devising appropriate programmes of support to ensure students make better progress.

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

- The major focus has been in ensuring students are effectively prepared for GCSE and A-level examinations. This has been successful: standards and achievement have risen and a greater proportion of students have identified that they wish to study A level.
- The improved work in Year 7 has meant staff have a better understanding of independent work and promoting greater interaction within the class.

- The subject leader has a coherent action plan to improve the engagement of students by improving the quality of teaching.

Areas for improvement, which we discussed, included:

- continuing to raise standards by:
 - ensuring lessons systematically develop students' understanding and reasoning thereby reducing reliance on intervention
 - updating targets for students to ensure they are consistently challenging
- increasing the proportion of good and engaging lessons by:
 - sharing good practice and activities
 - increasing the interaction in activities at the start of lessons
 - making better use of the electronic whiteboards to utilise their dynamic capability and increase the engagement of students in lessons
- improving the schemes of work by identifying opportunities for students in all years to use and apply mathematics and to use ICT to enhance their learning
- developing the effectiveness of leadership by ensuring the subject leader regularly monitors the work to identify weaknesses in teaching and hence improve the teachers' pedagogical skills.

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

Michael Smith
Her Majesty's Inspector