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Ms N Shore
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Dear Ms Shore

Ofsted 2014–15 subject survey inspection programme: mathematics

Thank you for your hospitality and cooperation, and that of your staff and students, during my visit with Michael Pennington HMI on 18 and 19 November 2014 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 lessons.

The overall effectiveness of mathematics requires improvement.

Leadership and management of mathematics are good.

- Mathematics is a key area of focus for the school and senior leaders have given it a high priority in recent years. The quality of teaching is now better than in the past. GCSE results in 2014 showed an improvement on 2013, including for the most able students, at a time when national results dropped; gaps between the achievement of disadvantaged students and that of other students narrowed considerably.
- Leaders were successful in securing improvements during a recent period of turbulence in the department.
- Self-evaluation is realistic; improvement planning has a clear focus on key priorities and uses measurable success criteria where possible.

- Members of the department work together effectively. They have positive attitudes to change and are willing to try different ways of working where they might lead to improvements in provision and outcomes.
- Students' records of their targets are inconsistent and not all have a clear idea of their end-of-year or GCSE target.
- Members of the department offer support to local primary schools to boost the achievement of their most able pupils. Strengthened links with the neighbouring secondary school are beginning to have a positive impact.

The curriculum in mathematics requires improvement.

- All students study mathematics to GCSE and almost all achieve an A* to G grade. Leaders plan to offer an additional course in Year 10 to prepare the most able students for the algebraic demands of A-level work.
- Senior leaders have provided additional curricular time in Key Stage 3 to help develop students' numeracy and/or problem-solving skills. It is too soon to evaluate the impact of this development.
- The schemes of work provide appropriate guidance for the topics to be covered within set time-frames. Teachers are providing more investigative and problem-solving tasks but these are not yet detailed in the schemes of work. References to teaching materials within the schemes would help to promote consistency in teaching.
- Students who are not likely to achieve their targets receive additional tuition, often in small groups. Evidence suggests that this support is effective in helping students to catch up.

Teaching in mathematics requires improvement.

- The quality of teaching varies and, although improving, is not yet consistently good. Teachers miss opportunities in lessons to assess how many students understand a concept before moving on to more difficult work.
- While occasionally they set work that does not challenge all students, teachers show in their planning an awareness of the range of abilities within their classes. They generally select activities that interest students and help their learning.
- Teachers are aware of the need to give additional focus to developing students' reasoning and problem-solving skills. They are beginning to incorporate appropriate activities into their teaching.
- Teachers encourage students to keep a notebook that summarises the key points that they have learnt. Students value this and were seen making effective reference to their notebook when they encountered a difficulty. Teachers do not always ensure that what is recorded in notebooks is accurate.
- Teachers mark students' work regularly and provide helpful written feedback. Students say that the quality of feedback they receive has improved noticeably.

Achievement in mathematics requires improvement.

- Despite recent improvements in GCSE results, the progress of students, including the most able, remains below average. From their various starting points, fewer make the expected progress than nationally. The same is true for the proportion who exceed the expected progress.
- Evidence from the school's data, supported by evidence from students' books, suggests that the better GCSE outcomes achieved in 2014 is being sustained and built upon further.
- Recent outcomes show the achievement of girls is better than that of boys, except for the most able where the reverse is true. The school has an appropriate focus on raising the achievement of boys which is beginning to have an impact.
- The achievement of disadvantaged students has fluctuated. The gap between their achievement and that of other students widened in 2013 to about one GCSE grade, but narrowed considerably in 2014.
- Most students have positive attitudes to mathematics and take part readily in the tasks that they are given to do, with many demonstrating an understanding of the topics they are learning. For instance, students in Key Stage 4 understand how to simplify an equation by using a balancing method and the most able in Year 11 are able to use their knowledge of algebra to solve problems very effectively. Students have a good sense of number and can explain why decimal calculations have the answers they do. In some cases, their learning focuses on what to do rather than on the conceptual understanding that underlies the topic.

Areas for improvement, which we discussed, include:

- ensuring that teachers:
  - make more effective use of assessment in lessons before judging when it is time to move learning on
  - provide a consistently high level of challenge
  - emphasise more clearly, and encourage students to record, why a particular method works as well the steps needed to apply it effectively
- developing the schemes of work further to include more explicit reference to the investigational and problem-solving activities selected by the department.

I hope that these observations are useful as you continue to develop mathematics in the school. As explained previously, 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
Paul Chambers
Her Majesty's Inspector