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Mr M Campbell
Principal
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Dear Mr Campbell

Ofsted 2013–14 subject survey inspection programme: mathematics

Thank you for your hospitality and cooperation, and that of your staff and students, during my visit with Barbara Comiskey HMI on 3 and 4 June 2013 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 11 lessons, including two observed jointly with leaders.

The overall effectiveness of mathematics requires improvement.

Achievement in mathematics requires improvement.

- Students' attainment in mathematics on entry to the school has risen slightly over the last few years and is broadly in line with the national average. In 2012, although the proportion reaching grades A* to C was average, far too few students reached the highest A*/A grades. The gap in performance between those students eligible for pupil premium and their peers was wider than the national average at more than one GCSE grade.
- Progress from their starting points was inadequate for Year 11 students in 2012. The school's strong emphasis, this year, on every student making at least the expected amount of progress has raised expectations of teachers and students alike. However, learning and progress vary from one class to the next, and require improvement overall.
- The school's improved systems for assessing and tracking students' attainment and progress give leaders greater confidence in the projections for students' stronger achievement in 2013. Work remains to be done to

ensure the more able reach their full potential. The school's data also show some students have a legacy of underachievement to overcome.

- Lesson observations, discussions with students, and scrutiny of their work show that insufficient emphasis is given to the development of problem-solving skills and conceptual understanding. Many of the assessments teachers use give students practice in answering examination-style questions, but do not help teachers to check that students have a depth of understanding and the problem-solving skills to build upon in the future.

Teaching in mathematics requires improvement.

- While much of the teaching requires improvement, some is good. Common strengths included teachers' use of information from tests to identify where students have gaps or weaknesses in their learning and their management of students' behaviour.
- Characteristics of the better teaching included teachers' clear explanations and skilful questioning. These teachers sequenced learning carefully, emphasised key points and teased out misconceptions. By contrast in other lessons, teachers did not always spot or anticipate students' errors and misconceptions. Some teachers set repetitive exercises that did not require students to think hard: this approach was also clearly evident in students' books. Occasionally, teachers spent too long on starter activities that did not further, or prepare for, learning sufficiently.
- Key areas of inconsistency in the teaching are the weight given to the development of students' understanding – the 'why' as well as the 'how' – and to problem solving.

The curriculum in mathematics requires improvement.

- The schemes of work provide adequate coverage of the mathematics curriculum. However, lack of regular scrutiny of students' work means that depth and breadth of study are not checked to ensure strong progression lesson by lesson and over time. For higher attaining Year 7 students, some topics met previously at primary school are repeated unnecessarily.
- Staff have informal discussions about approaches and resources, but do not capture these ideas in schemes of work to benefit all staff. Problem solving and mathematical reasoning are not emphasised sufficiently in the schemes, nor the use of information and communication technology as a tool for learning and to support students' conceptual understanding.
- The school is thoughtful about the use of early entry to mathematics GCSE. Middle- and lower-attaining students take it early, resitting with the aim of improving their grades. Higher attainers benefit from studying for the whole key stage before taking the examinations, but greater emphasis could be placed on more demanding material during Year 10.

Leadership and management of mathematics require improvement.

- Senior leaders have, this year, successfully raised teachers' expectations of all students' progress. In mathematics, regular assessments are used to

track students' progress, but they do not give sufficient weight to problem solving. Teachers analyse students' performance in the assessments and use the information appropriately to inform subsequent teaching. The department might usefully reflect on how to improve the teaching approach for topics that cause students difficulty.

- A key weakness is the limited amount of monitoring of teaching and learning to evaluate the quality of current provision accurately and to pinpoint strengths, weaknesses and inconsistencies in order to drive improvement. Line-management records tend to concentrate on data analysis and intervention, rather than ensuring support and challenge for the subject leaders, holding them to account for the impact of their work.
- Professional development has primarily focused on whole-school priorities rather than the subject-specific, which is the next step. Sharper action planning with attention to the mathematical detail will be required.
- The school has hosted four meetings following the cessation of the local authority's subject-leader meetings. It works with partner primary schools, for instance by providing mathematics sessions for able Year 6 pupils.

Areas for improvement, which we discussed, include:

- raising attainment further, in particular by strengthening students' skills in problem solving and reasoning
- improving the quality of teaching, drawing on existing good practice, by:
 - focusing on developing students' conceptual understanding
 - selecting a variety of activities and exercises that challenge students to think for themselves
 - ensuring problem solving is embedded in all topics
- providing guidance for teachers on approaches and activities that support good learning and progression, ensuring it is captured in schemes of work
- improving leadership of the subject by devising:
 - a robust but developmental system of monitoring, with effective follow-up, that focuses on the mathematical details
 - a sharply focused action plan, accompanied by appropriate professional development opportunities for all mathematics staff.

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

Jane Jones
Her Majesty's Inspector