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Dear Miss Davies

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 Asyia Kazmi SHMI on 9 March 2015 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, some jointly with leaders.

The overall effectiveness of mathematics requires improvement.

Leadership and management of mathematics require improvement.

- The department has experienced a period of turbulence in staffing in mathematics. Senior leaders have managed this effectively and are sensibly maintaining a higher level of staffing for the remainder of this year. The departmental team is now more stable with a full complement of specialist teachers, some of whom are newly qualified and/or temporary.
- The director of mathematics is a specialist leader of education. Her current focus is looking, rightly, within rather than beyond the school to strengthen the quality of teaching, the curriculum and assessment in mathematics. Developments have yet to become embedded. The director is supported in leading the department by an assistant learning manager whose subject leadership role has benefitted from senior leadership support this year.
- The subject leaders follow whole-school policies and practices, for instance on target-setting and marking, but their generic nature means they do not promote

better teaching and learning in mathematics. Monitoring through lesson observations, work scrutiny and questionnaires for students is similarly generic.

- The department's self-evaluation was too rosy and was not backed up by a clear analysis of data where the outcomes were stronger and weaker or an evaluation of the underlying contributory factors. Senior leaders did not challenge sufficiently the quality or accuracy of the evaluation. The improvement plan is sensibly linked directly to the self-evaluation but it lacks clarity in the actions to be taken, how their implementation will be monitored, and the impact gauged.

The curriculum in mathematics requires improvement.

- The new national curriculum is being implemented in Years 7 to 9. However, the new scheme of work is not ensuring good progression from Year 6 and through Key Stage 3. No guidance on the national curriculum has been provided for teachers who have joined the school since September 2014.
- Assessments linked to the scheme of work test students' proficiency in the topics taught but give insufficient attention to checking understanding, problem solving and reasoning. The scheme includes some good ideas and suggested resources but teachers differ in how well they use them. They also vary in the depth and breadth to which they develop learning of a topic. Problems tend to be presented at the end of lessons or topics and not often as an integral part of learning.
- The step from Key Stage 3 to GCSE is not smooth. The planned increase in curriculum time across Years 7 to 11 is a good step and provides an opportunity to think again about this five-year journey. Up to now, more emphasis has been given to the easier material within each GCSE tier, inhibiting students' chances to become fluent with the more demanding material necessary to reach the higher grades and to prepare students for studying mathematics in the sixth form.
- Students who are resitting GCSE mathematics in the sixth form said they do not enjoy it. The department has not reinvigorated teaching approaches for these students in order to capture their interest, overcome any negative perceptions, and improve their learning and success rates.

Teaching in mathematics requires improvement.

- The quality of teaching is improving, and some is good. Less-experienced teachers are benefiting from the support they receive. Teachers responded positively during discussions with the inspectors, showing a keenness to improve.
- Characteristics of the good teaching include resources and activities that promote reasoning and understanding, well-developed explanations and carefully selected examples, questioning that probes understanding, and misconceptions spotted, tackled and teaching points made.
- Most lessons included some strengths but learning was held back by weaknesses, such as a lack of clarity in what will be learnt or account taken of what students already know and can do, shallow treatment of topics, repetitive worksheets that do not deepen learning, and inaccurate use of mathematical language.
- The department has worked hard on improving marking. Some effective practice was seen but other examples were often focused on generic features, such as presentation, or gave feedback that was vague and not followed up consistently.

Achievement in mathematics requires improvement.

- In recent years, achievement at GCSE has varied but showed a sharp fall in 2014. Too few of these students had made good progress, particularly the low-attainers, several of whom failed to attain grade G. The higher attainers did not reach their full potential. The school's data paints a more positive picture for the current Year 11 cohort and was reflected in the scrutiny of students' work.
- The improvement seen in 2013 in the attainment of disadvantaged students was not maintained in 2014 with wide gaps emerging, particularly for those students who had joined the school with average or high levels of attainment in national tests in primary school. Overall, disadvantaged students attained four fifths of a GCSE grade lower than their peers in the school and more than a grade in comparison with other students nationally.
- Achievement in mathematics in the sixth form is a concern. GCSE success rates have been persistently low. Too many students failed AS in 2014 and did not progress to the second year of A-level study. Stronger teaching in AS/A-level classes is leading to significantly better progress for current students.
- Target-setting is not ambitious enough, particularly for the more able, and is a contributory factor to some teachers' low expectations of some groups. It is not responsive enough when students' progress is good, for instance in Key Stage 3.
- The quality of students' learning requires improvement. The extent of their understanding varies. Most are able to solve routine problems but would benefit from more opportunities to solve problems and to reason about the mathematics they are learning. Sometimes, weak mental arithmetic skills impede their fluency.

Areas for improvement, which we discussed, include:

- raising expectations of students' achievement across the school
- improving the quality of learning through:
  - honing students' mental arithmetic skills,
  - increasing their resilience and their confidence in solving problems
  - nurturing their reasoning skills
- reviewing schemes of work to ensure progression, depth and challenge across Key Stages 3 and 4, and revitalising the approach to teaching post-16 GCSE
- sharpening the mathematical focus of monitoring activities so that weaknesses can be pinpointed and tackled, priorities identified, improvements planned, acted on, and robustly evaluated, and backed up by professional development for staff including through sharing best practice.

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