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Mr Jon Chaloner
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Dear Mr Chaloner

Ofsted 2007-08 survey inspection programme – mathematics

Thank you for your hospitality and co-operation, and that of your staff, during my visit on 23 and 24 January 2008 to look at work in mathematics. As outlined in my initial letter, as well as looking at key areas of the subject, the visit had a particular focus on students' enjoyment and understanding of 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. This letter will be posted on the Ofsted website.

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 ten lessons.

The overall effectiveness of mathematics was judged to be good.

Achievement and standards

Students' achievement is good. Standards are high.

- Standards at GCSE and in National Curriculum tests are high. Students arrive at the school with standards that are above average overall. They make good progress in all years. Nearly a third of the students attained grades A* or A at GCSE in 2007 but, whilst over a third exceeded their predicted grades, nearly a quarter failed to reach them.
- Achievement post-16 is outstanding. Standards are high, with nearly two thirds attaining grades A or B at both AS and A levels in 2007, a significant improvement on earlier years. Large numbers of students opt to study mathematics post-16.

- Students generally enjoy mathematics and recognise its importance in their economic well-being. Although challenging in a few groups, behaviour is mostly exemplary.

Quality of teaching and learning

Teaching and learning are good.

- The mathematics faculty contains a good mix of experienced and recently qualified teachers, and includes a leading mathematics teacher for the Local Authority. They work well as a team and share ideas.
- Teachers are encouraged to engage students in a variety of mathematical activities, but not all do so sufficiently. The faculty's teaching and learning policy contains excellent advice on making lessons effective and enjoyable. Where this is adopted, students are appreciative. One said, 'I enjoy mathematics, because we do puzzles, which check we understand.' Another commented 'It's a bit boring and monotonous. We could use group work and computers more.' Seating arrangements, in what are generally rather cramped conditions, limit opportunities for group activities in most classrooms.
- Teachers use skilful questioning to encourage students to explain their reasoning. Sixth form students are particularly appreciative of opportunities to do so. Excellent use is made of mini-whiteboards and paired activities to check students' understanding, but limited use is made of information and communication technology (ICT), other than for 'PowerPoint' presentations. In the best lessons, teachers adopt investigative approaches. For example, Year 7 students were encouraged to find their own methods for adding mixed numbers, which were then shared and discussed effectively.
- Assessment is rigorous. Most marking gives clear advice on what to do to improve. Students appreciate opportunities for self-assessment.

Quality of the curriculum

The curriculum is satisfactory with a number of good features.

- New schemes of work are being developed. Those for Key Stage 3, for example, contain excellent advice, such as key questions for each topic. The schemes are moving teachers away from a predominantly textbook approach to teaching and refer them to a range of resources, including online homeworks. In all years, though, students make insufficient use of ICT, such as graph plotting software, and are given few opportunities to use and apply their mathematics.
- The curriculum offer in Years 10 and 11 for abler students is insufficiently broad. A significant number enter mathematics a year or half a year early. A few then enter an additional mathematics examination, but most are only taught some topics from the AS core module, which they then repeat in Year 12.
- The breadth of the curriculum post-16 is exemplary, with courses in pure, decision, mechanics, statistics and further mathematics.
- There is a good programme of enrichment activities and targeted intervention, such as booster classes, clubs and competitions and some cross-curricular projects linked to the school's technology specialism.

Leadership and management

Leadership and management are good, with some outstanding features.

- You, as both headteacher and a mathematician, and the head of department have an accurate view of the strengths and weaknesses of the department. They are providing clear direction for development focused on improving the quality of teaching and learning to raise attainment further.
- Tracking of students' progress is extremely rigorous. Monitoring of lessons is becoming more effective. Staffing difficulties restricted opportunities for the head of department to monitor lessons regularly until this year.

Subject issue: pupils' enjoyment and understanding of mathematics

Students' attitudes towards mathematics are varied, influenced by the quality of teaching they have received. Many, though, have positive views. Students recognise that the emphasis placed on explaining reasoning enhances their understanding. They appreciate opportunities to work together and solve problems, and like being challenged, but are aware that completing routine exercises does little to increase understanding.

Inclusion

Inclusion is good.

Good support in lessons and a variety of targeted enrichment activities ensure most students achieve well. Grouping students by ability is used effectively. Self assessment is used well in some lessons, enabling teachers to meet the needs of different groups within the class.

Areas for improvement, which we discussed, included:

- continue to encourage all teachers to broaden their repertoire of teaching strategies to include a greater variety of stimulating activities that help develop students' understanding
- review the curriculum to ensure all students receive sufficient opportunities to use ICT and to appreciate the applications of their mathematics, and broaden the curriculum offer to abler students in Years 10 and 11.

I hope these observations are useful as you continue to develop mathematics in the school.

As I explained previously, a copy of this letter will be sent to your local authority and will be published on Ofsted's website. It will also be available to the team for your next institutional inspection.

Yours sincerely

David Bain
Additional Inspector