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Dear Mrs Featherstone

Ofsted 2006-07 survey inspection programme – mathematics

Thank you for your hospitality and co-operation, and that of your staff, during my visit 5 and 6 February 2007 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.

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 12 parts of lessons.

The overall effectiveness of the subject, mathematics, was judged to be good.

Achievement and standards

Students' achievement is good overall and standards are above average.

- Students enter the school having reached above average standards in national tests at primary school. They achieve well in national Key Stage 3 tests, with the great majority attaining Level 5, the standard expected at 14 years. The improvements in results broadly mirror the steadily rising national trend.
- At GCSE, students generally achieve more strongly in mathematics than in many of their other subjects, but there has been a downward trend in the last three years. Module results for the current cohort suggest a more positive picture.
- At both key stages, there is scope to increase the achievement of the most able students. Those who have learning difficulties and/or disabilities achieve well.

- The school exceeded its specialist targets for mathematics, but these could have been more ambitious.
- Scrutiny of students' books and their work in lessons confirm above-average standards but exposed some variability in coverage and depth of learning.
- Most students behave well and take considerable care over their work. Many, however, do not contribute orally in lessons. Some chatter arises and the pace can slip when they are working independently on exercises.

Quality of teaching and learning

The quality of teaching and learning is good overall.

- About half of the lessons observed were good; others were satisfactory with good features and none was unsatisfactory.
- Teachers have good subject knowledge; they provide clear explanations, although these tend to focus on 'how' rather than 'why', and emphasise correct mathematical language and presentation. Teachers use questioning effectively and build on students' responses; some anticipate students' likely misconceptions well. One-to-one support for students is good.
- The best planning is thoughtful, identifying key questions, and choosing resources carefully. More generally, greater consideration should be given to challenging the most able in each class rather than just the fastest workers.
- Some starter activities were interesting and helped keep skills sharp. Concluding plenary sessions were underexploited; rarely did they draw what had been learnt together or provide a platform for what was to come next.
- Teachers do much of the talking in lessons and many students are consequently passive learners. They lack opportunities to develop their reasoning through mathematical discussion or to explore open or extended tasks.
- Marking is carried out frequently but its quality varies. The best provides useful prompts and advice to students on where they have gone wrong or on how to improve. The rest comprises ticks and crosses in the main. Teachers regularly encourage students to mark their own work but not all identify their errors or record correct answers.
- There were some bright displays in the corridors and classrooms but few offered direct support for learning and none included annotated pieces of work to help students gain understanding of the standards to which they might aspire.
- While data is used to identify underachieving students for mentoring and for support at key performance boundaries, it does not routinely inform lesson planning. Teachers do not always establish what the students already know.
- The lack of text books (particularly in Key Stage 3) for students to take home does not help them develop independent study habits.

Quality of the curriculum

The curriculum is good.

- The match of the curriculum with students' needs and abilities has been improved by a more aspirational approach to what students should achieve. There remains

scope, though, to be more precise about where to pitch the start of learning at GCSE so that old ground is lightly recapped and not laboriously re-trodden.
- The use of statistics GCSE for some students has not been fully evaluated.
- Schemes of work are up-to-date and contain references to text books and occasional suggestions for homework. They do not identify opportunities for developing students' skills in information and communication technology (ICT) or using and applying mathematics.
- Staff give of their time freely to support students in preparing for tests and examinations through additional lessons and Easter revision classes. Take-up is good. A positive development is the use of self-help e-learning materials.
- The school's specialist status makes a significant contribution to the curriculum. Gifted and talented students enjoy participating in the summer school, puzzle/ quiz days, and entering local and national competitions. There is a mathematics club for younger students. Year 8 students participated in a video conference with another school on a project investigating shape - the best for flipping beer mats.

Leadership and management

Leadership and management are satisfactory.

- There is a good team spirit in the department: staff collaborate well and willingly take on specific responsibilities. They reflect on their practice and respond positively to constructive criticism.
- The head of department is relatively new in post. He has some useful ideas for the department's development but is less skilled at converting them into action and impact. Development planning needs refining to ensure actions are crisply defined with clear success criteria, timelines, and arrangements for monitoring and evaluation. There is potential to improve the use of outcomes of monitoring and evaluation in informing subsequent action.
- Departmental policies often show an understanding of good practice but lack sound guidance for staff as to how it might be achieved, thereby missing the opportunity to influence classroom practice.
- Analysis of performance data is sound, identifying areas of relative weakness such as students' non-calculator skills. However these are not consistently woven into the next year's lesson plans or guidance for teachers.
- You oversee the process of departmental review: your comments are apposite and pertinent targets are set. However, unintended gaps in line-management arrangements following the recent restructuring of senior management responsibilities mean it is not clear how progress against action points is followed up or how middle managers' skills might be developed to aid their influence in driving improvement.

Subject issue: students' enjoyment and understanding of mathematics

Students' experience of learning mathematics fits a common pattern. They describe typical lessons thus: starter activity, introduction, teacher's explanation, lots of practice, and finish for homework. This informs their expectations of learning mathematics, a focus on skills rather than understanding. While they appreciate that their teachers' expertise and additional support provided in the run-up to tests and

examinations mean they achieve well overall, they are not enthused by the subject. Occasional practical activities and use of ICT become highlights; students would like more of these opportunities and the chance to work in groups and solve problems.

Inclusion

Inclusion is satisfactory. Some groups of students do not achieve consistently as well as others, for example the higher attaining students. The department uses data to identify those in danger of underachieving and provides additional support. All students have the opportunity to benefit from revision classes but not all have ready access to text books to support independent study.

Areas for improvement, which we discussed, included:

- improve the quality of learning, placing greater emphasis on developing students' understanding as well as their skills and knowledge
- integrate opportunities for using and applying mathematics and ICT into schemes of work and provide guidance for staff on developing greater variety in teaching and learning approaches including discussion and pair/group work
- develop the role of the middle managers in the department, particularly in asking questions and making connections between the outcomes of data analysis and monitoring and classroom practice
- improve the rigour of the cycle of planning, implementing, monitoring, evaluating and reviewing.

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

Jane Jones
Her Majesty's Inspector