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Mr Jonathan Maddox
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Dear Mr Maddox

Ofsted 2006-07 survey inspection programme – mathematics

Thank you for your hospitality and co-operation, and that of your staff, during my visit on 19 and 20 October 2006 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, students, scrutiny of relevant documentation, analysis of students' work and observation of nine lessons.

The overall effectiveness of the subject, mathematics, was judged to be good with some outstanding features.

Achievement and standards

Students achieve well in mathematics, both in the main school and the sixth form.

- Results in national tests and examinations have been consistently high at the end of all stages for several years and students currently in the school are achieving well and maintaining these high standards. Students do better in mathematics than they do in other subjects in both end of Key Stage 3 tests and GCSE examinations. The most able do particularly well and the need to further help students of lower ability to do better is an acknowledged priority in the school. The department met its targets in 2006 and has set challenging targets for the coming year.

- The contribution made by the department to students' personal development is good. Students really enjoy their mathematics lessons. They appreciate the care that their teachers take to help them to do well and are grateful that teachers willingly give extra time given to support individuals who have difficulties. The department has created an environment in which students are surrounded by a wide range of mathematical stimuli. Wall displays are lively and interesting and students learn about famous mathematicians and their lives as part of their studies. This helps bring the subject to life.

Quality of teaching and learning

Students learn well because, overall, teaching is good.

- Some teaching is exemplary. Where this is the case there is a strong focus on helping students build up a clear understanding of mathematical ideas alongside the learning and application of skills and routines. A key aspect of teaching that separates the best from the rest is the quality of questioning. Challenging students by asking them, for instance, to 'elaborate on ...' an explanation and giving them time and encouragement to do so really helps both their confidence and developing understanding.
- There is, however, significant variation in the quality of teaching. Some lessons are much more carefully planned than others to ensure that the needs of students of all abilities are met well. Some have a clear structure, with good attention being paid to the needs of different groups of students, but this is not always the case. In some lessons, good care is taken to draw together the learning that has taken place whilst in others work just stops, with no review or planned conclusion to support an understanding of what has been learned.
- The assessment of students' work is good although the marking of day-to-day work varies, with some teachers not following guidelines that are given to students in their Profile Books. Some teachers conscientiously encourage students to indicate, using a school-based method, the extent of their understanding in a lesson or topic but this is not always the case. End-of-term assessments are recorded in Profile Books and students then evaluate the extent of their understanding and highlight aspects of topics that they need further help with. Teachers use this well to shape future lessons.

Quality of the curriculum

The mathematics curriculum is good.

- Setting arrangements help to ensure that students are working at a rate appropriate for them. Teachers make very good use of new technologies to make lessons more stimulating. Opportunities for students to attend a Mathematics Club or to enter the National Mathematics Challenge help enrich what the department provides.
- The department uses a range of investigative activities as a means of developing students' capabilities in using and applying mathematics. However, a lack of guidance, in the department, on how teachers can support this development in

other aspects of the subject means that this is inconsistently attended to by teachers in the department.

Leadership and management

The leadership and management of the department are good with some outstanding features.

- The department runs very well on a day-to-day basis. There is a clear sense of purpose that is evident to students. Arrangements for monitoring students' achievement are comprehensive and the analysis is detailed. Outcomes are used to guide action in the department.
- The arrangements for quality assurance are exemplary. The recent in-school inspection of the department was thorough and provided a clear evaluation of strengths and areas where improvement is needed. The work associated with the development of the Quality Assurance File is impressive, reviewing all aspects of the department's work. Hence the school's current appraisal of how well the mathematics department is doing is accurate. Some inconsistencies in practice across the department remain but plans to deal with this are pertinent, realistic and achievable. The department's capacity for further improvement is very good.

Subject issue: pupils' enjoyment and understanding of mathematics

Students really enjoy their mathematics because teachers make lessons interesting and challenging. The close attention that most teachers pay to helping students appreciate the importance of mathematical ideas, as well as developing skills and routines, helps students' understanding. Good use of investigative activities throughout the school enhances students' extended problem-solving skills. Learning about the lives of mathematicians aids enjoyment, and writing limericks about famous mathematicians, as an end-of-term activity, proved to be exciting and a valuable link to work in English.

Inclusion

The school takes the necessary steps to ensure that all students are equally well catered for. Hence, there is no significant difference in the attainment of boys and girls. The small numbers of individuals from minority ethnic groups are well integrated and do as well as their peers.

Areas for improvement, which we discussed, included:

- develop further the arrangements for classroom observation, linked to a departmental review of aspects of pedagogy, so that strengths are identified, built on and shared and areas in need of improvement addressed.

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

George Knights
Additional Inspector