

Alexandra House
33 Kingsway
London
WC2B 6SE

T 08456 404040
F 020 7421 6855
www.ofsted.gov.uk



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Mr J Kerr
Headteacher
Enfield Grammar School
Market Place
Enfield
EN2 6LN

Dear Mr Kerr

Ofsted 2009-10 subject survey inspection programme: mathematics

Thank you for your hospitality and co-operation, and that of your staff, during my visit on 18 and 19 June 2009 to look at work in mathematics.

As outlined in our initial letter, as well as looking at key areas of the subject, the visit had a particular focus on the effectiveness of the school's approaches to improving the quality of teaching and learning 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. All feedback letters will be published on the Ofsted website at the end of each half-term.

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 lessons and a support session.

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

Achievement and standards

Achievement in mathematics is satisfactory. Standards are above average.

- Students start at the school with attainment that is above average. They reach above average standards at the end of Key Stages 3 and 4, meeting some, but not all, of the challenging targets the school sets. For example, the proportion of students who attain the highest grades, A* or A, at GCSE is average.
- Progress is satisfactory in Key Stages 3 and 4. No group of students significantly underachieves, although fewer students than expected attained highly at the end of each key stage. Students make less progress in using and applying mathematics than they do in the subject overall.
- Inappropriate behaviour by some students holds back progress for part of too many lessons.

- Students embark upon A level with average prior attainment. They make satisfactory progress and attain average standards. Standards at AS level were low in 2008.

Quality of teaching and learning of mathematics

The quality of teaching and learning of mathematics is satisfactory.

- The quality of lessons varies widely: some are outstanding and a few are inadequate. For some students, teaching is generally good whilst for others it is mainly satisfactory. The extent of mathematical expertise of staff also differs, with some teaching by non-specialists in Key Stage 3.
- In the best lessons, teachers use challenging conceptual problems that excite students and extend their understanding. They use their subject knowledge well to respond to students' answers and encourage them to think harder.
- In the satisfactory lessons, teachers give clear explanations and students apply themselves to work so they make adequate progress. However, the work does not challenge all students. Some find it too easy; others wait too long for help. Sometimes students spend a long time listening, so have too little time to make good progress. Students become competent in using the methods taught, but teachers do not routinely ensure that they understand the methods and why they work or check on all students' understanding throughout the lesson. Occasionally there are weaknesses in how subject knowledge is conveyed to students. There are few but increasing opportunities for developing reasoning and problem solving through group work. Students say they would like more motivating and practical team work.
- Homework is inconsistent across classes and is too frequently merely completing an exercise started in the lesson, so does not extend or interest students enough.
- Some marking of students' work gives them a clear indication of its strengths and provides good support that helps them to improve. Nevertheless, there is much work in books that is marked neither by students nor by teachers, so it is unclear whether it is correct. Some work in books is unfinished.
- Students know the National Curriculum level or GCSE grade they are working at from tests and their school reports. However, they do not have an overview of the next steps and are not involved in regular assessment of their own progress in lessons or overall.

Quality of the mathematics curriculum

The quality of the mathematics curriculum is satisfactory.

- It meets requirements and enables pupils to make satisfactory progress. The schemes of work are up-to-date, with some activities that extend students' use and application of mathematics, but there is no structured development of these skills. Some good activities that help students understand concepts are used but such activities are not provided for all classes.
- Schemes of work include information and technology (ICT) activities but some students have had no recent opportunities for hands on use of ICT in mathematics lessons, due in part to the small number of laptops and computer rooms. Teachers are increasingly using interactive whiteboards to convey mathematical ideas more clearly, but they are not available in all classrooms and their use is sometimes limited to handwritten information.

- Some students who are experiencing difficulty with areas of mathematics are given additional support through personalised work on computers during registration. This is leading to improvement for many of them but is sometimes too undemanding. Some students who find GCSE difficult take entry level or numeracy qualifications. High attainers have been successfully stimulated by a weekly club, which offers them interesting problems to think about, and mathematical activities during a trip to Paris. Pupils welcome the support they receive through homework and revision clubs and praise the approachability of staff, who are willing to help them at any time.
- A large number of students study A level, but there is no choice of application units. Those who start with grade C at GCSE are supported well. Nevertheless, some students have inappropriately commenced the AS level course, from which the drop out has been high.

Leadership and management of mathematics

The leadership and management of mathematics are satisfactory.

- The head of department has successfully engendered a team spirit in the context of changes in staffing. He has raised teachers' confidence and created an atmosphere in which ideas and work are shared.
- The head of department holds a wide range of responsibilities within the subject. He has carried out the evaluation and planning, sharing key points with colleagues, and much of the development of the schemes of work.
- Analysis of national test and examination performance is thorough. Evaluation identifies correctly some key areas for development and planning has included some pertinent actions that have led to improvement. However, there is no system connecting evaluation with planning, or for expressing success criteria in terms of impact to enable accountability to be measured and shared across the department.
- Monitoring of teaching through joint observation with local authority staff has recently begun. In lessons observed jointly with the inspector, although judgements were generally accurate, some were generous, partly because the school's observation form does not give enough emphasis to learners' progress. There is no systematic monitoring and improvement of quality or entitlement through evaluating planning or students' work, or obtaining students' views.
- The recent emphasis on tracking and intervention had contributed to improved progress in Year 11. However, there is not a system of rigorous tracking of attainment against targets in each year group, including speedy provision of targets for students who join the school after the start of Year 7.

Subject issue: the effectiveness of the school's approaches to improving the quality of teaching and learning in mathematics

- Separate line managers working with the head of mathematics for different aspects, for instance on teaching and learning, has enabled a sharper focus on each of them. This has led to improvements, such as the increased use of learning objectives. By involving the head of department in joint monitoring of lessons, the department is now much clearer about lesson quality.
- The school's emphasis on teaching and learning in after-school professional development aims to ameliorate the typical weaknesses identified across

subjects. It has helped mathematics teachers to broaden the range of teaching approaches they use.

Areas for improvement, which we discussed, included:

- raising teaching quality to provide students with more conceptual, group and ICT-related activities, and monitoring more effectively what they understand
- evaluating lessons more systematically, identifying areas for development in teaching and linking them to professional development
- making broader and more frequent assessments against National Curriculum levels or GCSE grades, involving students more in assessing their progress towards targets and identifying what they need to do to improve
- ensuring, through schemes of work and monitoring, students' entitlement to using and applying mathematics, conceptual approaches and use of ICT across mathematics
- identifying priorities for development and linking them clearly to plans for action with measurable impact and clear accountability for the mathematics staff.

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

As explained in our previous letter, a copy of this letter will be sent to your local authority and local Learning and Skills Council and will be published on the Ofsted website. It will also be available to the team for your next institutional inspection.

Yours sincerely

Gill Close
Her Majesty's Inspector