Alexandra House
33 Kingsway
London
WC2B 6SE

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

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Ms S Hammond
Headteacher
Whitmore High School
Porlock Avenue
Harrow
HA2 0AD

Dear Ms Hammond

Ofsted 2008-09 subject survey inspection programme: mathematics

Thank you for your hospitality and co-operation, and that of your staff, during my visit on 9 and 10 February 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.

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

Achievement and standards

Achievement in mathematics is good and standards are above average.

- Students join the school with average attainment and make good progress to reach above average standards at Key Stage 3 and well above average standards at Key Stage 4. Targets have been met. The school has accurately identified where Key Stage 3 progress was not as strong as usual in 2007 and taken successful steps to redress this. Its data shows that progress was good in 2008.
- The first cohort of A-level students is currently in Year 13. The school's data show that on average they met their targets at AS-level in 2008. This year their progress has improved and they are on track to reach broadly average standards from their starting points.
- Students have good attitudes to learning and concentrate well in lessons. They enjoy lessons but say that they would like more group work and practical tasks.

Quality of teaching and learning of mathematics

The quality of teaching and learning of mathematics is good.

- Much teaching is good, and there are outstanding elements, but some is satisfactory. Typically teachers use good subject knowledge and give clear explanations, taking care to show examples of each type of question. They know examination requirements well and ensure careful preparation for them. They have high expectations of students' behaviour and performance. They work very effectively to achieve a positive learning environment and to raise students' self-esteem. They know their students well and want their students to succeed. In response, students work hard.
- In the strongest lessons, students are excited about what they are learning and discuss it keenly with each other, gradually building up their understanding. Activities are chosen well to help the students think and build their conceptual understanding, including through carefully chosen pairings. Teachers extend and support students effectively and provide them with helpful notes.
- In the satisfactory lessons, teachers do not vary the challenge to meet students' needs effectively or check the extent to which each student understands the work. Sometimes they do not give the students sufficient time to work independently to try to solve problems, and students wait to copy down the answer provided or rely too much on checking the rules in their notes without understanding them. Planning is not detailed enough to structure the lesson. At Key Stage 3, in the core lessons provided at the beginning of each topic and the homework introductions, some students spend time listening to explanations that are too hard or easy for them.
- Learning objectives are sometimes used well by staff or students to assess how well they are doing, but this is not consistent, and students do not have a clear idea of the expectations of a level or grade to which they are working. The school has recognised this and is planning to use 'I can' statements for self-assessment. Some marking identifies well the types of error that students are making but too much of it does not pick this up or help students overcome the problems.

Quality of the mathematics curriculum

The quality of the mathematics curriculum is satisfactory.

- It meets the range of students' needs and underpins their good progress.
- The mixed attainment groups in Years 8 and 9 use mainly individualised work assigned after a pre-test on each topic. This enables high attainers to do well but some other students spend too long being stuck with work that does not match their needs well. Homework is not always appropriately challenging for everyone. There are many good activities that help students build a conceptual understanding of the topics or involve problems that extend their reasoning, but students do not participate enough in discussion or group work to extend their understanding and communication skills. The school has rightly identified the revision of these materials as a priority.
- At Key Stage 4, the textbook is supplemented by CD-ROM and enrichment materials. Virtual learning is being trialled with some students to provide support and materials. Students are benefiting from the opportunities this gives them to discuss their difficulties with each other and the teacher.

- There are options for statistics and mechanics in the sixth form with a large take-up. The scheme of work at AS and A level draws on a range of materials and the school is rightly extending it.
- Sometimes there is good development of skills in using and applying mathematics but this is not structured throughout the schemes of work. They do not include guidance for staff on how to provide conceptual introductions to topics or on specific information and communication technology (ICT) to use. Students have little hands on use of ICT across the mathematics curriculum.
- Students find revision materials and sessions helpful. They enjoy the puzzle day and mathematics challenges.

Leadership and management of mathematics

The leadership and management of mathematics are good.

- Good leadership and management are leading to good progress and increased take-up in the sixth form. Staff work well together, sharing ideas and supporting each other, with a common goal of students' high achievement and commitment to equality of opportunity.
- Leaders make broadly accurate evaluations of the quality of provision. The dip in performance identified in 2007 led to well-targeted action and consequent improvement in Key Stage 3 results. Action plans concentrate well on key priorities. They are based on appropriate areas for development but expressed without measurable criteria or timescales linked to impact, so it is hard to judge the extent of success. Some views of students have been collected but this is not a systematic part of evaluation.
- Monitoring of students' work has identified accurately areas for development, as have some observations of lesson starters. During the inspection, jointly observed lessons identified appropriate strengths and weaknesses and reached accurate judgements. Nevertheless, there is capacity for a greater focus on students' progress in observations of lessons and the identification of areas for development that can incrementally be improved upon.
- Students' progress is monitored carefully and those falling behind are supported to ensure good progress overall. Analysis also draws together data well to inform intervention. There is room for increased consistency between levels of work, tests and progress reports sent home, and for more readily apparent indicators of the extent of progress against expected levels or grades.
- Line management has given good support and focus to key areas for improvement such as identifying weaknesses in students' performance and linking them to staff development.

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

- Staff have benefited from developing their ICT expertise through one member developing his skills first and then providing training and support for others.
- The school has effectively encouraged a parent into teaching and supported her through the Graduate Teacher Programme.

Areas for improvement, which we discussed, included:

- further improving teaching so it more consistently challenges all students to think, helps them to understand concepts, and develops their independence including through more self-assessment
- enhancing schemes of work to more systematically develop skills for using and applying mathematics and give teachers support to ensure conceptual introductions for all students
- including clearly measurable targets and timescales in action planning.

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