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22 February 2008

Mr J Parker
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Dear Mr Parker

Ofsted 2007-08 subject survey inspection programme: mathematics

Thank you for your hospitality and co-operation, and that of your staff, during my visit on 04 and 05 February 2008 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 learners, scrutiny of relevant documentation, analysis of students' work and observation of lessons.

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

Achievement and standards

Achievement in mathematics is satisfactory and standards are average.

- Attainment is broadly average at Key Stages 3 and 4 but results in 2007 did not meet specialist school targets. Nevertheless, one fifth of boys achieved the highest GCSE grades, A* or A, which is well above the national average and the GCSE failure rate was well below the national average, with no girls failing.
- The failure rate is high in one of the AS level courses. The drop out rate at A Level is also high and has not diminished to meet the specialist school targets for its reduction.
- Students have some weaknesses in their numeracy skills.

- The 2007 GCSE results show students made satisfactory progress between Key Stages 3 and 4, but good progress overall in the five years since Key Stage 2, the first two years of which they were attending middle schools.
- Although progress in too many lessons is slow, the additional support enables progress overall to be satisfactory. The school evaluated that too many current students approaching national assessments were making less than expected progress and has introduced appropriate measures to address this.
- Students generally apply themselves soundly to the work, but in some weaker lessons this is not the case and some students' off-task behaviour detracts from other students' learning. By Year 11, students take a more responsible attitude to their work as they prepare for GCSE. Students welcome the help their teachers provide but too many find lessons uninteresting.

Quality of teaching and learning of mathematics

The quality of teaching and learning of mathematics is inadequate.

- In too many lessons, pupils do not make enough progress. Work is not matched to their needs and involves lengthy periods of listening with insufficient discussion or group work. It relies too heavily on students replicating methods without understanding. Teachers do not check effectively how well students are doing during lessons and marking gives little support on how to improve. Students do not assess their progress towards targets regularly.
- Students are passive listeners with few opportunities for interactive or group work, so do not develop independence or problem solving skills. Sixth-form students note the big change they had to make after GCSE to develop the greater independence they now need.
- The more successful lessons use information and communication technology (ICT) and visual demonstrations well to convey concepts and interest students. This helps them to gain a better understanding of the work.

Quality of the mathematics curriculum

The quality of the mathematics curriculum is satisfactory.

- Textbooks used at Key Stages 3 and 4 meet students' needs adequately. They include some useful activities that help build understanding. There is also a range of software and other materials available. These vary in quality and there is no system for ensuring that all students benefit from a conceptual introduction to help them understand topics.
- Higher attainers are taught in an accelerated group in Years 10 and 11 that has enabled them to obtain an additional GCSE in statistics.
- One classroom contains a set of computers that is used well in the Use of Mathematics course. Systems do not ensure equity in access to this classroom and consequently not all students have hands-on experience across the breadth of the mathematics curriculum.
- Sixth-form students enjoy the Use of Mathematics course which meets their needs well and has involved creating a good historical display in the mathematics area. They find the opportunity to resit GCSE helpful. Many more-able students do well at AS and A level, but guidance onto these courses has not succeeded in cutting the drop out rates, and staffing changes have reduced access to further mathematics.

Leadership and management of mathematics

The leadership and management of mathematics are satisfactory.

- Some very experienced staff have recently left. Many staff, including the head of department, are new. Some staff are temporary or part time and there is a vacancy for the second in department. There is a shortage of expertise and some classes are shared. A teaching assistant for mathematics has just started and is growing in familiarity with the role.
- Faced with staffing challenges, the head of department has rapidly built up an accurate picture of the quality of teaching and has begun to work with senior management to develop ways to address it. They have led to improvements in some areas but quality is not rising quickly enough, even though there has been a greater allocation of staff meeting time to enhancing mathematics teaching. Senior managers are aware that there is a lot more to do.
- The head of department has also developed an appropriate way to improve students' performance in the 2008 examination, having analysed correctly that too many were not on target. Computerised analysis of performance on each question in recent mock examinations has produced customised targets for each student on their areas of weakness, and for their parents. Self-review sheets, support and revision are also provided, including through a software package.
- Action planning includes some appropriate activities but does not prioritise the key ones needed to raise teaching quality and students' progress rapidly, or provide criteria based on students' outcomes for judging the impact of actions.
- The specialism in science and mathematics has contributed to the successful introduction of the Use of Mathematics course in the sixth form and the acquisition of software, although large changes in staffing contribute to inconsistencies between staff in its use.

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

- The school is using a range of methods of support, including consultancy from the local authority and additional staff meetings on mathematics teaching. They are leading to improvements in teaching quality, but not rapidly enough.
- Staff are chosen appropriately to attend mathematics working groups and inservice training to develop their teaching skills.
- In the past few years the school has successfully supported a non-specialist teacher to become a mathematics teacher up to A Level.

Inclusion

Inclusion in mathematics is satisfactory.

- All students approaching national assessments have been given well focused targets. Students praise the support that teachers offer but because revision classes are provided for students aiming for key thresholds, they are not pertinent to others wishing to improve their performance.
- Students have differing access to conceptual approaches and ICT.

Areas for improvement, which we discussed, included:

- identifying priorities and short-term targets for raising rapidly the quality of teaching and learning
- providing conceptual approaches for all students to increase their understanding and independence
- focusing monitoring and support to underpin continuous improvement in teaching quality and ensure all students' entitlement to conceptual approaches and ICT
- involving students in setting targets and assessing progress towards them frequently.

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