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Dear Mr Gartside

Ofsted 2006-07 survey inspection programme – mathematics

Thank you for your hospitality and co-operation, and that of your staff, during my visit with my colleague Jane Jones HMI on 30 and 31 January 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 five members of staff and three groups of students, scrutiny of relevant documentation, analysis of students' work and observation of a dozen lessons.

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

Achievement and standards

Achievement and standards are good.

- Standards attained in national tests at age 14 and in GCSE and GCE A-level examinations are very high. Students achieve well.
- At GCSE, results across all subjects are at least as good as might be expected; mathematics compares favourably with other subjects. However, as the school has identified, not all students who might be expected to reach GCSE grade A in mathematics do so.
- In all mathematics lessons observed, students were making progress that was at least sound and often good.

- Students' attitudes in lessons range from satisfactory to outstanding. Most have very well developed learning instincts. In some situations, students vie with one another to demonstrate a leading edge in mastery of mathematics topics. Students are very attentive and eager to participate where teaching engages their interest and intellect. Occasionally, greater insistence by teachers on appropriate behaviour and effort is needed.

### Quality of teaching and learning

Teaching and learning are good.

- Students have a strong capacity for learning. This is generally well applied in lessons, with homework and coursework, and contributes significantly to their examination successes.
- Half the mathematics lessons observed were good and none was unsatisfactory.
- Teachers have outstanding subject knowledge, which is reflected in clear demonstration of methods and good emphasis on mathematical presentation and language. Teachers' conscientious out-of-class help is appreciated by students.
- In the main, teachers build students' knowledge and skills in a sequenced and structured way. They have high expectations of productivity in lessons.
- Lesson plans are generally superficial. In a few lessons, there was insufficient pace and challenge for some students, and a lack of strategies to ensure that students did not become bored, inattentive or very occasionally silly. While the more obvious requirements of syllabuses were well covered by teachers' demonstration of examples followed by students practising similar exercises, associated ideas that might have helped establish deeper understanding were not explored enough. The use of assessment information to plan students' learning effectively is underdeveloped.
- Most teachers draw on a limited range of teaching styles, albeit to good effect. However, there is little evidence of classroom methods recently encouraged nationally; for example, use of crisp 'starter activities' to keep established topics refreshed or, in the last section of lessons, consolidation of what has been learnt. Opportunities are missed to gauge understanding across a class by, for example, requiring all students to hold up the written answer to a problem.
- There is some outstanding marking. It is most evident in the files of sixth-form students, where teachers identify the point where working starts to go wrong, and give succinct advice. However, some books show only perfunctory marking and occasionally hardly any.

### Quality of the curriculum

Curriculum arrangements for mathematics are satisfactory.

- The opportunity for students in the top two sets of Year 10 to take GCSE statistics is beneficial.
- There is interesting and worthwhile work on applications of mathematics in contexts that embrace world development and citizenship.

- The department has limited resources and expertise for the use of information and communication technology (ICT) to enhance teaching and learning. The new suite of classrooms, which are nearing readiness, offers considerable potential.
- There is not enough opportunity for students to engage in investigational work that develops the uses and application of mathematical skills and, in particular, algebra and problems set in non-routine contexts.
- Schemes of work are basic and lack guidance for staff on approaches or suggestions for interesting problems and activities. Despite being closely tied to text books, breadth and depth vary from one class to another
- In the sixth form, the department might consider ways of extending the menu of optional units offered.

## Leadership and management

Leadership and management relating to mathematics are satisfactory.

- The acting head of department and team of mathematics teachers work well together, ensuring efficient day-to-day running of the department. Recent beneficial developments include increasing the numbers taking higher tier GCSE, and widening access to further mathematics.
- Senior managers and the subject leaders have monitored lessons and students' work, and have evaluated the overall effectiveness of the department at various junctures over the last two years. This has identified strengths and weaknesses, but action to deal with weaknesses has not been sufficiently focused or speedy. Thus, for instance, marking is still of the quality evident some time ago. Development plans and related school and departmental management instruments are not specific enough about who must take action, by when, and with what required result.

## Subject issue: students' enjoyment and understanding of mathematics

Many students have a keen appetite for mathematics and most appreciate that the diet provided gives them a very good grasp of the mathematical skills they need for examinations. Some take part in national mathematics challenges, which take them to problems of a diverse and challenging nature. But in general, most students get limited opportunity to explore alternative approaches and open-ended problems in a way that might give true mastery. They greatly enjoy the challenge that comes from the pressure of highly paced lessons, and high attaining peers but do not often have chance for amazement at the wonders that lie within mathematics.

## Inclusion

Inclusion is good. More students are being enabled to take the highest tier of GCSE, giving access to the top grades. Access to further mathematics has been improved. Students benefit from the support of teaching assistants.

Areas for improvement, which we discussed, included:

- tighten procedures by senior leaders for line-management of improvement in mathematics, and increase the rigour of departmental planning and systems
- further develop schemes of work to incorporate ICT and approaches to mathematical investigation
- improve aspects of teaching and learning, including by widening the range of methods, ensuring lesson plans link more explicitly to the needs of students, and introducing an element of fun.

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

Jim Bennetts  
Her Majesty's Inspector