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15 June 2007

Dr J Campbell  
Headteacher  
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Dear Dr Campbell

Ofsted 2006-07 survey inspection programme – mathematics

Thank you for your hospitality and co-operation, and that of your staff, during my on 13 and 14 June 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 pupils' 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. This letter will be posted on the Ofsted website.

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 eight lessons.

The overall effectiveness of mathematics was judged to be good.

Achievement and standards

Standards are above average and achievement is good.

- In Key Stage 3, standards are above average and students generally make satisfactory or better progress.
- Overall, standards in GCSE are well above average and students make good progress. However, the proportion of students gaining grades A or A\* was low in 2006. Departmental records show improvements this year.
- Standards at A level are above average. The proportion of students gaining the higher grades is increasing and this, along with greater numbers opting for A level mathematics, reflects the students' confidence in the subject.

- Students are set challenging targets and they know the level at which they are working and how to improve.
- Students of all abilities, but especially those on the GCSE C/D borderline, are supported in examination preparation. The department offers a variety of extra classes; students praised the way in which staff are always willing to support them at crucial times.
- Students say they generally enjoy mathematics and particularly in lessons where teaching engages and enthuses them.
- Students' behaviour is at least good, and often excellent, in lessons.
- The school has a strong emphasis on problem solving. Mathematics lessons are often focused on activities that enhance opportunities for students to work independently or in groups. This helps develop problem-solving skills as well as reasoning, and makes a good contribution to students' development for their future economic wellbeing.

### Quality of teaching and learning

Teaching and learning are good with many outstanding features but some areas of inconsistency.

- Lessons are thoughtfully planned and well structured to ensure good pace. Teachers often share successful lesson plans, which include imaginative and very interesting activities. There is a strong focus on developing understanding.
- Teachers have good subject knowledge and a repertoire of associated teaching skills which are used well. In many lessons, activities are very well matched to students' ability levels. Good use is made of the interactive whiteboards.
- Lessons have a strong emphasis on investigative and group work and most teachers make judicious use of text books or worksheets. Students comment that they particularly like lessons which allow them to choose where they start on a set of exercises so that they feel challenged and they do not waste time on work that they can already do. In less successful lessons, students feel work can be repetitive, lacking in challenge or relevance.
- Marking is mainly good and advises students how to improve their work. However, when working in groups, students have limited opportunities to assess each others' work or to suggest improvements.
- Teachers have high expectations of students and relationships are good. Students are extremely polite and respect each other and their teachers.
- Members of the department meet fortnightly to discuss good teaching activities and to share ideas and lesson plans. The appointment of new staff two years ago has changed the profile of teaching within the department. This has created a critical mass which has been highly influential in extending the repertoire of effective ways of introducing topics and enhancing students' understanding. Staff regularly observe each other teach and this has ensured the dissemination of good practice.

## Quality of the curriculum

The quality of the curriculum is good.

- All key stages have appropriate schemes of work which have an emphasis on a rich variety of teaching activities. They include suitable reference to the use of information and communication technology (ICT), for example, dynamic geometry packages or graphical calculators. Very good use is made of investigations and group and paired work in all year groups. There is a strong emphasis on developing students' understanding within schemes of work; students say this rich variety of activities is key to their enjoyment.
- The schemes of work form a coherent overview, capturing progression clearly, and providing good teaching activities. They are not over-reliant on the use of textbooks and utilise a variety of appropriate resources, including ICT, to enhance learning. However they do not always indicate how teachers could teach a particular topic or refer to the skills of 'using and applying mathematics' which students need to improve within lessons.

## Leadership and management

Leadership and management are outstanding.

- The extremely strong drive and commitment of the highly effective subject leader have been pivotal to the improvements in the provision, particularly in increasing the variety of activities within lessons and in raising standards. There is a very clear expectation that all members of the department will challenge students and they are very well supported to reach this aim.
- Very good support is provided by the subject leader, including for new entrants to the profession. They, in turn, help more established colleagues, for instance in developing exciting ways of introducing topics. Excellent use is made of professional development sessions to share teaching ideas.

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

Students enjoy mathematics. They are very appreciative of the rich variety of activities within lessons which often allow them to work in groups and to discuss their work. A strong emphasis on reasoning ensures students have opportunities when working in groups to formulate responses to problems, helping them articulate ideas and hence increase their understanding.

Students are able to make well informed judgements on what they enjoy and what helps them learn. They like to have the opportunity to take ownership of their learning by deciding which parts of an exercise to do, ensuring they challenge themselves. However in lessons where work is teacher led, they feel they waste time by having to complete all problems within an exercise despite the fact that they could do them easily; this work was 'dull and uninteresting.'

## Inclusion

Inclusion is good. Planning ensures the work is well matched to students' abilities and provides a variety of activities. Good support is given to students at all levels in preparation for examinations. Additional support is provided through the school's ICT network. Students without access to the internet at home can use computers in the school library. The school challenges all students so that they make good progress.

Areas for improvement, which we discussed, included:

- improving the quality of teaching and learning to outstanding by ensuring a consistently good approach in all lessons and identifying suitable teaching approaches in all schemes of work
- raising standards at GCSE for the most able students.

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

Michael Smith  
Her Majesty's Inspector