

Alexandra House  
33 Kingsway  
London  
WC2B 6SE

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



14 February 2008

Mr T Cooper  
Headteacher  
Cottenham Village College  
High Street  
Cottenham  
Cambridge  
Cambridgeshire  
CB24 8UA

Dear Mr Cooper

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 06 and 07 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 students, scrutiny of relevant documentation, analysis of students' work and observation of six lessons.

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

#### Achievement and standards

Achievement in mathematics is good and standards are well above average.

- The school provides specialist facilities for a significant group of students who have learning difficulties, most of whom are working well below the expected level for their age when they join the school. For the majority of students who are not in this group, average standards on entry are above the expected level.
- Students make good progress in mathematics. They maintain above average standards through Key Stage 3 and improve further in Key Stage 4. Students achieve well because most of their mathematics teachers make a particular effort to develop their understanding and independence. This is accomplished by a mixture of well presented explanations, practical tasks, exploratory work and suitably challenging exercises.

## Quality of teaching and learning of mathematics

The quality of teaching and learning of mathematics is good.

- In good lessons, teachers make effective use of the interactive whiteboard or practical resources to encourage students to visualise the relevant concepts. Teachers keep their contributions brief to give students time for independent work. They then move about the room to assess students' progress and often use this information to guide the next phase of the lesson.
- In the best cases, teachers help students to think for themselves through careful selection of activities and skilful questioning. In an outstanding lesson, students were presented with a question that required them to apply their knowledge of circle theorems. The teacher was confident that students would be able to make progress independently or in groups but the question was challenging enough that their first thoughts might not prove correct, thereby encouraging qualities such as perseverance and attention to detail.
- In the good lessons, students learned new techniques well because they were given very clear instructions and opportunities to practise. However, the mathematical motivation for the methods was not always apparent and in some good and satisfactory lessons, opportunities to increase understanding were not taken. In one case, following through a student's incorrect suggestion would have provided a good opportunity to illustrate how and why the method worked.
- The departmental policy on marking means that teachers mark mostly test papers and homework, rather than classwork. In lessons, they monitor students as they work and later read out answers so students can check their solutions. Some teachers periodically scan students' self-marked work for misconceptions, presentational matters and errors in marking, but this practice is inconsistent. Apart from checking their answers, students undertake little self-assessment.

## Quality of the mathematics curriculum

The quality of the mathematics curriculum is good.

- The department is reviewing its schemes of work in response to national changes. The current Key Stage 3 schemes of work provide a useful model to emulate because they include some examples of successful teaching approaches and suggestions for using and applying mathematics. In contrast, the Key Stage 4 schemes offer little guidance beyond a list of topics to be covered,
- The good provision for able students includes GCSE additional mathematics. For exceptional students, the school provides early entry to advanced level, but only when suitable progression has been planned with the sixth-form college.
- Students' progress is tracked and some are provided with extra support to reach their targets, but the school does not depend on large scale intervention strategies to maintain its good performance. Nevertheless, students would like more information about the key topics that are needed to improve their performance to the next level or grade, as already happens in science for example.

## Leadership and management of mathematics

The leadership and management of mathematics are good.

- Senior leaders delegate effectively much of the responsibility for maintaining and improving provision in successful subjects to the head of department. The benefit of this approach in mathematics is seen in the above average standards and good progress made by students.
- The departmental self-evaluation is well constructed and identifies pertinent issues for development. The recent need to use temporary staff has highlighted the value of monitoring to ensure consistency across the department.
- The department is running smoothly during the temporary absence of the head of department, because the acting head of department is well organised and understands the importance of the department's focus on understanding.

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

- Teachers support each other well informally but successful approaches are not always recorded in schemes of work to help less experienced teachers.
- There have been few recent opportunities for mathematics teachers to develop their practice by observing some of the outstanding teaching in the department.
- The department is beginning to use the 'Standards Unit Pack' to support teachers in developing mathematical thinking, through activities like paired discussion.

#### Inclusion

Inclusion in mathematics is good.

- The school makes good use of its specialist college funding to reduce class sizes in mathematics, giving teachers more time to deal with students' individual needs. Teaching is inclusive: most of the students from the school's attached hearing, language and behavioural units are included in mainstream lessons. However, their individual education plans have few references to mathematics.
- Most students have opportunities to use and apply mathematics or to use computer applications such as spreadsheets, graph plotters or geometry software. However, there is no mechanism to ensure that all benefit equally.

Areas for improvement, which we discussed, included:

- helping students to improve by involving them in assessing their own learning
- helping good teachers to become outstanding by recording successful teaching approaches in the revised schemes of work and by supporting peer observation
- monitoring provision more systematically to ensure consistency of approach, for example in using and applying mathematics, and to evaluate the effectiveness of policy and practice, for example in relation to marking.

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 will be published on the Ofsted website. It will also be available to the team for your next institutional inspection.

Yours sincerely

Stephen Abbott  
Her Majesty's Inspector