

Alexandra House
33 Kingsway
London
WC2B 6SE

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



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Mr J Atkins
Headteacher
Kemnal Technology College
Sevenoaks Way
Sidcup
Kent
DA14 5AA

Dear Mr Atkins

Ofsted 2007-08 survey inspection programme – mathematics

Thank you for your hospitality and co-operation, and that of your staff, during my visit on 19 and 27 November 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. 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 nine lessons.

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

Achievement and standards

Students' achievement is good. Standards are average.

- Standards at GCSE improved significantly in 2007, with more than three fifths of students attaining grade C or better. Students arrive at the school with standards which are broadly average, but with fewer well above average than nationally. Students make good progress, particularly in Years 7 to 9, where achievement has been outstanding in recent years. Achievement in Key Stage 4 is more varied, but is improving as a consequence of good targeted support.
- Achievement post-16 is satisfactory. Whilst results for the small number who progress to A level are average, those at AS level are well below average.
- Students' attitudes towards mathematics are good overall, but vary widely. Whilst some 'love it', most feel 'it's alright.' Behaviour in lessons is generally good.

Quality of teaching and learning

Teaching and learning are satisfactory.

- Although the quality of most teaching and learning is satisfactory, there is some good teaching and many lessons contain effective features. Classroom management is generally good and teachers' explanations of topics are clear.
- Lesson plans vary in quality. All have clear learning objectives, but most provide for little variety of activity, the emphasis being placed on learning routines rather than on developing understanding. One student said, 'Some teachers get their hands dirty - they get involved and ensure you understand. Others go through an introduction and then just set an exercise.' Insufficient use is made of investigative and problem-solving approaches, and students receive few opportunities to work collaboratively.
- The quality of teachers' questioning varies widely. Opportunities for students to explain their reasoning within groups or to the whole class are limited. Computer-linked whiteboards are not used effectively to enhance students' understanding and to demonstrate the applications of mathematics.
- Assessment procedures are good. Careful tracking of students' progress, target setting, appropriate interventions and additional support have successfully raised achievement. Teachers' marking is more varied. Some is exemplary, but much gives students little mathematical guidance on how to improve.
- The department has adopted some innovative practice. Some double classes are taught, with support from teaching assistants who mark students' work. Whilst the assistants provide good support, older students are critical of an approach which gives less interaction with the teacher to meet their individual needs.

Quality of the curriculum

The curriculum is satisfactory.

- Schemes of work lack detail. They provide little more than time lines for syllabuses with references to text books, and have insufficient guidance on teaching methods. The department intends to produce interactive schemes, with exemplar lesson plans and references to the applications of mathematics.
- As a consequence of improved assessment procedures, there are a good range of intervention programmes in Years 9, 10 and 11 to raise achievement.
- Students indicate that limited use has been made of information and communication technology (ICT) within lessons. For example, no use is made of graph-plotting packages. The school's status as a technology college has had limited impact on the mathematics curriculum.
- The mathematics curriculum post-16 is narrow. Only mechanics is offered in addition to the core. Large numbers start AS level, but only a few progress to A level. Entry for two units in January of Year 12 gives insufficient time for students to develop their understanding of topics.

Leadership and management

Leadership and management are good.

- Leadership of the department has changed this year. As part of the school's outreach work, the previous head of department has taken up leadership responsibilities in another school. The new departmental leaders have a good understanding of areas which need developing.
- Departmental self-evaluation is satisfactory, although current plans place too little emphasis on improving the quality of teaching and learning.
- Very good use is made of data to track students' progress and develop intervention strategies. These have raised achievement in Years 7 to 11 significantly, but have yet to have an impact post-16.

Subject issue: pupils' enjoyment and understanding of mathematics

Students' views about mathematics vary. Some are very positive. One stated, 'once you are good at it, it comes naturally', but indicated that some students 'just don't get it.' Most value the subject and recognise its importance for their future. They appreciate the good support they receive to pass examinations. They recognise that where teachers challenge them to explain their reasoning, their understanding improves.

Inclusion

Good targeted support enables all students, including those with learning difficulties and/or disabilities, to make good progress. To enhance the quality of support, specialist teaching assistants are studying for AS-level mathematics.

Areas for improvement, which we discussed, included:

- encourage all teachers to broaden their repertoire of teaching strategies, providing students with more opportunities to work collaboratively and explain their reasoning in response to challenging questions
- develop and implement schemes of work which provide students with appropriate opportunities to investigate, problem solve and use ICT
- thoroughly review mathematics provision post-16 in order to raise achievement.

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

David Bain
Additional Inspector