

Aviation House
125 Kingsway
London
WC2B 6SE

T 0300 123 1231
F 020 7421 6855
enquiries@ofsted.gov.uk
www.ofsted.gov.uk



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Mr S Mercer
Headteacher
St Andrew's CofE High School for Boys
Sackville Road
Worthing
BN14 8BG

Dear Mr Mercer

Ofsted 2011–12 subject survey inspection programme: mathematics

Thank you for your hospitality and cooperation, and that of your staff and students, during my visit on 28 and 29 November 2011 to look at work 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 without their consent.

The evidence used to inform the judgements included interviews with staff and students; scrutiny of relevant documentation; analysis of students' work; observation of nine lessons, three of which were with senior staff; and shorter visits to four other lessons.

The overall effectiveness of mathematics is satisfactory.

Achievement in mathematics

Achievement in mathematics is satisfactory.

- Although GCSE outcomes were slightly below average in 2010, they improved in 2011. The department's data analyses show that attainment is rising and is now near the national average.
- Students make satisfactory progress. The quality of their learning is at least satisfactory, and it is good in some lessons in which teachers constantly check students' mathematical understanding and respond appropriately.
- The achievement of the relatively small number of students of minority ethnic origin is also satisfactory. Students with special educational needs and/or disabilities are sufficiently well supported so that they achieve as well as their peers in mathematics.

- Behaviour is good; students are very willing learners. They enjoy mathematics and the pleasure they take in the subject is not dependent on their mathematical capability. In one lesson, students who struggle in mathematics were observed enjoying learning about distance/time graphs, supporting and challenging each other as they worked.
- Students have very good opportunities to contribute to developments in the quality of their learning through working with teachers. Students from the 'Making Learning Better' (MLB) group visit lessons and give perceptive feedback about learning. They also survey students' views and present analyses to staff, identifying strengths and highlighting areas for improvement. They have been instrumental in improving the organisation of homework, and in improving the use of discussion in mathematics.

Quality of teaching in mathematics

The quality of teaching in mathematics is satisfactory.

- Teaching is consistently at least satisfactory, and some is good. At its best, it requires students to reflect on different approaches to problems. In the good lessons, teachers use questioning skilfully to influence the pace and the quality of learning. However, sometimes teachers answer too many questions rather than open up issues for discussion and exploration.
- Work is generally well matched to ability but different groups of students have relatively few opportunities to use alternative resources or be asked to approach a task in a more challenging way. Lesson objectives are used to introduce lessons, but they lack precision or are couched in overly technical language. Teachers support students well, but sometimes remove hurdles which students would benefit from encountering.
- Information and communication technology (ICT) is used in lessons to support learning. Students use handheld computers and graphical calculators to generate graphs and associated functions, for example in work on sequences, but little use is made of commercially produced software beyond one package that is used extensively for homework.

Quality of the curriculum in mathematics

The quality of the curriculum in mathematics is good.

- Very able students receive appropriate provision through studying for a Free Standing Mathematics Qualification in Additional Mathematics. The top two sets in Key Stage 4 also take GCSE statistics to broaden their mathematical experience.
- Schemes of work include good opportunities to use and apply mathematics. The department is keen to develop mathematical thinking and a spirit of enquiry. In several lessons students were observed puzzling situations through, using a range of mathematical skills successfully.
- Well-chosen curriculum themes in Key Stage 3 establish mathematics as a relevant and useful activity from the very first lesson. The application of mathematics is also stressed in Key Stage 4. In one Year 11 lesson,

students used ICT to model the shape of a bridge by adjusting the coefficients of a polynomial to align its graph perfectly with the bridge.

- Students have opportunities to use their work in mathematics to develop a range of important personal skills. For example, the 'Maths Leaders' project in Year 9 gives all students the chance to plan, prepare and teach mathematics to younger students, and in local primary schools.
- Provision to involve parents in supporting their child's learning in mathematics is good. Nearly every year group has a parents' information evening about mathematics, which are well attended and valued.

Effectiveness of leadership and management in mathematics

The effectiveness of leadership and management in mathematics is satisfactory.

- The subject leader is ambitious to bring about further improvements in students' achievement. She engages all members of the department in exploring new approaches to teaching and learning. For example, the department is working with a school in Chichester on the Japanese 'lesson study' approach, which involves teachers working collaboratively to prepare and teach a topic, and subsequently discuss its effectiveness.
- The department is well organised and has ready access to resources. Day-to-day management is good. Teachers enjoy watching and learning from each other in the classroom. However, some judgements of the quality of teaching are optimistic. This is because the department does not have its own descriptions of what constitutes good and outstanding teaching, based on evaluations of the quality of students' learning.

Areas for improvement, which we discussed, include:

- improving the attainment of students to above the national average by securing good or better progress in every classroom
- improving the quality of teaching to consistently good or better by:
 - using good-quality learning objectives to plan lessons and ensuring that work matches the needs of every individual
 - refining the ways in which accurate feedback about students' understanding is collected frequently throughout lessons to enable teachers to steer learning effectively
- ensuring that judgements about the quality of teaching are accurate by adopting an agreed set of descriptions for good and outstanding teaching, based on the impact of teaching on students' learning.

I hope that these observations are useful as you continue to develop mathematics in the school.

As explained previously, a copy of this letter will be published on the Ofsted website. It may be used to inform decisions about any future inspection. A copy is also being sent to your local authority.

Yours sincerely

Alan Taylor-Bennett
Her Majesty's Inspector