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Mr P Bunn
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Dear Mr Bunn

Ofsted 2010–11 subject survey inspection programme: mathematics

Thank you for your hospitality and cooperation, and that of the staff and students, during my visit on 24 and 25 January 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; and observation of lessons.

The overall effectiveness of mathematics is satisfactory.

Achievement in mathematics

Achievement in mathematics is satisfactory.

- In the last two years, attainment at GCSE has been broadly average. It rose slightly in 2010, although students made inadequate progress from their above average starting points. The school's data show that this year's students are on track to make satisfactory progress by the time they take GCSE. Some of this improvement has been achieved through over 40% of students re-sitting a module.
- At Key Stage 3, attainment is above average, but progress is below average so some students have carried forward underachievement into Year 10. In the sixth form, students studying for A level make good progress but those taking AS level make satisfactory progress.

- In lessons, students' learning is satisfactory. Behaviour has become more consistent across teaching groups now that staffing has stabilised, with the vast majority of students keen to apply themselves. Students do not understand the mathematical concepts they study as well as they can carry out the methods. Some are unsure about how to do work they have recently completed correctly.

Quality of teaching in mathematics

The quality of teaching in mathematics is satisfactory.

- Teachers give clear explanations of methods. In the best cases, they also give practical opportunities to help build concepts, but they do not always make the link between these and the reason for doing them by setting an initial challenge or ensuring that students understand the concept. Some classes have opportunities for group work or discussion to extend their thinking and reasoning, but others experience too much individual work from textbooks.
- Students like the supportive way that teachers help them in lessons and afterwards, but sometimes teachers do not encourage students to think work through for themselves. Support from teaching assistants often gives students effective access to the classwork, although it is not consistently well informed. In the stronger teaching, teachers build good relationships with their students, know their strengths and weaknesses, and target the lesson to meet needs. On other occasions, work is not always pitched at the right level for the whole class or with sufficiently different amounts of challenge and support to meet individual needs.
- Students know the levels or grades at which they are working. They transfer targets to their diaries periodically but these are not followed up systematically and sometimes pertain to working harder rather than to aspects of mathematics that the students need to improve upon. Students are sometimes asked to reflect on what they have found hard, but self-assessment is not guided through understanding of clear criteria. Teachers miss opportunities to move around the classroom or request responses from all students to check understanding.

Quality of the curriculum in mathematics

The quality of the curriculum in mathematics is satisfactory.

- The schemes of work for Key Stages 3 and 4 are based closely on textbooks, but do not develop actively enough the reasoning skills that students need to use and apply mathematics. Also, no specific guidance or selection of activities ensure that each student is introduced to topics in ways that develop their understanding. Sometimes, too short a time is spent on a topic to link it well to related work.
- A range of intervention and support for students who are at risk of falling behind their targets, such as those who are re-sitting GCSE modules, includes additional timetabled lessons and optional extra sessions. For identified Key Stage 3 students, individual tuition has helped to raise their

confidence and attainment. For high attainers, optional extra sessions lead to an additional qualification in Year 11 and, in the sixth form, a further mathematics option is provided through the consortium. Arrangements to help students catch up after absence or when lessons are missed for other reasons are informal and work effectively in many cases, but not always.

- Students have regular opportunities to use information and communication technology (ICT) in mathematics lessons and for homework through an individualised package. This enables them to focus on areas they find difficult. However, they have little opportunity for hands-on ICT work as a class on drawing graphs, transforming shapes or handling data. Students find the materials placed on the virtual learning environment useful when preparing for examinations and in the sixth form.

Effectiveness of leadership and management in mathematics

Leadership and management in mathematics are satisfactory.

- Since the previous whole-school inspection, in which mathematics teaching was identified as an area for improvement, senior leaders have managed staffing changes effectively that have provided improvements in teaching and subject leadership. Since the beginning of the current term, a full complement of teaching staff and three mathematics leaders have been in place, generating a positive team dynamic and readiness for faster improvement. Line management by the deputy headteacher has contributed to greater accountability and more focused evaluation, although there remains insufficiently critical analysis of students' progress in terms of quality of provision. This has hampered planning for important changes to provision to raise progress throughout all year groups. Planning and actions have concentrated on steps to support students about to take GCSE who were falling behind. Nevertheless, the structures now in place and overall accuracy of evaluation indicate satisfactory capacity to improve.
- The evaluation of lessons observed jointly during the inspection was generally accurate. Previous observations have led to improvements in teaching through support for staff but in some, not enough emphasis was given to the progress of groups of students, the development of understanding, or subject-specific areas for development. Students' views do not form an integral part of the evaluation of teaching.
- Data on students' attainment are used soundly to monitor individuals and inform intervention in Key Stage 4. However, information provided to staff does not show readily each term the progress since Key Stage 2 in relation to targets for individuals or groups, or the impact of intervention or re-sits. Comparisons with national figures, such as for students with different prior attainment, are not provided in ways which highlight the areas of slowest progress.

Areas for improvement, which we discussed, include:

- raising teaching quality to consistently good, through:

- greater emphasis on the understanding of concepts and on developing the reasoning and thinking necessary to use and apply mathematics
 - ensuring challenge and support to meet individual needs
 - increasing opportunities for practical work, discussion and exploring why
 - involving students more in assessing the degree of their own understanding against clear criteria given in lessons and longer term subject-specific targets
- revising schemes of work to ensure coherent development of the understanding of concepts and systematic development of the process skills necessary for using and applying mathematics
 - evaluating provision and outcomes more critically to inform improvements in the curriculum and teaching across all year groups by:
 - using data more effectively to analyse termly the progress since Key Stage 2 of individuals and groups in each year group and against national figures
 - analysing the impact of interventions and re-sits for individuals and groups
 - more rigorously monitoring teaching and identifying areas for development, taking account of students' views.

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

As I 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 of this letter is also being sent to your local authority.

Yours sincerely

Gill Close
Her Majesty's Inspector