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Mr Parker
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Dear Mr Parker

Ofsted survey inspection programme – Science and Design & Technology

Thank you for your hospitality and cooperation, and that of your staff, during my joint visit with Peter Toft HMI on 02-03 October 2006 to look at work in Science and Design and Technology.

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 pupils, scrutiny of relevant documentation, analysis of pupils' work and observation of lessons.

Science

The overall effectiveness of Science was judged to be good.

Achievement and Standards

Achievement and standards in science are good.

- While standards at Key Stage 3 are below the national average the progress made by pupils is significantly above that of similar schools.
- At Key Stage 4 pupils have not shown such positive progress. The performance of pupils in science at GCSE is significantly below the school average.
- The achievement of pupils is seen to be good overall with no significant variations due to ethnicity.

- The school and the department has raising achievement further high on its priorities. They are aiming to develop further the skills of how science works in Key Stage 3 and 4, both to engage pupils and to help them learn.
- Standards are highest in those classes where pupils are aware of their targets, they take an active part in lessons in a range of activities, and where they are encouraged to take responsibility for their own work.
- Many pupils show a positive attitude towards science, they rate the quality of teaching as good overall and describe how practical work, beside being enjoyable, helps them to understand and learn

Quality of teaching and learning

The quality of teaching and learning in science is overall good.

- All the pupils interviewed gave a positive view of the teaching in science: 'the teachers work hard for us'; 'teachers are enthusiastic'; 'teachers are concerned about us'.
- Teaching varies from satisfactory to outstanding and in most lessons it is good.
- Effective teaching builds on the previous knowledge of pupils; it is often well matched to their needs and promotes good relationships between pupils and with staff.
- In many classes teachers use questioning and answer skilfully to establish the progress of pupils and to engage them. In the weakest teaching questions are not sufficiently targeted, and there is underdeveloped use of assessment for learning techniques.
- Pupils learn less well and show lower levels of application in those lessons that do not involve them in discussion, planning and carrying out science investigations and where the pace is insufficiently challenging.

Quality of the curriculum

The quality of the curriculum is satisfactory.

- The Key Stage 3 scheme of work covers the requirement of the National Curriculum.
- The scheme of work does not identify how key skills such as literacy and numeracy, and the pupils' development in spiritual, moral, social, cultural matters are to be promoted in science.
- The department has chosen the GCSE courses to offer to pupils in Key Stage 4 in a rational way to ensure the content and assessment style is well matched to the pupils' needs.
- While choice of post-16 courses is currently restricted, there is a very well managed course in applied science that pupils find motivating and which they value highly.

Leadership and Management

Leadership and management in science are good.

- The senior leadership team has carried out a detailed and coherent review of science which gives a lucid account of standards and identifies clearly key areas for improvement.
- Planning for development shows appropriate priorities of the development of KS3 to review and include better science skills provision, to develop the GCSE courses in science to be more active and engaging, and to develop the use of assessment for learning techniques.
- The head of science has managed developments in science to bring about consistently good achievement in Key Stage 3, and to provide good support and stability to a relatively newly appointed team.
- Monitoring and evaluation need further development to ensure they accurately inform departmental planning and development.

Inclusion

Provision for inclusion is good.

- Analysis of pupils' performance in Key Stage 3 shows that no groups are performing differently due to ethnicity, or other factors such as attainment. All pupils have good opportunity to make progress.
- While there are no science specific data on performance of different groups, it is clear from lesson observations that all pupils are treated equally and given good opportunities to learn.

Areas for improvement, which we discussed, included:

- ensuring that in both Key Stage 3 and 4 the programme of study includes significant proportion of science skills and activities in which students are required to be active learners
- further developing the use of assessment for learning techniques with all pupils
- improve the provision and use of information and communication technology (ICT) in science activities
- ensuring that pupils showing higher attainment are sufficiently challenged by the work and that their pace of learning is accelerated.

Design and Technology

The overall effectiveness of design and technology (D&T) was judged to be good.

Achievement and Standards

- Although standards are mainly below national averages, students' achievement in Year 9, Year 11 and the sixth form, compared with their prior attainment, is good overall in D&T.
- Within the focus areas of resistant materials, graphic products and systems and control, pupils develop a broad range of D&T capability, with a good balance between designing, making and evaluating products.
- Good levels of creative and functional designing are achieved by sixth form students.
- The fall in grades in the 2006 GCSE graphic course was considerable given the very high results in 2005. The students' current work seen in Key Stage 4 during the visit was of a higher standard than that of the last cohort implied by the low 2006 GCSE results.

Quality of teaching and learning

The quality of teaching and learning in D&T is good.

- All of the teaching was well planned and controlled.
- Teachers have good subject expertise overall. This is strong in designing but in some lessons some of the craft tuition led to the ineffective use of tools.
- Differentiation is generally good, though there was some confusion amongst teachers confusion about the ability levels in some of the Year 9 D&T classes.

Quality of the curriculum

The quality of the curriculum is good.

- The curriculum is based on a good range of modern and interesting designing and making projects.
- GCSE courses are broad and well organised but the department does not offer courses in food or those of a vocational nature.
- Sixth form courses in product design are very effectively taught and students develop very well across a wide range of design and technology activity.

Leadership and Management

The subject is well led and managed

- The school senior management support D&T well and have a strong, evidence-based understanding of its strengths and weaknesses.
- The department is well led and managed and there is an effective degree of co-operation between staff.
- Accommodation is good and up to date with very good ICT based equipment. The latter is well used by staff and students to raise productivity in D&T.
- Some areas of some rooms are a little untidy and some tools are not kept sharp enough for effective use.

Inclusion

The subject's contribution to the inclusion of students is good.

- In this multi-ethnic boys' school with a high proportion of students with learning difficulties, staff go to great lengths to help students to make good progress.
- Students seen being taught in a lower set in Year 9, most with learning difficulties, were making good progress because of the strong and encouraging teaching.

Areas for improvement, which we discussed, included:

- to review and strengthen the precision and efficiency of craft teaching in order to improve students' appreciation of quality in products
- to improve the tidiness of rooms and the maintenance of tools in order to support the aim to instil in pupils a sense of quality in the environment and in their practical work
- consider and reduce the frequency with which pupils' concentration on practical work is interrupted by stoppages in which teachers issue instructions
- as government policy develops, to consider the contribution D&T might make to vocational courses
- as resources permit, to develop provision to teach students about cooking and nutrition in order to promote healthy eating and living.

As I explained in my previous letter, 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

Ian Richardson
Her Majesty's Inspector