

1. INTRODUCTION

The report draws upon evidence from design and technology (D&T) subject survey visits by Her Majesty's Inspectors (HMI) to primary and secondary schools between **September 2007** and **July 2010**. The inspections evaluated how well the subject was meeting its National Curriculum aims and promoting high levels of achievement. Part A of the report focuses on the achievement of pupils, the quality of D&T provision and how effectively the subject was managed in the schools visited. Part B focuses on key challenges in D&T, most notably how schools can keep pace with rapid technological change and address issues of gender stereotyping in preparing pupils for the future

2. KEY FINDINGS

- Most pupils in the primary and secondary schools visited enjoyed designing and making products and gained much satisfaction in acquiring technical skills and in seeing their ideas take shape. They were well motivated by the active learning strategies and practical problem-solving aspects of the subject.
- Achievement in D&T was good or outstanding in just over three fifths of the primary schools and just under half of the secondary schools visited. In these schools, the teaching was challenging, tasks were interesting and relevant and pupils benefited from the use of up-to-date ICT and other technology.
- Achievement that was no better than satisfactory was the result of weaknesses in teachers' planning and assessment, and work that was pitched too low, lacked relevance or duplicated earlier learning. Secondary schools rarely built upon pupils' experience of D&T in their primary schools.
- In just over a quarter of the primary schools and about a half of the secondary schools visited there were insufficient opportunities for pupils to develop knowledge of electronics, systems and control, and computer aided design and manufacture (CAD/CAM). This is a key weakness at a time of rapid technological advance.
- Take-up of GCSE courses in the essential technological areas of electronics and systems and control has been low, due mainly to the lack of relevant expertise among teachers. Dated approaches to work on resistant materials and textiles frequently reinforced stereotypical gender choices of courses in Key Stage 4.
- Good and outstanding teaching encouraged pupils to be innovative and creative, and enabled them to draw effectively upon their technological understanding and skills to produce ideas and manufacture prototypes. However, the quality of teaching about design in secondary schools generally did not enable pupils to evaluate critically and question what they see around them in order to challenge stereotypical and poor design.
- Good or outstanding curriculum provision across the age range was enhanced by the use of visits and visitors to support teaching and learning. In the secondary schools seen, good provision was also characterised by effective collaborative planning within departments and constructive partnerships with industry and with other providers.
- Schools generally had not made sufficient use of subject-specific training to enable teachers to continually refresh and develop their practice to teach the technologically challenging and more modern parts of the curriculum and to stay up to date with developments in research and innovation.
- Primary and secondary school subject leaders were often unaware of how to find out what D&T training was available to them. Governors and school leaders lacked nationally available information and guidance on how to keep up to date with modern resources and materials for D&T.
- Health and safety were taught well in the primary and secondary schools visited. Staff were vigilant and pupils demonstrated good attitudes in following health, safety and hygiene rules.

3. RECOMMENDATIONS

The **Department for Education** and the **Department for Business, Innovation and Skills** should:

- ensure that all pupils have a minimum entitlement to learn about innovative new materials, electronics, and systems and control, and combine their scientific and technical understanding to design and make practical products and systems;
- explore how schools can access the latest technological advances in materials and processes;

- investigate how schools may be assisted in identifying and securing high-quality subject training in design and technology.

Primary Schools should:

- ensure that teachers have regular high-quality training to teach pupils how to use ICT in D&T, particularly control systems, and to enable older pupils to use tools and equipment safely;
- improve the use of assessment of pupils' progress in D&T, ensuring that pupils know how well they are doing and what they should do to move on to the next level.

Secondary Schools should:

- ensure that teachers have access to high-quality subject professional development to enable them to teach students about modern and smart materials, electronics, and systems and control, make effective use of computer aided design and manufacture resources, and stay up to date with developments in research and innovation;
- provide a balanced D&T curriculum that is well pitched to build upon the primary curriculum and includes the technologically challenging and more modern parts of the subject so that students can apply their scientific understanding and develop greater technical rigour in designing and making;
- improve assessment so that learning activities, particularly in Years 7 to 9, are challenging and well matched to the needs of each student;
- improve the quality of teaching about design to enable students to critically evaluate and question what they see around them, to challenge stereotypical and poor design, and become better informed and discerning consumers;
- make sure that D&T resources are up to date to reflect 21st-century technology, are used effectively and represent good value for money.

The full report can be viewed/downloaded at: <http://www.ofsted.gov.uk/publications/100121>