Ofsted Quotes:

ñThe students learn quickly how to apply their new CAD knowledge and skills to their own design work. They begin to explore the potential of their own design ideas which they have sketched in a previous lesson. They also gain an understanding of how CAD can be used as a new tool when designing. Comments such as óOh, this is amazing, it flies and rotates so you can see it from all anglesô and ôYou can see the circuit board in fine detail and it makes you want to know more about what is going onôare routine.

Teaching is planned so that students confidently and progressively build on these experiences to become highly proficient in communicating their visual designs to others and in making accurate models in a range of materials. This provides a secure base for more technically complex, creative and innovative work in later years.ò

Ofsted 2011: Good Practice Example. URN: 136731 Computer-aided design and manufacture in design and technology: Ripley St Thomas Church of England High School

ñIn Year 7, students work on a brief set by Nestle which is based locally. They master computer-aided drawing (CAD) and modelling skills very quickly and present their ideas for new packaging and shapes for óRowntreesôRandomsôsweets to representatives from the company. The quality of the work is very advanced. One Year 7 student, with no previous experience in using CAD, explains how he is now able to draw, modify and dimension drawings accurately. He is excited by what he can now do and is regularly using free CAD software at home to refine and develop his skills.ò

Ofsted 2012: Good Practice Example, Archbishop Holgate's School; URN: 136617

ñOn my first day when I saw the workshop and the tools and CAD/CAM equipment, I thought ñwowò, this is so advanced, and I wanted to learn how to use all of it.ò(Student)

ñWhere ICT, and particularly CAD and CAM, were readily available to support designing and making, they made a good contribution to studentsôlearning. In the best practice observed, computer based equipment was used effectively with traditional machines and hand tools to develop and extend studentsô understanding and experience of materials and their knowledge of current manufacturing processes. This had a positive impact on the precision of making, as it enabled students to work to fine tolerances and resulted in students achieving a professional quality in the products they made.ò

ñA critical challenge for schools is to ensure a D&T curriculum that includes electronics, systems and control, and the use of CAD/CAM for all pupils. Inspectors found that the more technologically challenging aspects of D&T were given too little attention in just over a quarter of the primary and a third of the secondary schools in the survey. This led to a lack of balance in the curriculum, particularly towards the upper end of Key Stage 2 and in Key Stage 3. Other countries, in developing their technology curriculum, emphasise the study of electronics, CAD/CAM, and systems and control. This adds to the challenge to maintain and develop these aspects of the D&T curriculum in England, to keep up and to contribute to preparing pupils for future roles in the design, technological, engineering and scientific industries.ò

Ofsted 2011: Meeting technological challenges? Design and technology in schools 2007–10

ñWhen well developed in secondary schools, CAD/CAM increased studentsôproductivity, impressively so in the 14 to 19 age range. Once students had mastered the design software they were able to develop and model ideas quickly and realistically, test juxtapositions of components, view three-dimensional objects from various angles and develop sophisticated design ideas. Some of the products seen during the survey ï and these were not isolated examples ï were of professional quality, which had not been achieved before in design and technology in schools. This raises standards as well as strengthens the studentsôself-esteem.ò

Ofsted 2008: Education for a technologically advanced nation. Design and technology in schools 2004ï 07