General Certificate of Secondary Education
June 2012

Design and Technology: 45552
Product Design

(Specification 4555)

Unit 2: Design and Making Practice

Report on the Examination

General

As this was the second year that work was submitted it was clear that schools felt more at home with the requirements of this unit. This was reflected in a better interpretation of the assessment criteria and a more structured approach towards the Controlled Assessment Tasks. However, in an attempt to gain as many marks as possible some schools are adopting an overly formulaic approach and moderators noted that many folders within centres contained material produced in a prescriptive way with some centres using prepared sheets, alongside products that were often predictable and simplistic. Better centres allowed their candidates to investigate and develop their chosen tasks in an open-mined and creative way which led to the production of some well-made and commercially viable products.

Controlled Assessment Tasks

Moderators were encouraged to see a broad range of work both within and across centres. Task 3 (Designer Influences) and Task 5 (Under Sevens) were both popular again this year with Task 12 (Self-assembly Products) following closely behind. Moderators noted though that many products produced for these tasks lacked a good quality of finish and many were not suitable for their target market. Poor examples included children's toys with loose or dangerous components and flat-pack furniture that was not strong enough to fulfil its function. Many fewer candidates produced nesting boxes this year. Moderators reported that those that did were more innovative in their approach, and this is very much to be encouraged. Some of the best work was produced for Task 18 (Innovative Products) with candidates working from first principals on original design problems. Task 19 was very popular again with candidates making original and working docking stations. In several cases however the finish of these meant that the some products lacked commercial viability.

It is clear that many candidates failed to address all aspects of their chosen task and schools are encouraged to ensure that the whole of the controlled assessment task is addressed in the future.

Administration

The vast majority of schools managed to provide moderators with the correct materials by the correct times. Bulky paper folders are still being dispatched at huge expense and schools are encouraged, yet again, to remove from the folders things such as material samples, note books, spare paper, flattened models and packaging in order to reduce the weight and bulk of the folders. At the other extreme some schools are sending twenty to twenty five sheets of A3 paper held together with a single paper clip. Work contained within 'flip folders' seems to be the most popular among both schools and moderators. Electronic folders are gaining in popularity as schools realise the advantages they offer in terms of both project management and postage. However, schools that submit electronic folders are encouraged to save work to file by providing the candidate's mark first (so that the work will be saved in rank order) then the candidate number followed by the centre number.

Candidate Record Forms were, in the majority of cases, filled in very thoroughly this year but many schools still fail to use these as a direct means of communication between the school and the moderator. Much more use could be made of these forms to explain the centre's marking to the moderator. Many schools continue to simply copy phrases from the assessment criteria or even tell the moderator what can clearly be seen in the folder.

Criterion 1: Investigating the design context.

Candidates often failed to state which task they are undertaking and this caused problems for the moderator in assessing the relevance of the ensuing research. There was more primary research evident this year with good examples being group evaluation of products, product disassembly and shop visits and client interviews: this is to be encouraged. Schools are slowly realising that this section is only worth eight marks and are consequently encouraging candidates to reduce the amount of work produced for this criterion. However, many research sections lacked the depth of analysis required for the marks awarded. Many candidates are missing the opportunity to demonstrate what they have learnt through their research when compiling their design criteria: however, many see the design criteria as the culmination of their research and correctly pay it the attention it deserves.

Criterion 2: Development of design proposals (including modelling)

Moderators often found this to be the weakest section. Some candidates produced imaginative ideas at the start of this section. However, as the development progressed, these got 'watered down' into simplified versions which lacked the flair and imagination of the original idea. It is evident that developing a design idea into a working product is still one of the toughest tasks to face a candidate. Schools are encouraged to provide more robust strategies to help candidates achieve their goal and ultimately access the higher marks. Whilst many candidates take aesthetics into consideration in their product development far too many neglect technical considerations such as product construction, materials choice, joints, use of bought-in components, size and quantity and so on. At the same time too few candidates considered the wider issues associated with their designs as an integral part of the design process, and many candidates addressed issues very much as an afterthought. Many candidates' development work overlapped information provided about the making. A distinction should be drawn in folders between product development, including the production of a product specification where necessary, and providing evidence of making.

Criterion 3: Making

Whilst many candidates attempted slightly more ambitious projects this year a very great many produced products that lacked both risk and rigour with many moderators reporting work of a standard barely higher than Key Stage 3. As the assessment criteria rewards risk taking schools are encouraged to allow candidates to attempt more innovative and ambitious projects. Many products still lack commercial viability. The Product Design expectation is that candidates produce products that are, where possible, as near to 'shop quality' as possible and therefore suitable for their target market. Many candidates made excellent use of CAD/CAM facilities to this end and it is encouraging to note that centres' are finding it easier to strike the balance when marking CAD/CAM work against hand production.

Criterion 4: Testing and evaluation

There is an improvement in the way candidates addressed this criterion. Many provided better photographic evidence of the product in use in its intended environment accompanied by target market feedback and testing against the design criteria. Better candidates made more honest evaluations of their finished products providing excellent details of the modifications required to allow for commercial production. The best scoring candidates also evaluated their designs throughout the development process and sought 3rd party opinions of their designs.

Criterion 5 Communication

The majority of candidates produced concise relevant folders but several, in an attempt to reduce the number of pages or slides to around twenty, sacrificed the clarity of their work, presenting over-crowded pages with photographs that were in many cases, too small to understand. Whilst the quality of graphics is improving many candidates very often use text to compensate for an inability to express themselves graphically making folders difficult to moderate. Photography is being put to excellent use now and candidates are providing much more evidence of making. However, some still include pictorial evidence of the simplest of processes and this was felt to be unnecessary. Many candidates produced outstanding CAD drawings but often failed to show these drawings in the stages of their development thus missing the possibility of gaining marks in the assessment of criterion 2. Candidates often made folders easier to read by providing information that linked both pages and stages within the design process.

Assessment

Whilst the assessment of candidates work was generally accurate, there were a number of instances where it was clear that appropriate internal standardisation had not taken place. Where there are several teaching groups within a centre it is important that sufficient time and resource is allocated to this activity. Where centre assessment was inaccurate, it was usually most apparent in criteria 2 and 3.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available at www.aqa.org.uk/over/stat.html

The UMS conversion calculator can be found at www.aqa.org.uk/umsconversion