



General Certificate of Education

**Design and Technology:
Product Design
5551**

PDN2 Coursework

Report on the Examination

2007 examination – June series

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General

In general, the moderation process this year was smooth and efficient. However, it was reported that a number of centres had not effectively prepared for the visit of the moderator or had forgotten that the visit had been arranged. This is becoming a busy and stressful time for all concerned and it is hoped that all can play their part to ensure the complex operation of moderation is effective.

Staff at most centres are now familiar with the requirements for the coursework units and work of an appropriate nature is being produced and assessed accurately to the AQA standard. There is a decreasing number who are over generous with their assessments leaving the moderators to make appropriate reductions. Advice with regard to the suitability of specific projects can be gained by centres making contact with their appointed *coursework adviser*. Details of how they can be contacted will have been sent when centres initially register their students with AQA.

Many centres have now adopted a *portfolio* approach to AS coursework, this is where candidates can select the best example of work from a number of projects to satisfy each of the five criteria and put these together into a single folder. This should be cohesive and will require suitably detailed annotation by the teacher to show how and where marks have been awarded. This is not the only way to generate appropriate design and make evidence but it can help to provide a suitably varied experience for students in the first year of the course.

Where there are a number of teaching groups, with different teachers responsible for assessment, it is important that effective standardisation of marking is achieved. This is especially important when the group's focus separately upon 3D and textiles

The number of candidates submitting folders electronically on CD, using presentations such as PowerPoint, is increasing. The best of these demonstrate very good use of ICT with digital imagery, Prodesktop CAD and web hyperlinks etc.

The use of CAD and CAM is also on the increase with manufactured outcomes making use of laser cutters, rapid prototyping, CNC machinery etc.

Most centres made use of the correct CRF assessment forms. These are available on the AQA website or from AQA Manchester.

The accuracy of marking to AQA standards has improved overall as centres become familiar with the nature of appropriate project work.

Investigation and Clarification of Problems (7 marks)

There continues to be a lack of focus to this section with a plethora of internet research replacing catalogue cut and paste as the secondary research tool of choice. More empiric research, with candidates being encouraged to investigate the environment for their intended product with camera, note book and discussions with a specific client would greatly improve primary research. In many centres the section is appearing to be somewhat formulaic with excessive print outs of questionnaire results in a variety of bar and pie chart forms, generic anthropometric data and ergonomics which are not specific to the client / product area. Mood and image boards feature but often lack analysis or explanation to give them relevance. Better candidates made good use of thorough analysis, by disassembly, of analogous products during

their investigations rather than simply including photo lists of marginally suitable, exciting products.

It is vital that a detailed and focused design specification is presented through analysis of the initial brief and after due consideration of the research. There is scope for further research and experimentation in the next section, when ideas are developed towards a final solution. A detailed and focussed specification for designing should form the summative part of this section.

Development of a Design Proposal (23 marks)

Candidates should be encouraged to begin with a blank canvass and generate as many feasible and imaginative ideas as possible, keeping a reference to the specification, generated at the close of the last section. There is all too often less evidence of time given to this section than that given to the previous section. On the whole ideas tend to centre around one theme, a preconceived idea. Once ideas have been extinguished development is often poorly done. Students should be encouraged to enjoy a little risk taking in the initial stages of designing with less reliance upon retrospective ideas. It is important in this first stage of generating ideas that students discuss and share their ideas with others. Fellow students, staff, parents, friends and the important client or intended user may all assist in the review of ideas. Modelling is improving and is an important part of design development. This should be of a small number of ideas in order to evaluate shape and form and inform selection of materials and production methods. Photographic evidence as a record of modelling as a development tool is important.

Communication and Modelling (11 marks)

This section produced quite varied results but included some excellent work with pro-desktop and some very exciting and creative folders exploiting a wide range of graphic media and some excellent CAD which was used to generate both 3D artistic impressions and 2D working drawings. Where CAD is featured it should not be at the expense of freehand sketching which still demonstrates an important part of design generation. Textiles focused folders generally set a very high standard for modelling and excellent use is often made of calico toiles and materials testing. However, there is an increase in textiles of candidates presenting folders where page decoration is so ornate and decorative that it adds little to the quality of the work and in the worst cases makes it difficult to access the actual information on the page.

Digital photography is commonplace and provides a vital piece of evidence of manufacture which is most useful at summative evaluations.

Making / Manufacturing (23 marks)

Weaker candidates continue to submit work which is often very simplistic, sometimes incomplete and unfinished and resembling more of a rough prototype or mock-up than a marketable product. In some cases this was rewarded generously by centres who seem to reward candidates for effort rather than by outcome. However, moderators are also delighted to report that there is some truly excellent work in evidence, ranging from contemporary furniture, jewellery, fashion garments and exercises in genuine product design styling. Many more candidates this year produced at least a basic manufacturing plan, with better ones producing detailed plans that included quality control checks, risk assessments and in built review of progress. Again textiles project work scored highly when they included links to industrial manufacture and flow chart production mapping. A photo diary of manufacture, although interesting, does not replace effective planning in advance of production.

Manufacture through CNC using laser machinery and rapid prototyping is increasing and is to be welcomed as an understanding of commercial / industrial practice is seen and the quality of manufacture is improved. However, details of the set-up and programming of the equipment should be presented as an integral part of this section. Reference to all of the assessment criteria in this section should be made by both students and the staff making assessments. It can be misleading to simply display or photograph a single final outcome, manufactured exclusively by CNC equipment, with no evidence or record of student input.

Evaluation and Testing (11 marks)

Staff annotation which simply stated “evaluation evident throughout the folder” is not sufficient to demonstrate where and why marks have been credited. As in the past this section is still seen to be an inconvenience and suffers from a lack of enthusiasm and insufficient time allocated to it. Weaker candidates simply provide a description of the final product with no reference to the original specification. There is often only lip service to the opinion of others. Evidence of real field trials testing and suggestions for improvements is an important part of this section. Where centres have established sensible deadlines for completing the manufactured product there was time for some excellent evaluation with photographic evidence to support marks awarded. Evaluation of block model prototypes should include a realistic appraisal of how the completed product would be expected to perform. Commentary relating to commercial use of such models is vital as is a reference to the product specification generated early on in the course.

Mark Ranges and Award of Grades

Please see the following link:

<http://www.aqa.org.uk/over/stat.html>