GCE Design and Technology Resistant Materials (A2)

Exemplar Commentary 3

Title: Garden Lounger

Unit: 6RM04

Garden Lounger	
A Research & analysis P1-5, 14	On page 1, A client is identified and their brief to the student is established, that of designing an 'innovative garden lounger' to replace an existing seat. An image of the area in which the seat will be placed is presented and a description of the area contextualises the problem, allowing the student to establish some early thoughts on design needs. Page 2 analyses what needs to be done in order to progress and the student focuses in on clear areas for intended research. The three columns shown clarify what needs to be researched, a justification for the work and strategies for achieving results. Importantly, the link with the client is maintained regarding their design needs. On page three a useful client interview is carried out to establish design needs in detail and to focus design decisions. Page 4 is another example of useful research, where the student has set out to find information she regards as important, this time looking at seating angles to guide future design decisions. The page on 'Existing products' gathers some information, but it would have been useful to establish what kinds of materials were used and how the furniture was constructed. Information on page 14 can also be credited here as it is research carried out into an appropriate process at an appropriate time. Overall, this section is successful in establishing realistic design needs and information gathered through primary research is selective and relevant. Significant client input is sought. (Mark range 3-4)
B Product specification P6	A specification is presented that includes realistic and technical statements, some of which are measurable and can be used to evaluate the final outcome. Points are developed from information gathered during research, including client feedback. Sustainability issues are considered and justified, although a little superficially and not all statement are justified. The specification is well organised, based on research and analysis, and covers identified design needs. (Mark Range 4-6)
C Design P7-8, 10-12	The student has presented a realistic and workable range of alternative designs for the problem in hand. Annotation shows a good understanding of materials and appropriate construction processes. Client feedback is sought, considered and acted upon, and specification points are implicitly referred to within annotation. Although ideas are similar in some respects, they are guided by the needs of the client, especially on pages 10-12. (Mark Range 7-10)
C Review P9	Three ideas are reviewed and some points of specification are referred to implicitly within the general formative evaluation. There is no specific or detailed client input and no reference is made to sustainability issues. (Mark Range 1-2)
C Develop	In this section, the student develops and details sub-systems of the intended product and although there does not appear to be significant change in the

P13-17	overall form of the design from initial ideas, there is a great deal of development taking place in the component parts of the product. Page 14 shows modelling being used to determine sizes and shapes, aspects of the design crucial to its success. This excellent exercise demonstrates how modelling can be used to elicit some useful and usable information. Page 16 shows the student gathering relevant information and advice on the proposed construction of her product and this exercise can be credited as part of 'research' which is appropriately carried out at this point. Client feedback is referenced on page 13, but only superficially. A final design proposal is presented on page 17 which includes details of materials and processes. Fixtures and fittings are specified on previous pages in this section. CAD drawings are included on pages 20-21and can be credited as part of development. (Mark Range 7-10)
C Communicate P7-17	The student has used a range of media including ICT and CAD expertly to convey enough information for a skilled third party to manufacture the product. As the product is complex and challenging to illustrate, it is not expected that 'technical drawings' will be completely detailed. Most information missing from the formal drawings can be found in the development section. (Mark Range 4-6)
D Planning P18-19	The student has produced a detailed plan for production showing stages of manufacture in the correct order for the scale of production, which is one-off. Time considerations are recorded and quality and safety checks are also recorded appropriately. (Mark Range 4-6)
E Making: use of tools and equipment P22-25 and CAB photos	The student evidences tools and equipment selection in planning and in photographs supporting the diary of making. Manufacture of the laminating moulds and laminates required innovation and high levels of skill. As well as manufacturing moulds and laminates, the student machines component parts which involves general turning, boring and parting off. Other skills involve the use of hand tools and processes. CAM is used appropriately and there is no over-reliance on this. Safety issues are identified in planning. (Mark Range 7-9)
E Making: Quality P22-25 and CAB photos	The student has produced a very high quality outcome that fully matches the final design proposal and functions as designed. Selection of materials and processes is justified and recorded in sections D and E (Mark Range 11-16) marks
E Making: complexity/level of demand P22-25 and CAB photos	The level of challenge in manufacturing this product is extremely high. The student was advised against proceeding with the laminating process by an 'expert', but achieved great success despite the risks involved in failing. The student has demonstrated precision and accuracy in producing an outstanding piece of work. (Mark Range 4-6)
F Testing & evaluation P24-27	A series of 'field trials' is carried out and client feedback linked to some specification points is recorded. Although evaluation is linked to the product specification, the measurable points are not referenced, so the focused performance of the product is not properly tested. Modifications are relevant and two of the three focus on improving the performance of the product. Sustainability is mentioned, but only superficially. (Mark Range 4-6)