

Design and Technology GA 1 and 2: Unit 3 Design and Technology GA 1: Unit 4

UNIT 3

This report is provided for the first year of implementation of this study and is based on the coursework audit and VCAA statistical data.

GENERAL COMMENTS

Teachers developed learning activities in accordance with the areas of study in the *VCE Design and Technology Study Design*. Teachers developed School-assessed Coursework tasks for students based loosely on the prescription in the nature of the task. Teachers utilised the assessment handbook to assist in setting an appropriate amount of content in tasks from the key knowledge and skills for the relevant area of study from the study design and developing criteria for assessment.

SPECIFIC INFORMATION

Unit 3 Coursework

Outcome 1

Explain and demonstrate the role of a designer by writing a design brief, developing evaluation criteria, and identifying and explaining areas for research and methods that would be used to develop design ideas.

Assessment task

A structured, annotated design brief, evaluation criteria and diagrammatic explanation of how the designer could develop design ideas from the design brief, with reference to key words and phrases.

(30 marks)

Teachers commonly sought to have students develop a design brief and evaluation criteria from a scenario including all relevant areas.

Key knowledge regularly sought included:

- factors that influence the designer
- the role, purpose, structure and components of a design brief including a situation or context, and specifications (considerations and constraints)
- purpose and structure of relevant evaluation criteria, including (for each criterion) the evaluation criterion written as a question, its justification and relevance to specifications, and how the completed product could be tested or checked against the criterion
- the relationship between the design brief, evaluation criteria and design development activities.

Key knowledge not regularly sought included:

- the roles and relationship between the designer, client and end-user/s
- methods of exploring and establishing problems, needs and requirements, relating to the function and appeal of a product, specified by the client or identified for a user group through the use of appropriate market research

2007 School-assessed Coursework Report

- how a designer collects and develops relevant information about the design situation or context, and the specific needs and requirements of the client and/or end-user/s, including purpose and function of the product, visual and aesthetic requirements, material requirements (including their characteristics and properties), cost and time restrictions, environmental concerns, and safety requirements.

Key skills regularly sought included:

- develop a design brief (from a given scenario that contains a situation or context), including specifications (considerations and constraints) to meet the needs and requirements of the client or end-user/s
- develop evaluation criteria based on the identified specifications (considerations and constraints) in the design brief including (for each criterion) an explanation of the relevance of the criterion to the design brief, and a brief description of how the completed product would be tested or checked against the criterion.

Key skills not regularly sought included:

- explain the role of a designer and the relationship between a designer, client and end-user of a product
- annotate the design brief to show its constituent components, and outline methods and activities that the designer could undertake in the process of researching, exploring and developing creative design ideas and design options that meet the requirements of the design brief.

Most notably, teachers did not seek an annotated design brief from their students. Some teachers used tasks from the previous study design, which is not appropriate. Scenarios provided by teachers related to the need for the design of playground equipment, lighting that incorporates a 'second useful purpose', garden seat, storage system, clock, or a new school uniform design.

Assessment

The task was largely assessed using the performance descriptors of the *VCE Design and Technology Assessment Handbook* and subject association support materials.

Weightings suggested in Section 3 of the *Design and Technology Assessment Handbook* (page 30) were largely used but occasionally the marks allocated were not adhered to and often showed use of the former study design. Teachers are reminded that 30 marks are allocated for this task.

Outcome 2

Explain the factors that influence the design, development and manufacture of products within industrial/commercial settings.

Assessment task

Any one or a combination of:

- a test (short and/or extended response)
- a short written report
- a report in multimedia format
- an oral presentation accompanied by speaker notes.

(30 marks)

**2007
School-assessed
Coursework
Report**

Teachers commonly sought a short written report from students on a particular industrial/commercial setting, for example 'Rip Curl', after a class or independent visit or watching a video.

2007
School-assessed
Coursework
Report

Key knowledge regularly sought included:

- the role and importance of research and development activities in industry
- methods and purposes of Quality Management
- the role, purpose and benefits of Australian Standards to manufacturers and users of products
- the product development process and the people involved in the design and development of a product manufactured in an industrial/commercial setting
- methods and suitability of manufacturing systems, including one-off, batch and continuous (volume) production.

Key knowledge not regularly sought included:

- the function of manufacturing industries in society
- an understanding of market research methods in determining market demand
- reasons for new product development and manufacturing methods such as agile manufacturing and how technological innovation and technology influences product design
- the use of new and emerging technologies, materials and processes (such as Design for Manufacturing (DfM) and rapid prototyping) in industry
- aspects influencing design, production, distribution and use of industrially produced products including manufacturing costs, ethical, environmental management and ecological factors such as the use of Life Cycle Analysis (LCA), and social factors, health and safety, availability and use of physical resources, labour and energy
- style obsolescence and technical or functional planned obsolescence, and the benefits and problems for the producer and consumer, and associated environmental issues.

Key skills regularly sought included:

- define the role and importance of market research in product development in an industrial/commercial setting
- explain the role of research and development in industry
- describe how Quality Management is used and Australian Standards applied and their importance to manufacturing industries
- graphically represent and describe the product development process and people involved in the design and development of products manufactured in an industrial/commercial setting
- describe how manufacturing industries are affected by design and production costs and considerations including social, environmental and ecological (including LCA), economic, technological and time factors
- compare one-off, batch and continuous manufacturing systems and the types of products that result from these production methods.

Key skills not regularly sought included:

- explain reasons for new product development and how design can add value in the product cycle in an industrial/commercial setting
- explain the use of new and emerging technologies including new materials and processes in an industrial setting.

2007 School-assessed Coursework Report

Assessment

The task was largely assessed using the performance descriptors of the assessment handbook and subject association support materials. In some instances students would have only been able to demonstrate limited knowledge and skills if the quality of the selected industrial/commercial setting was poor.

Occasionally the marking scheme showed use of the former study design. Teachers are reminded that 30 marks are allocated for this task.

UNIT 4

This report is provided for the first year of implementation of this study and is based on the coursework audit and VCAA statistical data.

GENERAL COMMENTS

It was apparent that the majority of teachers developed the School-assessed Coursework task for students based on the outcome in the new *VCE Design and Technology Study Design* (accreditation period 2007–2010). Teachers utilised the *VCE Design and Technology Assessment Handbook* to assist in developing criteria for assessment. Teachers should aim to provide a variety of assessment task types in the overall assessment program in Units 3 and 4 Design and Technology. It was evident from the coursework audit that approximately a third of teachers set a short written report for the assessment of Unit 4 Outcome 1. Few teachers requested an oral presentation or annotated visual report from students.

Teachers need to clearly indicate how marks will be allocated to different parts of a task. Providing the weighting of marks to students prior to them doing an assessment task assists students to determine the breadth, depth and detail required in responses.

SPECIFIC COMMENTS

Unit 4 Coursework

Outcome 1

Analyse similar product types through a comparison of innovative features, function, aesthetic and visual appeal, and any economic, social and environmental benefits and costs.

Task type options

Any one or a combination of:

- a test (short and/or extended response)
- a short written report
- structured questions
- a multimedia report
- an oral presentation accompanied by speaker notes
- an annotated visual report.

(40 marks)

Assessment task

Students should know what type of task they are doing specifically. This was not stated in around one quarter of the audited work.

In most instances teachers endeavoured to choose product types familiar to students, such as MP3 players, specific items of clothing, or camping chairs for this task. It was evident some

2007 School-assessed Coursework Report

teachers also provided the actual products to the students and encouraged them to use and become familiar with them prior to completing the task. This is highly recommended. In instances when this does not occur, teachers must ensure that the products selected by students permit them to analyse and compare them as required.

Teachers must ensure that they do not directly transcribe the key knowledge and skills from the study design in the assessment task. Key knowledge and skills are used as a reference when teachers develop learning activities for students. The glossary in the study design beginning on page 36 should also be consulted. Learning activities should help prepare students for the assessment task and should help students to become familiar with the criteria they would use to analyse and compare products. Students must also be instructed to appropriately document the use of resources. In some instances, students were not given opportunities to compare products. The wording of the outcome statement should therefore be noted carefully.

Tasks must provide explicit and adequate instructions to allow students to perform at the highest possible level. The following examples (when provided separately) DO NOT provide adequate instruction:

- analyse three different types of corkscrew/bottle openers and complete a report paying particular attention to function, aesthetic and visual appeal, and any economic, social and environmental benefits and costs
- collect information on similar products
- you need to show the ability to develop criteria that:
 - establish the use of a product
 - assess product quality
 - assess that the product meets a client's needs.

Teachers generally allowed two periods or between 80–100 minutes for completion of the task.

Assessment

The task was largely assessed using the performance descriptors published in the assessment handbook and also referred to subject association support materials.

Weightings suggested in Section 3 of the assessment handbook (page 32) were largely used but occasionally the marks allocated were not adhered to or showed use of the former study design. When devising the weighing of criteria, teachers should consider whether it is appropriate for all assessment criteria to be given the same weighting or to vary these depending on complexity and detail required in the response.

Teachers are reminded that the total mark allocation for assessment of this outcome is 40 marks.