2007
School-assessed Coursework Report

VICTORIAN CURRICULUM AND ASSESSMENT AUTHORITY

Information Technology – Applications GA 1 and 2: Unit 3
Information Technology – Applications GA 1 and 2: 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

Overall, most schools were able to satisfy the requirements of the new *VCE Information Technology Study Design* (Applications Unit 3). There was no evidence of schools delivering the old course; however some schools struggled to incorporate all elements of the new course into their tasks. This was primarily evident with the concept of 'virtual teams' where a prototype website that supported collaborative problem solving and knowledge sharing was required.

Many schools used commercially prepared assessment tasks with varying success. There appeared to be very few original case studies written, but those that were original were generally of a high quality, and tailored to suit the life experiences of their students.

If a commercial product was used, in most cases no effort was made to tailor the task to create a more individual task. Therefore, the same inconsistencies were recorded several times from various schools.

It was observed that in a number of cases, too much assistance/information was given to the students within the actual tasks. Students were given specific instructions on how to complete the task and therefore their solutions would not have been original. For example, students were told the database table names, the tests that needed to be conducted, file management procedures that needed to be followed.

In several cases, a combination of resources, such as criteria sheets and sample student responses to previous tasks were given to the students and these were not always complimentary. This would have caused some confusion and contradictions in marking.

One area that must be mentioned relates to the evaluation requirements for both Outcome 1 and Outcome 2. In a large number of cases, there was no evidence that students were directed to propose 'soundly based and complete set of evaluation criteria' at the design stage. Also many schools instructed their students to write an Evaluation Report for Unit 3 Outcome 1, instead of 'annotate the solution and information product' as stated in the *VCE Information Technology Assessment Handbook*.

SPECIFIC INFORMATION

Unit 3 Coursework

Outcome 1

Propose and apply project management and problem-solving strategies to produce an information product, using database management software, which meets the decision-making needs of a specific audience.

Task type options
Task 1: A solution and information product in response to a design brief. Students annotate the solution and information product to indicate how the identified decision making needs are met (40 marks)
Task 2: A project management report that includes the management plan and a record of progress, created using software tools (10 marks)

A wide variety of case studies were presented including sporting clubs (for example, sailing, basketball, skiing), retail outlets (for example, exercise machines, DVDs/books, fashion) and small businesses (for example, gardening company, mobile car cleaning, real estate). Most points of key knowledge were well covered in the tasks except for criteria for evaluating the efficiency and effectiveness of solutions and information products. Aspects related to project management were satisfactorily covered; however, there is room for improvement.

Assessment
The VCAA performance descriptors were generally applied with the following exceptions:
- A soundly based and complete set of evaluation criteria was frequently not proposed at the design stage.
- Evaluation criteria not applied at the evaluation stage, because in many cases the criteria were not developed.
- Frequently a written evaluation report was required; however, the task description requires students to show their evaluation by annotating relevant aspects of their solutions and information product.
- Evaluation criteria not used to demonstrate how the decision-making needs of the specific audience are met.

In most cases, the weighting scheme reflected the suggestions made in the assessment handbook.
It appeared that a number of schools allocated insufficient marks to Task 2: Project Management. This may have been internally adjusted by the schools but this would have given students an incorrect idea of the weighting.

Outcome 2
Design, create and evaluate a prototype website that meets an organisation's needs of sharing knowledge and collaborative problem-solving within a virtual team environment, and explain the requirements of the networked information system that supports the use of this website.

Task type options
Task 1: A prototype website (30 marks)
Task 2: A test or a written report that focuses on the evaluation of the prototype and the recommended network requirements for the organisation and one team member (20 marks)

A wide variety of applications for virtual teams was seen in the case studies including rural (for example, a rural shire, electric fences, rescue flights), educational (for example, universities, VCAA, study groups), sporting and environmental applications.

Most key knowledge and skills were well covered in the tasks; however, careful consideration needs to be given to the following areas:

- characteristics of collaborative problem-solving practices and knowledge sharing practices within virtual teams
- criteria for evaluating the effectiveness of websites
- identify the needs of the virtual team
- apply criteria to evaluate the extent to which the prototypes meet the needs of the organisation.

Assessment

The VCAA performance descriptors were generally considered with the following exceptions:

- Questions relating to the 'characteristics of collaborative problem-solving and knowledge sharing practices of virtual teams' were general and may not have directed students to concentrate on the 'virtual team' elements.
- A soundly based and complete set of evaluation criteria was frequently not proposed at the design stage.
- Evaluation criteria not applied at the evaluation stage because in many cases the criteria were not developed.

Overall, the weightings for the various aspects of the tasks were appropriate and reflected the depth, complexity and detail required.

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

Unit 4 Coursework

Overall, most schools were able to satisfy the requirements of the new *VCE Information Technology Study Design* (Applications Unit 4).

Most schools used commercially produced products with little attempt made to alter either the content or the questions. In Unit 4, there were fewer instances of these products not satisfying the task requirements; however, schools are reminded that they do need to cross check these products with the study design and *VCE Information Technology Assessment Handbook* to ensure that all key elements are covered.

Several schools re-used assessment tasks from previous years and some schools struggled to incorporate all required elements of the new course into their tasks. This was most evident with Outcome 2 where 'the nature of threats' and 'consequences of violation of security measures' were not fully addressed.

Although most schools presented tasks that allowed students to demonstrate the key skills, there was significant evidence that many schools had not referred to the assessment handbook and had not referred to the performance descriptors for guidance.

Once again schools that developed their own case studies, and tailored the topic to suit the characteristics of their students, generally presented a complete and well written task.

Most schools allowed eight lessons (approx. 400 mins) for Outcome 1 and used two lessons for Outcome 2 (in a test format). In a few cases a greater amount of time was dedicated to Outcome 1 and this would have detracted from the day to day coursework teaching activities.

Outcome 1

Use spreadsheet software to solve an ongoing information problem, taking into account the information needs of an organisation, and evaluate the effectiveness of their problem-solving strategies.

Task type options

Task 1: A solution and information product in response to a design brief. Students annotate the solution and information product to indicate how the information needs of an organisation are met (35 marks)
Task 2: On-screen user documentation (15 marks)
Task 3: A visual representation that retraces the decisions made and actions taken when problem solving, and evaluates the effectiveness of these strategies (10 marks)

There was a wide range of case studies presented including educational facilities, automotive companies, caterers, fitness centres, commercial enterprises and IT applications. The following key knowledge points were particularly well covered in the tasks:

- role of hardware and software components of information systems
- a problem-solving methodology
- on-screen user documentation including quick start guide, tutorial, content sensitive help and manual.

More care needs to be taken when developing tasks to ensure that students are provided with adequate opportunities to demonstrate their knowledge of the types of decisions made in organisations and criteria for evaluating the efficiency and effectiveness of solutions and information products.

Most tasks allowed students to ably demonstrate the skills of analysis and using spreadsheet software to solve the problem and web authoring or multimedia software to create on-screen user documentation.

Skills not covered well in tasks included the ability to evaluate the effectiveness of problem-solving strategies and to evaluate how the solutions, information products and user documentation met the information needs of organisations.

Assessment

It was evident that a large number of schools had not read and used the suggested VCAA performance descriptors. Areas of particular concern included:

- The analysis did not always link the information problem with the goals of the information system.
- 'A soundly based and complete set of evaluation criteria' was frequently not developed for the solution and user documentation.
- Annotations to the solution and information product were not requested for evaluation.
- The characteristics and needs of the users were not analysed for the user documentation.
- Feasible solution options were not evaluated to justify the selected form of documentation.

- Comprehensive annotations to the solutions and information product were not requested; frequently a written report was submitted.
- A comprehensive evaluation of the problem solving strategies was not requested.
- Annotations not requested of the visual representation.

In most cases, the weighting scheme did reflect the suggested weightings of the assessment handbook. There were some concerns that although the weighting to the tasks were correct, there were sections in the tasks that were not appropriately weighted. Many schools allocated too many marks (in proportion) to the analysis of the problem, and included marks for project management tools and techniques which are not requested in this outcome.

Outcome 2

Evaluate the effectiveness of the strategies used by an organisation to manage the storage, communication and disposal of data and information, and recommend improvements.

Task type options

Task 1: A written report, or a test or an annotated visual representation (40 marks)

There was a wide range of case studies presented including automotive industry, fitness centres, medical centres and retail outlets.

A key knowledge point that was particularly well covered was procedures and equipment for preventing unauthorised access to data and information. Generally, also well covered was the key knowledge point of the legal and ethical reasons why organisations should monitor and control the storage, communication and disposal of information.

More care needs to be taken to ensure that the following key knowledge can be demonstrated in the task:

- criteria for evaluating the effectiveness of data security management strategies
- disaster recovery strategies, including testing
- accidental and deliberate actions and technical failures that threaten the security of data and information stored, communicated and disposed of by organisations
- possible consequences for organisations of the violation of, or failure to follow, security measures.

Generally, tasks allowed students to ably demonstrate the skill of recommending strategies to prevent future accidental and deliberate actions and equipment malfunctions from threatening organisations' data and information. Deficiencies in some tasks prevented students from being able to adequately demonstrate the following skills:

- proposing criteria to evaluate the effectiveness of the procedures and equipment used by organisations
- outlining any guidelines used by the organisation to resolve ethical dilemmas
- describing the nature of threats to the integrity of data and security of information
- evaluating the consequences of violation of, or failure to follow, security measures for organisations.

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Assessment

Generally, teachers used the assessment handbook as guidance; however, some assessment sheets ignored the following areas:

- appropriate evaluation criteria to evaluate current strategies were not developed
- threats to data integrity and security of information not requested
- consequences if the security measures are violated or ignored not evaluated.

Overall, the weightings were correct and they adequately reflected the depth, complexity or detail required.