MCEECDYA

National Assessment Program – ICT Literacy Years 6 & 10 School Assessment Exemplars

2008

MCEECDYA
Ministerial Council for Education,
Early Childhood Development and Youth Affairs

Information and Communication Technologies Literacy

The information and assessment materials in these resources have been designed to assist teachers to gauge their own students' proficiency in Information and Communication Technologies (ICT) literacy. By examining modules from the National Year 6 and Year 10 ICT Literacy Assessment teachers may be able to design similar tasks and to judge their students' proficiency in relation to the national standards in ICT literacy.

It is anticipated that teachers will be able to reflect on this information to enhance teaching and monitoring programs in Australian schools.

Background

In 2005, and 2008 the Ministerial Council for Employment Education Training and Youth Affairs (now the Ministerial Council for Education, Early Childhood Development and Youth Affairs) conducted an assessment of Year 6 and Year 10 students across Australia to assess their proficiency in ICT literacy.

For the purposes of this assessment domain, the Performance Measurement and Reporting Taskforce (PMRT) has agreed to the following definition of ICT literacy:

the ability of individuals to use ICT appropriately to access, manage and evaluate information, develop new understandings, and communicate with others in order to participate effectively in society.

The assessment of ICT literacy is part of a national plan to monitor and report on student achievement progressively against the National Goals for Schooling in the Twenty-first Century. The National Goals and the importance of monitoring student achievement in relation to them were agreed to by all State, Territory and Federal Education Ministers in 1999 and have been reaffirmed in the Melbourne Declaration on the Educational Goals for Young Australians in 2008.

The first ICT literacy national assessment was conducted in 2005 and the Public Report of this assessment can be downloaded from the MCEECDYA website at:

http://www.mceecdya.edu.au/verve/_resources/NAP_ICTL_2005_Years_6_and_10_Report.pdf

The second ICT literacy national assessment was conducted in 2008 and the Public Report of this assessment can be downloaded from the MCEECDYA website here.

ICT Literacy Assessment Domain

The ICT literacy assessment domain, which defines the scope of the National ICT Literacy Assessment materials, was developed in consultation with a number of national committees that were established to ensure the assessment domain was inclusive of the different State and Territory curricula and that the items in the assessments were fair for students, irrespective of where they attended school.

The ICT literacy assessment domain includes six processes:

- *Accessing information* — identifying the information needed and knowing how to find and retrieve information

- *Managing information* — organising and storing information for retrieval and re-use
- *Evaluating* — reflecting on the processes used to design and construct ICT solutions and making judgements regarding the integrity, relevance and usefulness of information
- *Developing new understandings* — creating information and knowledge by synthesising, adapting, applying, designing, inventing or authoring
- *Communicating with others* — exchanging information by sharing knowledge and creating information products to suit the audience, the context and the medium
- *Using ICT appropriately* — making critical, reflective and strategic ICT decisions and using ICT responsibly by considering social, legal and ethical issues.

The ICT literacy assessment domain also identifies three strands, which describe the contexts in which the ICT literacy processes can be demonstrated. The three ICT literacy strands are:

- *Strand A –* Working with information
- *Strand B –* Creating and sharing information
- *Strand C –* Using ICT responsibly.

The 2008 Assessment Modules

The 2008 ICT literacy assessment instrument consisted of seven discrete thematic modules. One module, the General Skills Test, included only simple software skills performance and multiple-choice assessment items, this module was also used in the 2005 assessment. The remaining six modules, referred to as "Hybrid Assessment Modules" (HAMs), integrate skills simulations, performance and multiple choice items with large open ended tasks using live software applications. Two of the HAMs were carried over from the 2005 assessment and four new HAMs were developed for 2008.

All students first completed the General Skills Test followed by one of the HAMs from 2005. Having students complete some assessment material from the 2005 assessment enables the comparison of student performance between 2005 and 2008 on the same ICT literacy achievement scale.

Each student then completed two of the new year-level appropriate 2008 modules.

Screen Layout

In order to provide a consistent testing experience for all students the screen layout and test environment were predefined and uniform. The screen layout includes an outer static border that houses test information for students such as the name of the module they are completing, the time remaining and their progress through the tasks in that module. At the bottom of the screen there is a section containing the task instructions or questions for students to complete and a large central space in the screen contains the dynamic information or software that students use to answer questions and complete tasks. Students were not able to exit the test environment nor were they able to progress beyond the end of each individual module without the assistance of the test administrator.

Hybrid Assessment Modules

Each HAM has a single unifying theme. Typically the HAMs begin with a number of simulated performance tasks, multiple-choice and short-constructed response items and conclude with a single integrated task using at least one live software application. Typically the initial tasks require students to manage files; perform simple software functions (such as inserting pictures into files); search for information; collect and collate information; evaluate and analyse information; and perform some simple reshaping of information (such as drawing a chart to represent numerical data).

Within each module the questions and tasks follow a narrative sequence in which information is typically collected and developed in preparation for the final information product. As a consequence of this, many later items in each module contain information that could be used to answer or complete earlier items. For example, in one module students are asked to prepare a pie chart using a spreadsheet. Later in the same module students are allowed to use the pie chart as part of a presentation. In order not to penalise students who had not correctly completed the original pie chart, an ideal pie chart is made available as a resource for students when they are required to complete the presentation. Clearly students could have seen the ideal pie chart as a model to complete the earlier question and so, in order to prevent students from correcting previous errors on the basis of information later in the test, students had to complete all tasks and questions in each module in a uniform narrative sequence. Students were not able to move back to previous tasks once they had completed them. Students were able to leave out tasks by simply not providing a response and pressing an "I've finished" button, but they were not at any time able to return to these tasks once they had moved on.

Question and Task Types

Multiple-choice and Short Constructed Response Questions

Each HAM contains a small number of multiple-choice and short constructed response questions. These questions are used to assess student knowledge and understanding of specific ICT literacy concepts and to allow students to provide analysis of information (such as to make a judgement about the apparent trustworthiness of information on a webpage). All multiple-choice questions were automatically scored and students' short constructed responses were stored as text for later marking by trained markers.

Software Application Skills Tasks

Conceptually the software application tasks can be divided into two categories – *skills tasks* and *integrated tasks*. Skills tasks were designed to capture data on whether students were able to complete a task *at that point in time* without support or assistance. In essence, these simulated tasks can be considered as assessing whether students "know" the function they are being asked to execute.

The skills tasks comprise software simulations that automatically capture and score student responses. The skills tasks simulate normal functionality up until the point at which a student executes a function. At this point students are presented with a screen stating that "An action has been recorded" with the option for students to "Try again" or go to the next item. For example, if a student is asked to *cut* a section of selected text, when the student executes a command the "An action has been recorded" screen appears rather than the text disappearing from the screen where they have executed

the command. In normal circumstances the student would know whether or not they have executed the *cut* command accurately by seeing the selected text disappear from the screen. As such, students would be able to use a trial-and-error approach to executing the desired skill. Because the skills tasks were designed to capture point-in-time knowledge, the simulations do not provide students with immediate feedback of their success. Students have the opportunity to select "Try again" once with each skills task (in case they are not sure whether they executed the function correctly) and after a second attempt are automatically moved to the next task. Students receive full credit on skills tasks for correctly executing them by any method (typically by using keyboard shortcuts, icons/buttons or dropdown menus).

Software Application Integrated Tasks

The second category of software application tasks comprised larger communication tasks that are completed using "live" software applications such as: word processing, presentation software and spreadsheets; simple web-based databases and survey design software; and some adapted graphics and multimedia applications. Unlike the discrete skills tasks, the live tasks avail students of the full set of real-time feedback and functionality (including the *Help* function) of the live software applications. When completing the integrated tasks, students typically need to select, assimilate and synthesise the information they have been working with in the lead-up tasks and reframe the information to fulfil a specified communicative purpose. The audience and software related communicative context are specified to the students as part of the communicative purpose of each large task. Students spent between 40 per cent and 50 per cent of the time allocated for each module on the large task. The information products (such as documents, spreadsheets, presentations or graphics/multimedia files) were saved as complete files and scored by trained markers using criterion based scoring rubrics.

In comparison to the point-in-time knowledge information provided by the skills tasks, the live software tasks provide information on students' capacities to select, evaluate and transform and communicate information using real software. As indicated previously, additional ICT literacy achievement information was collected using a range of multiple-choice and short answer questions that were integrated into each module.

The scoring guides for the constructed response items and the criterion based assessment rubrics for the large tasks used in the assessment have been included for reference as part of the module demonstrations.

Module Demonstrations

The software used in the 2008 ICT literacy test was purpose-built to be delivered either on stand-alone computers or through a school or internet-based network. Unfortunately it is not possible to provide live working versions of the software for use in schools.

Two of the 2008 assessment modules have been made available for schools to view. These demonstration modules can be viewed as PowerPoint presentations. The PowerPoint presentations are static screens of each of the assessment tasks and questions in each module and include some additional notes for teachers about the assessment environment and specific tasks and questions. Scoring guides for the two modules are also available for download.

Instructions for Viewing

Viewing Online

1. Click on the 'Click here to play' hyperlink and the module presentation will open for viewing.

Downloading Presentation to View

1. Click on the 'Click here to download and play' hyperlink for a module.
2. Choose or create a folder in which to save the ZIP archive.
3. Open the ZIP archive (download Winzip if required).
4. Extract the contents of the ZIP archive to a new folder.
5. Open the new folder.
6. Open PowerPoint presentation file.

About the Exemplar Modules

Following is a brief description of the content of each of the two exemplar assessment modules with hyperlinks to play, or download and play, each module.

MARCH 2014 - Note: to access materials for the links below please contact the Secretariat

Internet Use (Year 10 only)

This module requires students to research and formulate recommendations to a local youth centre about placing restrictions on the use of the internet by children at the youth centre. Students search for and evaluate information about restricting internet access, take notes and create a presentation addressing the question of whether a youth centre should provide unrestricted internet access to children using the centre.

Click here to **play** the 'Internet Use' presentation

Click here to **download** the 'Internet Use' presentation (Winzip required)

Click here to **download** the 'Internet Use' scoring guide (Winzip required)

School Survey (Years 6 and 10)

This module requires students to help collect and describe data about students' preferences for an after-school activities program. Students up-date an electronic survey about after-school activities using a web-based survey builder and write a brief report that describes the data obtained from the survey (the data are provided to students as though the survey had been completed by students at the school).

Click here to **play** the 'School Survey' presentation

Click here to **download** the 'School Survey' presentation (Winzip required)

Click here to **download** the 'School Survey' scoring guide (Winzip required)