Information and Communications Technologies (ICT) Policy

Aims

ICT used to:

- assist in the delivery of student outcomes across the curriculum
- enhance and enrich curriculum
- engage students in collaborative, co-operative and problem solving activities
- develop high order thinking skills
- provide for different learning styles
- encourage students to take risks and to problem solve
- support the development of communication, social skills, critical thinking, reflection and team building.

Guidelines for Implementation

Staff Professional development

- Staff members specialise in aspects and mentor one another
- Ongoing development – combination of in-house and external specialists
- Teacher needs determined via eLearning surveys, curriculum meetings and performance development
- Staff skill development a regular component of staff meetings.

Elements of the ICT program

- Intranet
- Internet
- Desktop and Web Publishing
- Multimedia
- Spreadsheets
- Word Processing
- File Management
- Graphics
- Communication Tools
- Digital Hardware

The ICT program provides a balance of student selected tasks and teacher tasks enabling students to make choices. Students and teachers learn collaboratively in a student centred classroom that has challenging, engaging, relevant and interesting tasks. Students are supported to take increasing responsibility for their own growth and teachers help them to deal with problems by looking at what they know, what they want to know and how they can go about finding required information. Teacher input is important in helping students to structure and refine their questions and search for relevant answers. Mistakes can be overcome without complete rewrites and problems can be solved through cooperation with peers or the teacher. Students are encouraged to investigate programs and share their skills with peers.

ICT access

Ease of access to reliable technologies is an important aspect of the ICT program. Over time students are taught to effectively use: desk top computer, laptop, data

projector, scanner, printer, digital camera, video camera, interactive whiteboard, drawing tablet, internet, email, skype, website, blog.

Software
Students use diverse software, ranging from computer programs that they merely respond to, to software that they control such as Publisher, Word, PowerPoint, Excel, Access, PhotoDraw, KidPix, Kahootz, FrontPage, Internet Explorer

Computer game-play teaches students that 'pleasurable frustration' is an essential element of learning (Lamb, 2005). The importance of ongoing feedback is demonstrated as students move through the process of attempting, practising and mastering particular skill sets. Problem solving, creative thinking, and learning to learn are features of computer games. Sports Games and Strategy Games support strategic and pro-active play wherein students reflect upon the consequences of their choices in order to improve. Students set and achieve goals, and identify and discuss their own decision making processes.

Resources

ICT to Enrich Literacy

What	Why	How
Data projector	Shared reading Independent learning centres	Share websites
Multimedia Slideshows (PowerPoint)	Reinforce letter recognition Develop story maps Recount important events, identify plot, characters, setting Writing Spelling	Students make slides with letters matching images beginning with certain sounds Create electronic storybooks Create multimedia presentations Choose your own adventure Visually focusing on letter patterns by animating words
Excel	Respond to text Spelling strategies	Create crossword / word search
Drawing program	Respond to text	Use drawing tools to enhance writing
Moving Making	Respond to text	
Internet / Intramet	Research Collaborative, shared	Web search Publish

	projects Spelling strategies	Collaborative websites Online Spelling guessing games
Email	Research Letter writing Homework	Interview Key pals Sending files between home and school
Word	Writing Presentation skills Spelling strategies Desktop publishing	Write and edit drafts Include the use of text boxes, tables, graphics, borders, headers, footers, copy and paste text, and insert images to enhance writing Visually focusing on letter patterns by presenting text in creative ways on the computer, or creating word searches and crosswords. Personal pride / presentation of written work
Digital camera Scanner	Images / illustrations	Enhance writing

Examples of Literature Tasks for senior students:

1. Develop a newspaper page about an important event in your novel. Include a headline, a short paragraph and an illustration. You may draw your graphic on paper or use PhotoDraw. You may / may not use clip art.

2. Create a slideshow in PowerPoint to outline the main events, in your novel (at least four events with one slide for each).

3. Draw some kind of picture related to your novel. You can sketch, draw a cartoon, diagram, or any kind of graphic organiser. You can illustrate something that's discussed specifically in the book or something that the reading reminded you of, or a picture that conveys any idea or feeling you got from the reading. This could be an animation, slideshow or a hand drawing. Outline what your picture means, where it came from, or what it represents to you.

4. Find interesting, powerful, funny, puzzling, or important sections of the text. Write down the page number and present the text using Publisher. The text might be: important, funny, surprising, confusing, informative, controversial, well written, thought provoking, meaningful, poetic language or powerful.

5. List some connections you found between this novel and the world outside. Possible kind of connections: happenings at school, world events, problems you have experienced, similar books or authors, subjects studied at school.

6. Be a Word Wizard and select at least twelve interesting, new or unusual words from your text. Check their meanings in a dictionary and then create a crossword in Excel.

7. Write a poem about the main character in your novel. Use background images when publishing your work.

8. Create an animation to show the main characters in your book.

(Regan and Robertson, 2005)

ICT to Enrich Numeracy

What	Why	How
PowerPoint	Consolidate addition and subtraction, ordinal number Time	Create patterns Make birthday graphs and clock faces
Digital Cameras	Record concrete activities	
Drawing Tools	Investigate 2D and 3D shapes Consolidate measurement and space outcomes	
Excel	Finding averages Interpreting data to answer and pose questions Investigate differences Make predictions Present findings	Graphing Data collection Collaborative investigations Create and apply simple mathematical formulas to perform calculations

Examples of how ICT can support Earn and Learn Program

- PowerPoint to advertise
- FrontPage to create shopping catalogues and to advertise businesses
- Excel spreadsheets to keep accounts
- Publisher to make credit cards, cheques and advertisements.

Maths 300 computer tasks supports student learning in Numeracy.

ICT VICTORIAN ESSENTIAL LEARNING STANDARDS

Examples of what the student does:

Level	For creating	For visualising & thinking	For communicating
1.25	Use of one- and two-step manipulation techniques when processing text or numeric data to produce simple information products; e.g. selecting and centring their name in a name tag. Use of basic manipulation techniques to create graphics; for e.g. forming images using circles and lines. Recognition and use of common icons such as the 'home' button for navigating multimedia resources.		
1.5	Use of basic formatting techniques when processing text and numeric data to produce simple information products for a specific audience, e.g. keying text that is bold and coloured, and inserting an image from clip art to create a child's birthday invitation. Use of manipulation techniques to create graphics for a specific purpose or audience, e.g. drawing a clown on a child's Get Well card. Location of a specific website by keying the address provided by the teacher. Use of mouse to select and open a nominated file.		
1.75	Use of manipulation and basic editing techniques to create simple, formatted information products such as presentations and book covers, and identification of minor improvements that could be made to their appearance. Use of manipulation techniques to create graphics for use within a text-based product, e.g. illustrations in a short report. Location of specific information within nominated websites and CD ROMs using given navigation paths. Retrieval of stored files in a networked environment and the naming of newly created personal files.		
2.	Manipulate text, images and numeric data to create simple information products for specific audiences. Make simple changes to improve the appearance of their information products. Retrieve files and save new files using a naming system that is meaningful to them. Compose simple electronic messages to known recipients and send t hem successfully. With some assistance locate and retrieve relevant information from a variety of sources.		
2.25	Saving files into nominated, existing folders in a networked environment. Creation of information products for a specific audience or purpose, following given layouts, e.g. a birthday invitation	Identification of relationships between ideas, using basic editing software, nominated graphic organiser templates and manipulation techniques, e.g. inserting shapes or drawing lines. Saving and retrieval of	Storage of all sent and received emails in existing folders in their mailbox. Location of websites using a nominated search engine and nominated key words.

	created by placing text and pictures in given positions in a sample design. With teacher direction, use of digital camera to capture still or moving images. Identification on paper of typographical errors and the incorrect spelling of frequently used words using manual proof reading techniques, and the application of editing techniques to correct these errors on screen.	nominated visualising thinking files, and the use of editing techniques such as deleting and copying to modify these for use in new but similar learning situations.	
2.5	Saving files into collaboratively created folders in a networked environment. Creation of an information product to inform, persuade, entertain or educate a specific audience, following a collaboratively determined design, e.g. in a group students plan a story book, create a layout design, and then individually create a page following this design. With teacher guidance, transfer and saving to a computer of still and/or moving images captured with a digital camera. Identification and correction on screen of typographical errors and the incorrect spelling of	Logical sequencing of ideas, using basic editing software, such as concept mapping tools, and other graphic organiser templates selected from a given list, and a range of manipulation techniques. Retrieval of the visualising thinking files selected from a given list, and use of editing techniques to modify these for new but similar learning situations, e.g. deleting and inserting text and shapes in a graphic organiser to outline relationships between characters and events. Retrieval of nominated visualising thinking files, and use of annotation tools such as text boxes and callouts to indicate the files' suitability for different learning situations.	Use of teacher-provided criteria to determine which emails will be kept for future reference. Location of websites using a nominated search engine and keywords selected from a given list.

	frequently used words, using electronic spell-checker techniques,		
2.75	Saving of files into individually created folders in a networked environment. Creation of information products, based on original ideas, to inform, persuade, entertain or educate specific audiences, and the documentation of these ideas in simple design plans. With teacher support, transfer and saving to computer of still and/or moving images captured with a digital camera or scanner. Identification and correction on screen of frequently used words, using manual proofreading and editing techniques and electronic spell-checker techniques.	Organisation of ideas using familiar software and graphic organiser templates selected from a collaboratively developed list e.g. Venn diagrams and sequence charts, and a range of manipulation techniques. Retrieval of the visualising thinking files they selected from a collaboratively developed list, and use of editing techniques to modify them in new but similar learning situations. Retrieval of the visualising thinking files they selected from a given list, and use of annotations to describe how each file might be suitable for different learning situations.	Creation of collaboratively defined folders in their mailbox. Location of websites using a nominated search engine and keywords selected from a class-developed list.
3.	Organise their files into folders classified in a way that is meaningful to them. Explain the purpose of passwords for accessing files stored on networks. Follow simple plans and use tools and a range of data types to create information products designed to inform, persuade, entertain or educate particular audiences. Create information products to assist in	Use ICT tools to list ideas, order them into logical sequences and identify relationships between them. Retrieve their saved visualising thinking strategies and edit them for use in new, but similar situations. Explain how these strategies can be used for different problems or situations.	Initiate and compose email messages to known and unknown audience and where appropriate send replies. Create folders in their mailbox to organise the storage of email messages they wish to keep. Locate information on an intranet, and use a recommended search engine and limited key words to locate information from websites.

	problem solving in all areas of the curriculum. With minimal assistance, students use ICT tools to capture and save images. Use simple editing functions to manipulate the images for use in their products. Make ongoing modifications to their work to correct the spelling of frequently used words and to rectify simple formatting errors. They evaluate the final information product and describe how well it meets its purpose. Make adjustment to their equipment and apply techniques that are ergonomically sound.		They develop and apply simple criteria to evaluate the value of the located information.
3.25	Creation of an electronic portfolio of nominated files saved in nominated locations, which demonstrate the use of ICT for learning. Identification in published information products of formatting features such as font styles and sizes that suit the particular purposes and/or audience needs. Hand-drawn experimentations with various layouts for information products, using nominated	Creation of nominated graphic organisers that are appropriate for new learning situations using familiar software and manipulation and editing techniques, e.g. using shapes, lines and colours in word processing software to create a double-cell diagram to compare two ideas. Organisation and analysis of data and information, using unfamiliar software such as simulation software, and limited manipulation techniques, e.g. animation of objects. Development of an	Addition of collaboratively determined keywords to an initial search string to narrow the listing of relevant websites, e.g. adding 'biography' to a person's name. Experimentation with techniques to upload files and folders to a nominated location on an intranet. Experimentation with various communications methods such as frequently asked question (FAQ)

	design tools such as layout diagrams. Limited control of a given robot, e,g. moving back and forth, using simple programming techniques such as click-and-drag and icons.	electronic portfolio of nominated visualising thinking files that are annotated, e.g. with audio commentary, to indicate their usefulness in learning.	facilities to obtain information for a particular inquiry.
3.5	Creation of an electronic portfolio that includes files selected on the basis of teacher-provided criteria, e.g. 'visualising thinking strategies modified to suit a new learning situation.' Annotations to published and their own information products that describe how formatting features, such as borders, suit particular purposes and audiences needs. Hand-drawn or electronically created designs for the layout and solutions of information products, using tools selected from a given list. Modifications to their program to accommodate weaknesses identified when controlling the movement of a robot.	Creation of graphic organisers, selected from a collaboratively developed list, that are appropriate for new learning situations, using familiar software and techniques to manipulate and edit a variety of date types such as images, text and numbers. Use of unfamiliar software such as databases, and a range of manipulation techniques, to represent and explore processes such as Victoria's rainfull data and its relationships to drought conditions. Development of an electronic portfolio of selected visualising thinking files with annotations that identify similarities and differences between their electronic and non-electronic learning strategies.	Refinement or original keywords in a search string, by including words selected from an on-screen or print thesaurus. Uploading of files and folders to a nominated location on an intranet. Use of nominated communications methods to acquire information from, or share information with peers and known experts.
3.75	Creation of an electronic portfolio that logically displays files meeting collaboratively determined criteria, e.g. 'the use of	Creation of graphic organisers appropriate for new learning situations, using familiar software and a range of techniques to manipulate and edit a variety of data types.	Inclusion of new keywords and the deletion of some original ones in a search string, to narrow the listing of websites relevant to a

	multimedia tools for solving problems.' Annotations to their own information products that explain why formatting and solution features of information products, such as working hyperlinks, suit the purpose and audience needs. Hand-drawn and electronically created designs for the layout and solutions of information products, using tools selected from a collaboratively determined list. Creation of robots responding to sensors, such as touch or lights, through the application of specific programming techniques.	Representation of patterns or cause-and-effect relationships, using unfamiliar software such as modelling software, and a range of manipulation techniques. Regular recording of the use and value of visual thinking tools for understanding concepts and relationships in their learning.	particular inquiry. Testing of uploaded files and folders in a nominated location on an intranet, e.g. checking that all files are present and accessible. Identification of the attributes of various communications methods that are appropriate in particular types of inquiry, e.g. selecting methods that protect the disclosure of important information.
4	Safely and independently use a range of skills, procedures, equipment and functions to process different data types and produce accurate and suitably formatted products to suit different purposes and audiences. Use design tools to represent how solutions will be produced and the layout of information products. Students select relevant techniques for minimising the time taken to process data, and apply conventions	Apply ICT tools and techniques to represent and explore processes, patterns and cause-and-effect relationships. Use ICT tools and techniques that support the organisation and analysis of concepts, issues and ideas that allow relationships to be indentified and inferences drawn from them. Review their stored thinking strategies in order to identify similarities and differences in their thinking patterns. Document in their bank of digital evidence how these visualising thinking strategies help them to	Use email, websites and frequently asked question facilities to acquire from, or share information with, peers and known and unknown experts. When emailing, successfully attach files and apply protocols for sending and receiving electronic information. Successfully upload their work to a protected public online space. Using recommended search engines, students refine their search strategies to locate information

	and techniques that improve the appearance of the finished product. Modify products on an ongoing basis in order to improve meaning and judge their products against agreed criteria.	understand concepts and relationships.	quickly. Evaluate the integrity of the located information based on its accuracy and the reliability of the web host.

References:

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Victorian Essential Learning Standards – Standards and Progression Points – Information and Communications Technologies.