



Victorian Essential Learning Standards

Interdisciplinary Learning
Strand

INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT)



Contents

Interdisciplinary Learning	4
Information and Communications Technology	5
Introduction.....	5
Dimensions.....	6
Level 1	8
Level 2	10
Level 3	12
Level 4	14
Level 5	16
Level 6	20
Glossary.....	22

Interdisciplinary Learning

The Interdisciplinary Learning strand identifies a range of knowledge, skills and behaviours which cross disciplinary boundaries and are essential to ensuring students are prepared as active learners and problem-solvers for success at school and beyond. This strand focuses on ways of thinking, communicating, conceiving and realising ideas and information. It assists students to develop the capacity to design, create and evaluate processes as a way of developing creativity and innovation.

Within the Interdisciplinary Learning strand the learning domains are:

Communication

Communication helps to construct all learning and is central to the capacity to demonstrate and convey what one has learned in different contexts and to different people. This domain assists students to understand that language and discourse differ in different disciplines and that there is a need to learn the particular literacies involved in each.

Design, Creativity and Technology

Students develop the knowledge, skills and behaviours related to investigating and designing using appropriate planning processes and design briefs; creating and developing ideas, applying information, and seeking and testing innovative alternatives; producing, including the selection and safe use of appropriate tools, equipment, materials and/or processes to meet the requirements of design briefs; analysing and evaluating both processes and products including, where relevant, any broader environmental, social, cultural and economic factors.

Information and Communications Technology (ICT)

The knowledge, skills and behaviours in this domain enable students to use ICT to access, process, manage and present information; model and control events; construct new understandings; and communicate with others. Students use ICT and strategies to monitor learning patterns, to process data to create solutions and information products that demonstrate understanding, and to share their work with others in ethical, legal and respectful ways.

Thinking

This domain encompasses a range of cognitive, affective and metacognitive knowledge, skills and behaviours which are essential for effective functioning in society both within and beyond school. The study of thinking enables students to acquire strategies for thinking related to enquiry, processing information, reasoning, problem solving, evaluation and reflection.

Information and Communications Technology

Introduction

Information and communications technology (ICT) is the hardware and software that enables data to be digitally processed, stored and communicated. ICT can be used to access, process, manage and present information; model and control events; construct new understanding; and communicate with others.

Information and Communications Technology, as an interdisciplinary domain, focuses on providing students with the tools to transform their learning and to enrich their learning environment. The knowledge, skills and behaviours identified for this domain enable students to:

- develop new thinking and learning skills that produce creative and innovative insights
- develop more productive ways of working and solving problems individually and collaboratively
- create information products that demonstrate their understanding of concepts, issues, relationships and processes
- express themselves in contemporary and socially relevant ways
- communicate locally and globally to solve problems and to share knowledge
- understand the implications of the use of ICT and their social and ethical responsibilities as users of ICT.

This domain enables students to focus on the task to be accomplished rather than on the technology they are using to do the work. Through the selection and application of appropriate equipment, techniques and procedures, they process data and information skilfully to create information products in forms that are meaningful for themselves and their audience. These products effectively demonstrate their knowledge and understanding of the concepts, issues, relationships and processes that are the subject of the task.

Students are provided with tools and strategies to monitor learning patterns and problem-solving strategies. This provides a sound foundation for transforming personal learning. They gain an understanding of Internet protocols and strategies for exchanging information, which enables them to share and challenge their own and other people's ideas and solutions with a global audience.

Definitions of underlined terms are provided in the Glossary (page 22)

Dimensions

This domain has three dimensions.

ICT for visualising thinking

In this dimension students use ICT tools to assist their thinking processes and reflect on the thinking strategies they use to develop understanding.

ICT provides a rich and flexible learner-centred environment in which students can experiment and take risks when developing new understanding. Its extensive capabilities allow students, by visually coding and representing their thinking, to clarify thoughts, and to identify patterns and form relationships between new and existing knowledge.

ICT tools that facilitate visual thinking are ones that allow ideas and information for all areas of learning to be easily and quickly drafted, filtered, reorganised, refined and systematically assessed in order to make meaning for students.

Students use linguistic, and non-linguistic representations, such as graphic organisers, ICT-generated simulations and models and ICT-controlled models to help structure their thinking processes and assist in constructing knowledge.

Using ICT, students record their decisions and actions when solving problems and clarifying thoughts. They monitor the changes in their thinking and evaluate their own and other people's thinking strategies. Students retrieve these records for the purpose of assessing their suitability for new situations.

ICT for creating

Through the selection and application of appropriate equipment, techniques and procedures, students learn to:

- process data and information to create solutions to problems and information products that demonstrate their knowledge and understandings of the concepts, issues, relationships and processes related to all areas of learning
- manage their files to secure their contents and enable efficient retrieval
- plan and monitor the progress of extended tasks.

Students learn to use ICT efficiently to capture, validate and manipulate data for required purposes. Commonly accepted conventions are applied in order to improve the appearance and functionality of information products and solutions. The ethical and legal implications of ICT use are examined.

Students evaluate the usefulness of ICT for solving different types of problems and reflect on the effectiveness of their own use of ICT.

Definitions of underlined terms are provided in the Glossary (page 22)

ICT for communicating

This dimension focuses on students using ICT to:

- present ideas and understandings to audiences
- communicate with known and unknown participants
- support knowledge-building among teams.

Students use ICT to support oral presentations to live local audiences and to present ideas and understandings to unknown, remote audiences. They use ICT to communicate with known and unknown participants with the purpose of seeking and discussing alternative views, acquiring expert opinions, sharing knowledge and expressing ideas.

ICT supports knowledge-building among teams and enables team members to collaborate, inquire, interact and integrate prior knowledge with new understanding.

Protocols for receiving, transferring and publishing ideas and information are needed to promote communication that respects intended audiences.

Level 1

Learning focus

Students learn the safe use of ICT tools, including leaving electrical connections alone, sitting upright in front of a computer, and handling storage devices such as disks and memory sticks carefully. They learn the correct terms to name ICT equipment and, through use, become familiar with common icons on the computer desktop. They develop hand–eye coordination through using a mouse to control the pointer on the screen.

With assistance, students work with different types of data, such as text, numbers and images, to create simple information products and share their ideas. They develop their navigation skills by responding to stimulus in multimedia resources that develop literacy and numeracy skills. They find and compare examples of ICT equipment at home and investigate the purpose of ICT symbols and icons.

Definitions of underlined terms are provided in the Glossary (page 22)

Standards

In this domain, standards for assessing and reporting on student achievement are introduced at Level 2. The learning focus statement for Level 1 provides advice about learning experiences that will assist students to work towards the achievement of the standards at Level 2.

Level 2

Learning focus

Students use ICT to acquire new knowledge and skills across the curriculum, and to create and present information in meaningful ways. For example, students access a website to participate in a food pyramid game, and then present their understanding of food groups in a slide show that contains an image of a lunchbox filled with the appropriate food items. When using multimedia resources, students begin to think critically about these resources and how they help learning.

In their learning of new material, students experiment with some simple ICT tools and techniques for visualising their thinking. They organise and classify information and ideas, and present them in a manner that is meaningful to them. This may entail cutting and pasting, dropping and dragging, and colour coding in order to group similar items, to sequence events and to identify examples that illustrate key ideas.

Students apply simple formatting techniques, such as bolding, centring and changing case, to improve work involving the presentation of text and images. They identify intended audiences for a range of different information products and display their own information products in a way that suits different audiences.

Students develop an understanding of the importance of checking the accuracy of facts that are going to be processed, this being necessary for producing accurate output. Students collect first-hand data and, with assistance, enter it into their spreadsheet files and manipulate it. For example, after collecting the heights of fellow students or the number of classmates with particular eye colours, students manipulate the data by summing or colour-coding cells, and then present the processed data as a chart. Individually, and as a class, they make summary statements about the characteristics of the data.

Working in a networked environment, students develop the practice of using a file-naming system that is both meaningful to the students, and avoids confusion over who owns particular files.

Students begin to explore contemporary ways of communicating ideas and information by composing and sending simple electronic messages such as emails.

Definitions of underlined terms are provided in the Glossary (page 22)

Standards

At this level standards do not use the dimensions as organisers.

Information and Communications Technology (ICT)

At Level 2 students manipulate text, images and numeric data to create simple information products for specific audiences. They make simple formatting changes to improve the appearance of their information products. They retrieve files and save new files using a naming system that is meaningful to them. They compose simple electronic messages to known recipients and send them successfully. With some assistance, students use ICT to locate and retrieve relevant information from a variety of sources.

Level 3

Learning focus

Students develop skills in using ICT for problem solving, expressing ideas, and presenting information to different audiences. Working across the curriculum, students explore a range of ICT tools (for example, basic editing tools) and simple techniques (for example, colour coding) for visualising thinking. They also use simple graphic organisers such as concept maps to provide a framework for visualising thinking. Students reflect on the usefulness of such tools and strategies in new circumstances.

Students make comparisons between the purposes and structures of information presented in different media, such as print, on-screen, or as an action. Individually, students process data in the form of text, images and sound to create planned information products and combine these data types to produce multimedia products. Students work collaboratively to develop their ICT skills.

Students continue to develop their skills in using ICT to communicate knowledge by exchanging email messages with others. When seeking new information on topics of importance or interest in all areas of learning, students apply a set of procedures (such as simple key words) for locating information on the intranet and the Internet, and they determine the value of these resources by developing and applying simple criteria (for example, considering the age of the intended audience). They transfer this knowledge when they evaluate their own products.

Students begin to manage their files using simple ways of organising them for easy retrieval, for example, by topic or form (stories, images, projects). They compare their systems with those of other students and acknowledge and accept different approaches that work for the user. Students are introduced to the simple security strategy of using passwords to protect access to their files when working on a network.

Definitions of underlined terms are provided in the Glossary (page 22)

Standards

ICT for visualising thinking

At Level 3 students use ICT tools to list ideas, order them into logical sequences, and identify relationships between them. They capture these thinking strategies by saving the visual evidence to a folder, retrieving the files and editing them for use in new, but similar, situations. They explain how these strategies can be used for different problems or situations.

ICT for creating

At Level 3 students organise their files into folders classified in a way that is meaningful to them. Students explain the purpose of passwords for accessing files stored on networks. They use tools to create text-based products designed to communicate information to a particular audience. With minimal assistance, students use ICT tools to capture and save images. They use simple editing functions to manipulate the images for use in their products.

Students create multimedia products to assist in problem solving across the curriculum. They carry out ongoing modifications to their work to correct the spelling of frequently used words and to rectify simple formatting errors. They evaluate the final product and describe how well it meets its purpose.

Students load or access, navigate and interact with multimedia resources to assist their learning across the curriculum and explain the difference in the way these multimedia resources help their learning compared with non-electronic resources.

ICT for communicating

At Level 3 students initiate and compose email messages, access received emails, save them in a folder and compose and send a reply. They locate information on an intranet, and use a search engine and limited key words to locate information from websites.

Level 4

Learning focus

Students apply known ICT tools for visualising thinking in new ways to make links between existing and new knowledge. They begin to use new tools, such as ICT-controlled models, a programming language or simulation software, to explore processes, patterns, cause-and-effect relationships, and to test hypotheses. Students reflect on their experience in using such ICT tools, comparing how they learned with these tools with how they might learn from books, and comparing the virtual worlds created through these models with real life.

Students use ICT tools to produce information products that demonstrate their knowledge and skills across the curriculum. For example, after interviewing people of Asian cultural backgrounds, students might identify similarities and differences between Australian and Asian customs by using a double cell diagram, which forms a visual structure to aid thinking. Students present their new understanding in multimedia form (an information product).

Students continue to use ICT to assist with problem solving. For example, when creating a model solar-powered boat that meets specified criteria, students support their problem-solving strategies by using software to create alternative two-dimensional designs.

Students explore new software functions that promote efficiency and effectiveness. They develop skills in using three-dimensional multimedia tools for problem solving, discuss how the three-dimensional functions improve the effectiveness of solutions, and brainstorm situations in which these tools can be used. Students develop skills in using ICT systems for controlling events in a predetermined way by writing programs that, for example, control a turtle or robot, manipulate objects in a game or three-dimensional virtual environment, or respond to environmental changes captured by sensors.

Students begin to use ICT presentation conventions, incorporating them into their solutions and information products where appropriate. They test their products against commonly accepted ICT evaluation criteria and, with assistance, refine their work to meet both the criteria and audience needs. They develop and maintain a digital bank of evidence, for example, an electronic portfolio, that demonstrates their learning. This requires students evaluating, selecting and organising files that showcase their learning and that are current and structured in an orderly way.

Definitions of underlined terms are provided in the Glossary (page 22)

Students begin to work in a collaborative global environment. They share their developing knowledge with their collaborators through email, and seek advice from others through frequently asked questions (FAQs), web pages or by directly emailing experts. Students compare methods of sharing output with a wider audience, and develop knowledge of protocols for sending and receiving electronic output through the Internet by creating and sending emails with attachments and uploading files to protected public places on intranets or the Internet.

When problem solving, students begin to refine search questions to locate information quickly on the Internet and apply criteria for assessing the integrity of information, such as the reliability of the web host and the accuracy of the information. Students manage the storage of files attached to emails by saving them in the appropriate directories.

Standards

ICT for visualising thinking

At Level 4 students apply ICT tools and techniques to explore processes, patterns and cause-and-effect relationships, and to test hypotheses in a range of new situations. They explain how these strategies help them to understand concepts and relationships.

ICT for creating

At Level 4 students independently use a range of skills, procedures and functions to process different data types and produce accurate and suitably formatted products to suit different purposes and audiences. Students select relevant techniques for minimising the time taken to process data, and apply conventions and techniques that improve the appearance of the finished product. Students modify products on an ongoing basis in order to improve meaning and judge their products against agreed criteria. Students create and maintain an up-to-date, logically structured bank of digital evidence of their learning.

ICT for communicating

At Level 4 students use ICT to exchange meaningful messages with collaborators and store the messages in organised folders to assist in reflection on their communication skills. They successfully upload their work to a protected public online space. They explain how ICT assists them in acquiring advice and sharing knowledge.

Level 5

Learning focus

Students use a greater variety of ICT tools and techniques to assist with visualising their thinking. For example, an interaction outline can be used to help structure thinking about the actions, reactions and outcomes of two groups associated with an issue. Through practice, students become skilled in judging the capabilities and limitations of these tools and techniques as aids to learning.

In addition, students electronically retrace the decisions made and actions taken when learning and problem solving; for example, by using a range of symbols, charts, images, sound and text, students can create a flow chart that maps their thinking processes and actions. Students evaluate these stored experiences in readiness for future applications.

Students become efficient users of ICT for planning collaborative projects that involve creating information products and solving problems. They develop project plans that sequence tasks, estimate timelines and record task responsibilities using software such as word processors and spreadsheets, and using techniques such as tables and shading. Group members record and monitor progress through shared electronic files. Students use the operating system facilities to manage their desktop workspace and organise their files in a way that assists their personal learning style. This involves password protecting and backing up their files.

Students develop their knowledge about the characteristics of data by manipulating various data types, such as words, sound, numbers and images (still and moving), to create formatted information products; for example, essays and reports, animated slide shows, and websites, brochures and cartoons. They plan the design of products, influenced by generally accepted ICT presentation conventions, and develop criteria for evaluating the effectiveness of each presentation style. These include meeting audience/user needs and communicating a message effectively.

Students apply their knowledge of data characteristics to solving problems: for example, when calculating the time it takes to travel to a distant planet using various fuels, they elect to use spreadsheet software because it is designed to manipulate numeric data, unlike word-processing software, which is designed to format text.

Students explore the distinction between legal and illegal uses of ICT and create information products that comply with intellectual property law. This particularly relates to copyright.

Definitions of underlined terms are provided in the Glossary (page 22)

Students develop and manage their digital bank of evidence, for example, an electronic portfolio for a range of audiences, including teachers, parents and potential employers, and use this to demonstrate and monitor their learning progress across the curriculum.

They use complex search strategies (for example, Boolean) to locate information from the Internet and other sources, and they evaluate the integrity of this information. They organise and store gathered information to enable easy retrieval. They access online interactive e-learning tools to help them to develop knowledge across the curriculum, and explain how these tools differ in supporting learning and whether they assist the development of deeper understanding.

Students use email software and access appropriate online forums such as websites, blogs and chat sites, to seek information and to share ideas. They publish their work on the Web after it has been tested and evaluated.

Definitions of underlined terms are provided in the Glossary (page 22)

Standards

ICT for visualising thinking

At Level 5 students select and apply ICT tools and editing functions that support the filtering, classifying, representing and organising of ideas, concepts and issues. They modify successful approaches to visualising thinking for use in new circumstances. Students explain what features of the new circumstances influenced their decision to use particular ICT tools and techniques.

Students use a range of data types to record the decisions and actions taken when developing new understanding and problem solving. They evaluate the strengths and weaknesses of their decisions and actions in the given situations.

ICT for creating

At Level 5 students independently use the operating system to manage their desktop workspace. They organise their folders logically and can easily retrieve their documents. They password protect and back up important files, and appropriately name and locate files for sharing with others.

When creating information products, students prepare designs that identify the structure and layout of the products, the evaluation criteria, and the plans for managing collaborative projects. Students independently apply a range of processing skills, functions and equipment to solve problems and create products which contain minimal functional, typographical, formatting and readability errors. During the processing stage of collaborative work, students monitor project plans and record reasons for adjusting them. They apply criteria to evaluate the extent to which their information products meet user needs and intellectual property laws. They use ICT in a safe, efficient and effective manner.

Students keep their bank of digital evidence up to date, and demonstrate a diversity of ICT skills and knowledge. They design evidence repositories that are easy to navigate and comply with ICT presentation conventions.

ICT for communicating

At Level 5 students select the most appropriate search engines to locate information on websites. They use complex search strategies to refine their searches. They judge the integrity of the located material based on its credibility, accuracy, reliability and comprehensiveness.

Students share their evaluations of e-learning tools through their blog, website or other public forums. The evaluations are correctly formatted and comply with ICT conventions, demonstrating an awareness of the characteristics that contribute to output meeting purpose.

Students compose emails in accordance with ICT conventions, send emails with attachments, and organise their email mailbox into a logical structure and maintain it.

Students evaluate the merits of contemporary communication tools, taking into account their security, ease of use, speed of communication and impact on individuals.

Level 6

Learning focus

Students use more complex ICT tools and techniques to visually represent, reframe and refine their thinking to assist in developing new understanding. For example, causal reasoning can be represented by using cause-and-effect diagrams, influence diagrams and expert systems. In addition to recording and evaluating the decisions and actions taken when developing new understanding and solving problems, students assessing their suitability for new situations and make adaptations where necessary.

Working in real and virtual teams, students collaboratively develop conventions for storing and presenting information (style guides, filenames, file structure, file access) to create information products and solve problems set in real-world contexts across the curriculum. They investigate threats to data security, such as accidental loss (copying older versions of files over the most recent versions), stealing (files from a network), and data corruption by viruses and hackers. They apply ICT techniques and privacy law principles to protect individual and team files from unauthorised access and accidental damage.

Students, individually and in teams, use ICT to make detailed project plans that identify tasks to be done, resources needed and timelines for completion. They annotate these plans to explain changes made during the execution of tasks. When selecting hardware and software for each task, students consider the capabilities and limitations of ICT tools and recognise that their choice is influenced by the characteristics of the data to be manipulated.

Students consistently apply commonly accepted ICT presentation conventions and use efficient procedures and techniques to solve problems, and create quality information products that fulfil their purpose. They accept and respect differences in others' approaches to using ICT for solving problems and designing products, and respect cultural diversity among users of ICT. Students use ICT techniques to make their information products accessible to a wide audience, taking into account special needs. For example, providing options to view a website in different font sizes assists visually impaired people, and transcripts of speeches assist the hearing impaired.

Students develop criteria to evaluate their own and others' work and use them to assess quality and the extent to which the purpose is fulfilled.

Students continue to share ideas with the teacher and others through email, contributing to forums, SMS messaging, and websites. They develop knowledge and understanding about the ethical use of ICT through practical

Definitions of underlined terms are provided in the Glossary (page 22)

experience, observation of own and others' behaviour, and by researching strategies for protecting vulnerable users from accessing or receiving unwanted information from the Internet.

While ICT is an interdisciplinary domain, which means that students should be applying the knowledge and skills associated with this domain to all other areas of learning, this does not preclude schools from also offering ICT as a stand-alone study at this level.

Standards

ICT for visualising thinking

At Level 6 students are fluent in their use of appropriate ICT tools and editing techniques for assisting in visualising thinking. They evaluate and make informed judgments about the usefulness of ICT for this purpose and modify future practices based on their review.

Students use a range of ICT tools and data types to visualise their thinking strategies when solving problems, and discriminate between such tools and strategies based on their suitability for problem solving in new situations.

ICT for creating

At Level 6 students appraise different strategies for organising and managing resources involved in problem solving and creating information products. They use ICT to devise detailed plans that identify tasks to be done, resources needed, and timelines for completion. They annotate their plans to explain changes made during the project.

Individually and as team members, students justify solutions that enhance the security of output and the suitability of products for their purpose.

Students apply a range of techniques, equipment and procedures that minimise the cost, effort and speed of processing ICT solutions and maximise the accuracy, clarity and completeness of the information. Their products demonstrate a clear sense of purpose and respect for the audience. They compare their own solutions with others and justify suggestions to improve quality.

ICT for communicating

At Level 6 students exchange ideas and considered critical opinions with others through online forums. They use accepted protocols to communicate regularly online with experts, peers and others, expressing their messages in language appropriate to the selected form of communication, and demonstrating respect for cultural differences.

Glossary

Audience/user needs

Attributes of an information product that are stipulated by, or suitable for, the intended users (for example, functions easy to use, language and content are appropriate).

Blog (or weblog)

A personal website that is updated frequently with commentaries or personal viewpoints about one or a range of topics (adult-created blogs are usually highly interactive, as other readers can lodge their feedback on the website; non-interactive blogs are recommended for students).

Boolean

[logic]: a system of logical thought; the operators OR, AND and NOT are used to refine a search (for example, if you want to find information on rivers, but not the Murray River, the search string would read 'river NOT Murray').

Cause-and-effect diagrams

Visual representations of possible causes of problems or events, and the effects of those causes.

Conventions

Generally accepted practices or 'rules' that govern behaviour.

Criteria

For ICT products include suitability for audience, accuracy, readability, effective use of colour, functional navigation links, communication of intended meaning.

Double-cell diagram

Ideally suited for describing and comparing attributes and characteristics of two items, things, people, places, events or ideas.

Effectiveness

How well something works (typical criteria include clarity, accuracy, relevance, ease of use, attractiveness, completeness).

Efficiency

Measured in terms of effort, speed and cost (students explore techniques such as using short-cuts and macros to increase the speed of processing and reduce effort).

e-learning tools

ICT-generated interactive tutorials or other products designed to assist learning; commonly found on CD-ROM, DVD and the World Wide Web.

Electronic portfolio

An electronic portfolio is a bank of files or a repository of digital evidence selected by students to demonstrate their learning and to monitor their learning progress.

Evaluation criteria

Include suitability for audience, accuracy, readability, effective use of colour, functional navigation links, communication of intended meaning.

Expert system

A computer program that uses a set of predetermined rules for providing answers to questions by drawing on a stored knowledge base developed from the knowledge of experts in a particular field such as medicine or automotive engineering.

Graphic/visual organisers

Frameworks that help students structure their thinking processes (including concept maps, time-sequence patterns, cause-and-effect patterns, flow charts). They are visual frameworks, which help students make connections between existing knowledge and new information, and make visible their thinking processes. Electronic templates can be created by teachers, or students can use available software for generating them.

ICT presentation conventions

Commonly accepted guidelines for layout and presentation of information.

Influence diagram

Visual representation of the relationship between the components of a system, or the elements in a process, that identifies the components/elements that will be affected by particular decisions.

ICT-controlled models

Tools used to control devices or actions in a pre-determined way, for example, controlling a robot.

Information product

Output created by students using ICT tools, functions and techniques to demonstrate their knowledge or understanding of ideas, concepts and processes from different areas of learning. Typically printed or displayed on-screen; in some cases,

output is an action as a result of students using an ICT-controlled model; examples include reports, slide shows, multimedia, cartoons, tables, websites and programs used to control robots.

Intellectual property law

Any use of others' works (for example, images, text) must be in accordance with the law and must be acknowledged.

Interaction outliner

A graphic organiser that is used to show the nature of an interaction between persons or groups.

Multimedia resources

Commercially published CD-ROMs, DVDs and websites containing combinations of text, images and sound which allow students to interact with them to control pace, receive feedback, or determine their own path through the program.

Operating system

(for example, Windows, Linux, Macintosh) in a computer allows file names to be changed, files to be copied, stored, retrieved, moved, deleted and printed.

Planned information products

Products for which the form and layout is designed by students before any data is processed. Typically students would decide how their product would be viewed – printed, on-screen, or as an action – and how the major elements of the product will be displayed. Students then process the data in accordance with their design.

Privacy law principles

Any personal data held about a person must not be disclosed to others without the permission of the person.

Purposes of information

To entertain, to persuade, to educate, to inform.

Structures of information

How parts of information are arranged (for example, detailed or summarised, or presented in blocks of text with hyperlinks to external files).

Virtual teams

Those in which people work together via the Internet, meeting and working electronically; can comprise people from intrastate, interstate and overseas.

Visualising thinking

The process of using ICT tools and editing techniques to visually code and represent thinking (for example, classifying data by colour coding; using a graphic organiser such as a concept map to discover links between data; using simulation software to model a process). It is a process that allows students to clarify thought, and to identify patterns and form relationships between new and existing knowledge.

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