AUSTRALIAN CURRICULUM, ASSESSMENT AND REPORTING AUTHORITY

General Capabilities in the Australian Curriculum

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Table of contents

Overview

General capabilities in the Australian Curriculum

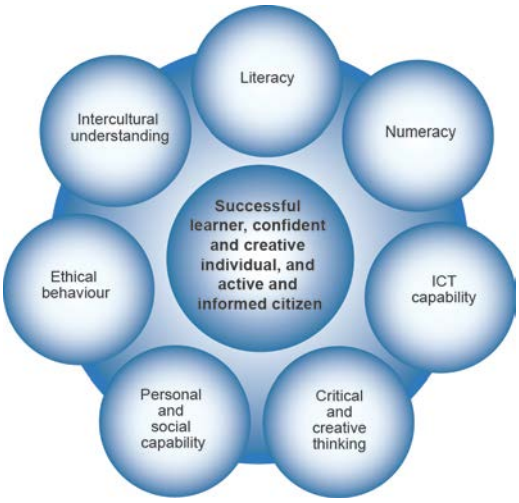
General capabilities, a key dimension of the Australian Curriculum, are addressed explicitly in the content of the learning areas. They play a significant role in realising the goals set out in the *Melbourne Declaration on Educational Goals for Young Australians* (MCEETYA 2008) that all young people in Australia should be supported to become successful learners, confident and creative individuals, and active and informed citizens.

The Melbourne Declaration identifies essential skills for twenty-first century learners – in literacy, numeracy, information and communication technology (ICT), thinking, creativity, teamwork and communication. It describes individuals who can manage their own wellbeing, relate well to others, make informed decisions about their lives, become citizens who behave with ethical integrity, relate to and communicate across cultures, work for the common good and act with responsibility at local, regional and global levels.

The general capabilities encompass the knowledge, skills, behaviours and dispositions that, together with curriculum content in each learning area and the cross-curriculum priorities, will assist students to live and work successfully in the twenty-first century. They complement the key learning outcomes of the *Early Years Learning Framework* (COAG 2009) – that children have a strong sense of identity and wellbeing, are connected with and contribute to their world, are confident and involved learners and effective communicators.

The Australian Curriculum includes seven general capabilities:

- Literacy
- Numeracy
- Information and communication technology (ICT) capability
- Critical and creative thinking
- Personal and social capability
- Ethical behaviour
- Intercultural understanding.



General capabilities in the Australian Curriculum

General capabilities materials for schools and teachers

These materials are presented as a resource to help teachers:

- develop a shared understanding of the nature, scope and sequence of the general capabilities in the Australian Curriculum
- confirm their understanding of intended learning wherever general capabilities are identified in learning area content descriptions and elaborations
- plan for and guide students' development of the general capabilities in school and classroom learning programs.

Development of the general capabilities materials

Initially, the general capabilities materials were developed to inform the writing of learning area curriculum (Foundation to Year 10) and to ensure the strong and coherent inclusion of the general capabilities in the Australian Curriculum.

They were developed by writing teams with expertise in the particular capabilities, together with advice from academics, focus groups of teachers and curriculum experts from state and territory education authorities, and from a national consultation process. The materials build on significant state and territory initiatives and practice, and are informed by national and international research.

Work associated with general capabilities is ongoing. Future work includes:

- the further development of general capability learning continua to include descriptions at the end of the Foundation Year, Year 4 and Year 8
- additional exemplification of the general capabilities in the learning areas
- monitoring and review of the materials as additional learning areas are developed and approved by Ministers for implementation in schools
- revision of the ICT capability in conjunction with the development of the Australian Curriculum: Technologies
- following completion of all learning area curriculum, a review of the extent to which general capabilities have been addressed in the curriculum.

Teaching and assessment of general capabilities

Teachers are expected to teach and assess general capabilities to the extent that they are incorporated within each learning area.

State and territory school authorities will determine whether and how student learning of the general capabilities will be further assessed and reported.

For some students, it may be necessary to adjust the levels of complexity and the processes they use to develop capabilities. However, the role and place of general capabilities in the Australian Curriculum remain the same for all students.

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Nature of general capabilities

General capabilities comprise an integrated and interconnected set of knowledge, skills, behaviours and dispositions that students develop and use in their learning across the curriculum, in co-curricular programs and in their lives outside school.

In the Australian Curriculum 'capability' encompasses knowledge, skills, behaviours and dispositions. Students develop capability when they apply knowledge and skills confidently, effectively and appropriately in complex and changing circumstances, both in their learning at school and in their lives outside school. The encouragement of positive behaviours and dispositions underpins all general capabilities. Within individual capabilities, specific behaviours and dispositions have been identified and incorporated into each learning continuum as appropriate.

When combined in learning area contexts, general capabilities enhance and complement each other. For example, students require literacy skills and ICT capability to communicate effectively across all learning areas. They apply intercultural understanding and personal and social capability when they challenge stereotypes and prejudice in texts and interactions with others.

It is important to recognise that the capabilities are intended to be 'general' and operate across the whole curriculum. More 'specialised' knowledge and skills will be detailed in learning areas, particularly in relation to literacy, numeracy and information and communication technology.

Students in Australian schools bring different world views, histories and abilities to their learning. This means that some aspects of the capabilities may be interpreted and enacted in different ways. For example, the world views of Aboriginal and Torres Strait Islander Peoples inform Personal and social capability by drawing on responsibilities and relationships within cultural knowledge systems that connect the personal, through kin and community, to land, sky and waterways.

General capabilities in the learning areas

In the Australian Curriculum, general capabilities are addressed through the learning areas and are identified wherever they are developed or applied in content descriptions. They are also identified where they offer opportunities to add depth and richness to student learning in content elaborations.

Icons (as shown below) indicate where general capabilities have been identified in learning area content descriptions and elaborations. A filter function on the Australian Curriculum website assists users to identify F–10 curriculum content where a capability has been identified. Teachers may find further opportunities to incorporate explicit teaching of general capabilities depending on their choice of activities. Students can also be encouraged to develop capabilities through personally relevant initiatives of their own design.

Literacy 

Numeracy 

ICT capability 

Critical and creative thinking 

Personal and social capability 

Ethical behaviour 

Intercultural understanding 

Each learning area includes a brief description of the general capabilities that have been explicitly included in the content or advice about those that could be developed through particular teaching contexts.

- General capabilities in English (http://www.australiancurriculum.edu.au/English/General-capabilities)
- General capabilities in Mathematics (http://www.australiancurriculum.edu.au/Mathematics/General-capabilities)
- General capabilities in Science (http://www.australiancurriculum.edu.au/Science/General-capabilities)
- General capabilities in History (http://www.australiancurriculum.edu.au/History/General-capabilities)

Many capabilities find ‘natural homes’ in specific learning areas (for example, Literacy in English, Numeracy in Mathematics, ICT capability in Technologies, Personal and social capability in Health and Physical Education and English, and Intercultural understanding in Languages. Many of the foundational capability knowledge and skills are likely to be taught most explicitly in these learning areas, and applied, adapted, strengthened and extended in other learning areas.

General capabilities are represented to different degrees in each of the learning areas. Literacy, Numeracy, ICT capability, and Critical and creative thinking are fundamental in students becoming successful learners. While the primary development of Literacy, Numeracy and ICT capability is based in English, Mathematics and Technologies respectively, the development and application of these capabilities across the curriculum is essential to effective teaching and learning. Further information about the relationships between English/ Literacy, Mathematics/ Numeracy and Technologies/ ICT capability in the Australian Curriculum is provided in the introductions to relevant capabilities.

Personal and social capability, Ethical behaviour and Intercultural understanding focus on ways of being, behaving and learning to live with others, and are more strongly represented in some learning areas than in others. Though all learning involves some personal and social dimensions, these capabilities are most evident wherever personal, social and cultural learning is highlighted. For example, the social and cultural nature of these content descriptions provides opportunities for the inclusion of Personal and social capability and Intercultural understanding.

> **Year 6 Historical knowledge and understanding [H5]**
>
> *The contribution of individuals and groups, including Aboriginal people and/or Torres Strait Islanders and migrants, to the development of Australian society, for example in areas such as the economy, education, science, the arts, sport (ACHHK116)*

> **Year 10 English Literature [H5]**
>
> *Compare and evaluate a range of representations of individuals and groups in different historical, social and cultural contexts (ACELT1639)*

Student learning is enhanced when the capabilities work in combination with other capabilities, learning areas and cross-curriculum priorities. For example:

> **Year 2 Science as a Human Endeavour [H5]**
>
> *People use science in their daily lives, including when caring for their environment and living things (ACSHE035)*

combines Critical and creative thinking, Ethical behaviour and Sustainability.

> **Year 8 Mathematics – Statistics and probability [H5]**
>
> *Investigate reports of surveys in digital media and elsewhere for information on how data were obtained to estimate population means and medians (ACMSP227)*

combines Numeracy, ICT capability, Critical and creative thinking, and Ethical behaviour.

Structure of the materials

The materials for each general capability are in three parts:

- an introduction that describes the nature and scope of the capability, its place in the learning areas and its evidence base
- organising elements that underpin a learning continuum
- a learning continuum that describes the knowledge, skills, behaviours and dispositions that students can reasonably be expected to have developed at particular stages of schooling.

Learning continua

The general capabilities are presented as learning continua or sequences that describe the knowledge, skills, behaviours and dispositions that students can reasonably be expected to have developed by the end of particular years of schooling.

The continua are based on the belief that students need opportunities to develop capabilities over time and across learning areas. What is learned in the early years supports all subsequent learning. The continua assume it is possible to map common paths for general capability development while recognising that each student's pace of development may be influenced by factors such as their prior experience, sense of self in the world and cognitive capacity.

The Literacy and Numeracy continua are organised into five stages, describing student learning at the end of Years 2, 4, 6, 8 and 10, recognising that national literacy and numeracy assessment occurs in early Years 3, 5, 7 and 9. Each stage incorporates learning for the intervening years. Descriptions include F–10 English, Mathematics, Science and History examples where relevant that illustrate ways that literacy and numeracy can be made explicit in the learning areas.

Continua for the other five capabilities are currently organised into three stages, describing student learning at the end of Years 2, 6 and 10 to approximate the end of early childhood, primary and junior secondary years in most states and territories. Descriptions include examples that illustrate ways each capability can be made explicit in the learning areas.

Continua are available online in two views:

- the first shows expected learning across the three stages of schooling
- the second shows expected learning for each stage of schooling.

Literacy

Introduction

In the Australian Curriculum, students become literate as they develop the knowledge, skills and dispositions to interpret and use language confidently for learning and communicating in and out of school and for participating effectively in society. Literacy involves students in listening to, reading, viewing, speaking, writing and creating oral, print, visual and digital texts, and using and modifying language for different purposes in a range of contexts.

The *Melbourne Declaration on Educational Goals for Young Australians* (MCEETYA 2008) recognises literacy as an essential skill for students in becoming successful learners and as a foundation for success in all learning areas. Success in any learning area depends on being able to use the significant, identifiable and distinctive literacy that is important for learning and representative of the content of that learning area.

Scope of the Literacy capability

Literacy encompasses the knowledge and skills students need to access, understand, analyse and evaluate information, make meaning, express thoughts and emotions, present ideas and opinions, interact with others and participate in activities at school and in their lives beyond school.

Becoming literate is not simply about knowledge and skills. Certain behaviours and dispositions assist students to become effective learners who are confident and motivated to use their literacy skills broadly. Many of these behaviours and dispositions are also identified and supported in other general capabilities. They include students managing their own learning to be self-sufficient; working harmoniously with others; being open to ideas, opinions and texts from and about diverse cultures; returning to tasks to improve and enhance their work; and being prepared to question the meanings and assumptions in texts.

For a description of the organising elements for the Literacy learning continuum go to Organising elements.

Literacy across the curriculum

The Literacy capability presents those aspects of the Language and Literacy strands of the English curriculum that should also be applied in all other learning areas. It is not a separate component of the Australian Curriculum and does not contain new content. In some instances in the Literacy learning continuum, examples or more explanation have been included to show how aspects of the Language and Literacy strands of the English curriculum function in other learning areas.

While much of the explicit teaching of literacy occurs in the English learning area, it is strengthened, made specific and extended in other learning areas as students engage in a range of learning activities with significant literacy demands. These literacy-rich situations are a part of learning in all curriculum areas. Paying attention to the literacy demands of each learning area ensures that students' literacy development is strengthened so that it supports subject-based learning.

This means that:

- all teachers are responsible for teaching the subject-specific literacy of their learning area
- all teachers need a clear understanding of the literacy demands and opportunities of their learning area
- literacy appropriate to each learning area can be embedded in the teaching of the content and processes of that learning area.

The Literacy continuum will enable learning area teachers to:

- identify the general level of expected language and literacy skills for each year level that they are teaching
- plan how to teach specific language and literacy knowledge and skills essential to students' understanding of learning area content.

For students who speak a language or dialect other than Standard Australian English at home, access to language and literacy development is especially important. EAL/D students learn English at the same time as they are learning the content of each learning area through English. For many Aboriginal and Torres Strait Islander students, their home language is a dialect of English such as Aboriginal English. This means that they learn the English of the school context and of the curriculum as a second dialect. It is important to acknowledge the home language, prior knowledge and experiences of these students, and to build on these in developing students' literacy capabilities in the curriculum. The *English as an Additional Language or Dialect: Teacher Resource* can be used in conjunction with the Literacy general capability to assist teachers in meeting the language-learning needs of these students.

The Literacy capability is addressed through the learning areas and is identified wherever it is developed or applied in content descriptions. It is also identified where it offers opportunities to add depth and richness to student learning in content elaborations. An icon indicates where literacy has been identified in learning area content descriptions and elaborations. A filter function on the Australian Curriculum website assists users to identify F–10 curriculum content where literacy has been identified. Teachers may find further opportunities to incorporate explicit teaching of literacy depending on their choice of activities. Students can also be encouraged to develop capability through personally relevant initiatives of their own design.

- Literacy in English (http://www.australiancurriculum.edu.au/English/General-capabilities)
- Literacy in Mathematics (http://www.australiancurriculum.edu.au/Mathematics/General-capabilities)
- Literacy in Science (http://www.australiancurriculum.edu.au/Science/General-capabilities)
- Literacy in History (http://www.australiancurriculum.edu.au/History/General-capabilities)

Background

This background summarises the evidence base from which the Literacy capability's introduction, organising elements and learning continuum have been developed. It draws on the Australian Curriculum: English and on recent international and national research, as well as initiatives and programs that focus on literacy across the curriculum.

The Australian Curriculum: English provides a rich resource for learning in all areas of the curriculum. The skills and knowledge taught in the Language and Literacy strands of the Australian Curriculum: English support and contribute to the literacy requirements needed for all learning areas. These skills and knowledge have been used as the basis for constructing the Literacy continuum as it relates to all learning areas of the curriculum.

The definition of literacy in the Australian Curriculum is informed by a social view of language that considers how language works to construct meaning in different social and cultural contexts. This view builds on the work of Vygotsky (1976), Brice Heath (1983), Halliday and Hasan (1985), Freebody and Luke (1990), Gee (1991, 2008), and Christie and Derewianka (2008), who have articulated the intrinsic and interdependent relationship between social context, meaning and language.

This view is concerned with how language use varies according to the context and situation in which it is used. There are important considerations for curriculum area learning stemming from this view because, as students engage with subject-based content, they must learn to access and use language and visual elements in the particular and specific ways that are the distinctive and valued modes of communication in each learning area. They need to learn how diverse texts build knowledge in different curriculum areas, and how language and visual information work together in distinctive ways to present this knowledge.

The social view of language enables insights into differences between 'spoken-like' and 'written-like' language, and the increasing complexity of language as students progress through school. This is an important concept for subject-based learning. When young children begin school, they generally have developed facility with the spoken language of their home and community to interact informally in face-to-face situations in their immediate environment. This is the meaning-making system they use to engage with the learning experiences of the school; and their first interactions with written text generally employ print versions of 'spoken-like' language.

As subject-based learning proceeds, particularly in the middle and later school years, the texts that students need to understand and produce take on increasingly formal and academic features employing technical, abstract and specialised 'written-like' language forms, in order to communicate complexities of meaning. These texts include precise, densely packed information and place increasing cognitive demands on the student.

There are significant differences in the way different learning areas structure texts and in the language features and vocabulary that students are required to know and use. Therefore, a student's repertoire of literacy knowledge and skills needs to be diverse, flexible, dynamic and versatile, developing throughout their schooling to deal with the increasing challenges and demands of the curriculum.

Like the Australian Curriculum: English, the Literacy capability also takes account of visual literacy and the rapid changes that have occurred as a result of new technologies in the ways that communication takes place. It is informed by the work of Kress and Van Leeuwen (2006), who have identified a comprehensive grammar of visual design.

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Organising elements

The Literacy continuum incorporates two overarching processes:

- Comprehending texts through listening, reading and viewing
- Composing texts through speaking, writing and creating

with the following areas of knowledge applying to both processes:

- Text knowledge
- Grammar knowledge
- Word knowledge
- Visual knowledge.

These processes and areas of knowledge are used as the organising elements of the Literacy continuum. The elements are drawn from the Language and Literacy strands of the Australian Curriculum: English as shown in the table below:

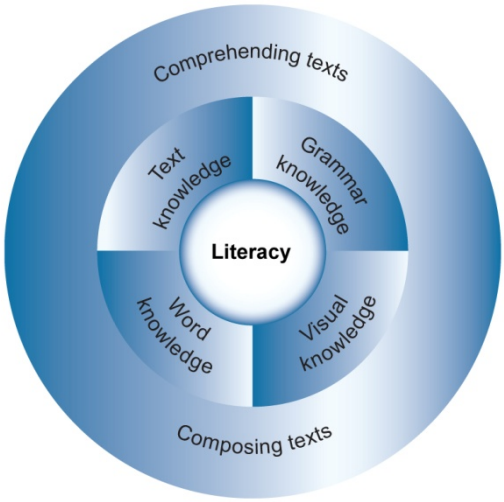
Literacy Continuum	Australian Curriculum: English	
	Language	Literacy
Comprehending texts through listening, reading and viewing	Expressing and developing ideas	Interpreting, analysing, evaluating
Composing texts through speaking, writing and creating	Language for interaction	Interacting with others Creating texts
Text knowledge	Text structure and organisation Concepts of print and screen	Interpreting, analysing, evaluating Creating texts
Grammar knowledge	Expressing and developing ideas Language for interaction	
Word knowledge	Expressing and developing ideas	
Visual knowledge	Expressing and developing ideas	Interpreting, analysing, evaluating Creating texts

Texts in the Literacy continuum

A text is the means for communication. Texts can be written, spoken, visual or multimodal, and in print or digital/online forms. Multimodal texts combine language with other systems for communicating such as visual images, soundtracks and spoken word, as in film or computer presentation media. The forms and conventions of texts have developed to help us communicate effectively with a variety of audiences for a range of purposes, and so texts in different learning areas can and do use language and other features in different ways.

Where the term ‘texts’ is used in the Literacy continuum, this should be read as the type of texts particular to or characteristic of a learning area – for example, reports, data displays and procedures in Mathematics; models, diagrams, explanations and reports in Science; and narratives, descriptions, discussions and explanations in History.

The diagram below sets out these elements.



Organising elements for Literacy

Comprehending texts through listening, reading and viewing

This element involves:

- using strategies for reading and viewing texts, including using applied topic knowledge, vocabulary and visual knowledge
- listening for information and to carry out tasks and participate in discussions
- using strategies for comprehending spoken, written, visual and multimodal texts, including retrieving literal information and making inferences.

Composing texts through speaking, writing and creating

This element involves:

- using language as a key learning tool to explore ideas, test possibilities and compare solutions
- composing different types of spoken, written, visual and multimodal texts for a range of purposes and audiences
- participating in group and class discussions using a range of oral interaction skills to share ideas, explore topics and express opinions
- making formal presentations incorporating oral, written, visual and audio elements.

Text knowledge

This element involves:

- understanding the structure and purpose of a range of imaginative, informative and persuasive texts, and how these are used in different learning areas
- understanding text cohesion
- identifying and using text features to access and navigate print and digital texts.

Grammar knowledge

This element involves:

- learning how different types of sentence structures – including simple, compound and complex sentences – are used to structure ideas and present information in different learning areas
- learning how different types of words and groups/phrases – including nouns, verbs, adverbs, adjective groups/phrases – are used to convey information and ideas in different learning areas
- learning how opinion and point of view are presented through specific word choices in different types of texts.

Word knowledge

This element involves:

- understanding and using new vocabulary, including learning area vocabulary, to compose and comprehend texts in different learning areas
- developing strategies to spell a range of subject-specific words.

Visual knowledge

This element involves:

- understanding how visual elements create meanings using features such as construction, placement of elements, framing and colour
- composing and comprehending a range of visual forms typical of each learning area, including illustrations, film, maps, graphs and digital graphics.

Literacy continuum across stages of schooling

Comprehending texts through listening, reading and viewing

By the end of Year 2 students:	By the end of Year 4 students:	By the end of Year 6 students:	By the end of Year 8 students:	By the end of Year 10 students:
Reading and viewing learning area texts				
use prior knowledge and vocabulary to read and view learning area texts, using developing strategies such as predicting, monitoring meaning and crosschecking	use topic knowledge and vocabulary to read and view learning area texts, using developing strategies such as predicting, monitoring meaning, crosschecking and reviewing	apply strategies for reading and viewing learning area texts, including selecting, navigating, monitoring meaning, crosschecking and reviewing	integrate topic and textual knowledge and developed strategies, including selecting, navigating, monitoring meaning and crosschecking to read and view learning area texts	integrate strategies and topic and textual knowledge to select, navigate, read and view complex learning area texts, analysing and evaluating information sources
Listening				
listen to one- and two-step instructions for undertaking learning tasks, listen for information about topics being learned and to participate in discussions	understand more detailed spoken instructions for undertaking learning tasks, listen to identify key information in spoken texts and to attend to others' ideas in discussions	understand detailed spoken instructions for undertaking learning tasks, listen to spoken texts, and interpret and evaluate information and opinions presented	engage with extended spoken and digital audio texts, interpret stated and implied meanings, and evaluate information and ideas presented	listen thoughtfully to a range of extended spoken texts, using knowledge of text purpose to interpret and evaluate ideas, information and opinions
Comprehending learning area texts				
understand and use different types of learning area texts to explore topics, gather information and make some obvious inferences	retrieve and understand literal information in learning area texts, and make inferences to expand and link ideas and to comprehend and interpret texts	understand, interpret and analyse information and ideas in learning area texts, comparing content from a range of sources and analysing similarities and differences in texts on similar topics or themes	understand, interpret and evaluate literal and inferential information in learning area texts, identify main ideas and supporting evidence, and analyse different perspectives and points of view	understand, interpret and evaluate information within and between learning area texts, combining, connecting, comparing and synthesising ideas and concepts, and identifying perspectives and evaluating supporting evidence

Composing texts through speaking, writing and creating

By the end of Year 2 students:	By the end of Year 4 students:	By the end of Year 6 students:	By the end of Year 8 students:	By the end of Year 10 students:
Exploratory language				
use speaking, writing, visual and multimodal elements as learning tools to explore learning area topics, to represent ideas and relationships, and to prepare for creating texts	use speaking, writing, visual and multimodal elements as learning tools to explore and represent ideas and relationships, test possibilities and to prepare for creating texts	use speaking, writing, visual and multimodal elements as learning tools to explore ideas and relationships, test possibilities, compare solutions and in preparation for creating texts	use speaking, writing, visual and multimodal elements as learning tools to explore ideas, test possibilities, compare solutions, rehearse ideas and arguments in preparation for creating texts	use speaking, writing, visual and multimodal elements as learning tools to explore ideas, test possibilities, compare solutions, evaluate information and ideas, and refine opinions and arguments
Composing spoken, written, visual and multimodal learning area texts				
compose a limited range of learning area texts for familiar and some new audiences incorporating: • known topic information • familiar, mostly spoken-like language structures	compose a range of learning area texts containing: • known and some researched information and supporting details • some more extended language features	compose learning area texts for different purposes combining: • information from several sources • more formal and extended language features to report ideas and information and express opinions	compose sustained learning area texts for a wide range of purposes incorporating: • researched information • some complex language features to explore topics and issues, and to express and support their own opinions	compose sustained learning area texts for a wide range of purposes incorporating and evaluating: • researched information • a range of complex language features to explore, interpret and analyse challenging and complex issues
	edit texts for language and visual choices	edit texts for structure, content, language and visual choices	edit texts for structure, content, strength of argument and supporting evidence, and language and visual choices	edit texts for structure, content, strength of argument and supporting evidence, and language and visual choices
Oral interactions				
participate in group and class discussions about learning area topics using oral interaction skills such as speaking clearly, initiating topics, expressing opinions and listening to the opinions of others	participate in group and class discussions, adjusting language to share and extend ideas and information, and to communicate clearly and coherently	participate in discussions and informal debates, clarifying and interrogating ideas, and evaluating information using interaction skills according to the needs of the audience	participate in discussions and formal and informal debates, developing and building ideas and arguments using interaction skills and language conventions to suit different audiences	participate in discussions and formal and informal debates, extending or refuting diverse opinions using interaction skills and language conventions to suit different audiences
Presentations				
rehearse and deliver short presentations on learning area topics, incorporating some visual and multimodal elements	plan, rehearse and deliver presentations on learning area topics, incorporating some learned content and appropriate visual and multimodal elements	plan, research, rehearse and deliver presentations on learning area topics, selecting appropriate content and visual and multimodal elements	plan, research, rehearse and deliver presentations on learning area topics, sequencing selected content and multimodal elements for accuracy and their impact on the audience	plan, research, rehearse and deliver presentations on learning area topics, combining visual and multimodal elements creatively to present opinions and to engage and persuade an audience

Text knowledge

By the end of Year 2 students	By the end of Year 4 students	By the end of Year 6 students	By the end of Year 8 students	By the end of Year 10 students
Organisational structures of learning area texts				
use beginning knowledge of the structure and features of learning area texts to comprehend and compose a limited number of texts	use increasing knowledge of the structure and features of learning area texts to comprehend and compose a growing number of texts	use developing control of the structure and features of learning area texts to comprehend and compose a range of texts	comprehend and compose texts typical of each learning area that use creative adaptations of text structures and graphic features	comprehend and compose innovative texts that use structures and features of learning area texts in complex and resourceful ways, using conventions for citing others
Mathematics examples				
• calendars • simple maps • word problems • reports of steps in a process • data displays such as lists and graphs	• reports of a process • procedures on how to make mathematical shapes or complete a process • data displays to represent information • oral and written reports of group tasks • multiplication and division word problems	• survey questions and reports • procedures on how to make mathematical shapes or complete a process • data displays with and without digital technologies • explanations of mathematical processes • recounts and evaluations of group tasks • word problems involving addition and subtraction of fractions	• survey questions and reports • procedures on how to complete a mathematical task or process • data displays with and without digital technologies • explanations of mathematical processes • recounts and evaluations of group tasks • word problems involving profit and loss	• survey questions and reports • procedures on how to complete a mathematical task or process • data displays with and without digital technologies • explanations of mathematical processes • recounts and evaluations of group tasks • word problems involving algebraic equations
Science examples				
• reports of steps in a process • descriptions of observations • annotated diagrams of observed objects or living things • sequential explanations, for example explaining personal growth and	• reports of a process • informational reports of procedures on how to design objects or processes • annotated diagrams that illustrate relationships or processes • descriptions of observed objects, living things or phenomena	• reports and evaluations of investigations • information reports using multi-source research • procedures on how to carry out a particular process or investigation using active voice • causal explanations, for example explaining the	• reports and evaluations of individual and group investigations • factual reports using multi-source research • persuasive texts to argue for a particular course of action • discussion texts with supporting evidence to	• reports and evaluations of investigations • factual reports using multi-source research • evidence-based arguments using appropriate scientific language, conventions and representations to justify a position and persuade others • discussion texts, for example

By the end of Year 2 students	By the end of Year 4 students	By the end of Year 6 students	By the end of Year 8 students	By the end of Year 10 students
changes from birth, life stages in animals	• causal explanations, for example explaining how the properties and use of materials could lead to pollution	effect of a change state caused by heating and cooling familiar substances	present both sides of a contentious issue and a conclusion • procedures on how to carry out a particular process or investigation using passive voice • consequential explanations, for example explaining how the flammability or corrosiveness of a substance affects its use	that present a point of view on a contentious issue with supporting evidence • theoretical explanations, for example explaining the relationship between DNA, genes and chromosomes using models and diagrams
History examples				
• historical retellings of an event • narratives built around historical events • descriptions of historical people and places	• historical reports of an event • historical narratives told from a particular perspective • descriptions of an historical figure or place	• historical recounts of a series of events with some summative commentary • historical narratives that retell past events, for example from a particular personal or cultural perspective • detailed descriptions of particular places from the past demonstrating use of source material • persuasive texts, for example presenting a particular point of view in relation to an historical event or figure	• historical recounts of a series of events with some summative commentary • historical narratives that retell past events, for example from a particular personal or cultural perspective • detailed descriptions, for example of particular places from the past demonstrating use of evidence from sources • explanations, for example that present the causes of an event • discussion texts with supporting evidence	• historical recounts of a series of events or developments within a chronological framework with some summative or evaluative commentary • explanations, for example that consider past events from a particular personal or cultural perspective • detailed descriptions of particular places from the past demonstrating use of evidence from primary and secondary sources, using appropriate referencing • discussion texts, for example that present historical arguments with supporting evidence
Text cohesion				
understand how texts are made cohesive through word repetitions and associations, synonyms and antonyms	understand how texts are made cohesive through linking words and phrases for example ‘so’, ‘therefore’, ‘then’, ‘in addition’, and the correct use of pronouns	understand that cohesive links can be made in texts through omitting and replacing words	understand how the cohesion in texts is improved by strengthening the internal structure of paragraphs through examples, quotations and substantiation of claims	understand how cohesive devices in texts serve to signpost ideas and make connections between ideas, such as through sequencing and developing an argument and signalling a conclusion

By the end of Year 2 students	By the end of Year 4 students	By the end of Year 6 students	By the end of Year 8 students	By the end of Year 10 students
Navigating learning area texts				
identify and use text features in learning area texts, such as page layout, alphabetical order, menu bars, and simple diagrams to aid text navigation, reading and viewing	identify and use features of learning area texts to enhance navigation, including page and screen layout, simple indexes, tables of contents, different types of diagrams, and icons and buttons	identify and use features of learning area texts such as text boxes, full indexes, paragraphs, topic sentences, home pages and sub-pages to aid navigation and use	use a range of organisational features of complex learning area texts with speed and efficiency to research and present ideas and information	use organisational features of complex learning area texts with speed and efficiency by exploiting features to locate and evaluate primary and secondary source material

Grammar knowledge

By the end of Year 2 students:	By the end of Year 4 students:	By the end of Year 6 students:	By the end of Year 8 students:	By the end of Year 10 students:
Sentence structures				
use simple and compound sentences to record observations, and make connections between ideas	use simple and compound sentence structures to describe and make connections between ideas	use a full range of sentence types, including complex sentences that elaborate or explain ideas	control complex sentence structures that show connections between ideas, evidence and conclusions	control complex sentence structures that build and support arguments, and understand how emphasis can be changed
Words and word groups				
understand how noun groups/phrases and verb groups are used to identify elements in the learning area	understand how groups/phrases are used to provide detailed descriptions in the learning areas	understand and use expanded groups/phrases, using specific learning area vocabulary to create detailed and accurate descriptions	understand and use aspects of language to suggest possibility, probability, obligation and conditionality	understand how higher order concepts are developed in academic texts through language features that compact and generalise text (nominalisation), and use language to discuss, analyse and evaluate ideas and information
Expressing opinion and point of view				
identify and use language that expresses feelings and opinions, and compares and evaluates people and things	understand differences between the language of opinion and feeling and the language of factual reporting or recording	understand and use subjective, objective and evaluative language, and identify bias	understand and use language to evaluate an object, action or text, and language that is designed to persuade the reader/viewer	understand and use language that indirectly expresses opinions and constructs representations of people and events, and consider whether judgments are expressed or implied in texts

Word knowledge

By the end of Year 2 students:	By the end of Year 4 students:	By the end of Year 6 students:	By the end of Year 8 students:	By the end of Year 10 students:
Understanding learning area vocabulary				
understand and use mostly familiar vocabulary, with a steady introduction of new learning area vocabulary in context	understand and use vocabulary needed to read, discuss and write about learning area topics, including subject-specific vocabulary	understand and use new vocabulary, including subject-specific vocabulary from a range of learning areas and vocabulary that expresses shades of meaning	understand and use a wide range of new specialist and topic vocabulary to contribute the specificity, authority and abstraction of texts	understand and use subject-specific vocabulary to express abstract concepts, and refine vocabulary choices to discriminate between shades of meaning
Spelling				
learn spellings for topic words, use phonic knowledge to spell new words with regular spelling patterns, and recognise meaning relationships between similar words such as ‘’play’, ‘playing’, ‘playground’	learn spellings for new topic words, for frequently used irregular words, regular words and word families containing known letters and letter clusters	read and spell new topic words and use word origins, base words, prefixes and suffixes when reading and spelling new words	spell most words correctly, and apply their understanding of spelling to spell specialist topic words	use knowledge of the spelling system and word origins to spell correctly and to deduce the meanings of unfamiliar words and to spell unknown words

Visual knowledge

By the end of Year 2 students:	By the end of Year 4 students:	By the end of Year 6 students:	By the end of Year 8 students:	By the end of Year 10 students:
Understanding how visual elements create meaning				
understand how images add to, contradict or multiply the meanings of words in a text, and compare images with the accompanying print text	understand the effects of choices in the construction of images, including framing and placement of elements	understand how analytical images such as figures, diagrams, tables, maps and graphs contribute to understanding of texts	understand the effects of different visual elements upon the reader/viewer, and how visual texts draw on and allude to other texts or images to enhance meaning	evaluate the impact of different visual choices in the composition of images, including symbolic images, and experiment with visual texts to establish different nuances
Composing and comprehending learning area texts using visuals				
comprehend and compose visual and multimodal texts in print and digital environments to express ideas and extend written information as part of problem solving and presentations	comprehend and compose visual and multimodal texts in print and digital environments to explore learning area topics, using illustrations and diagrams	comprehend and compose visual and multimodal texts in print and digital environments that make use of visual elements to represent ideas and events in different ways	comprehend and compose visual and multimodal texts such as diagrams, maps and timelines, understanding their contribution to the interpretation of ideas and information	comprehend and compose visual and multimodal texts in print and digital environments using a range of design choices and visual tools for the intended purpose and targeted audience

Numeracy

Introduction

In the Australian Curriculum, students become numerate as they develop the knowledge and skills to use mathematics confidently across all learning areas at school and in their lives more broadly. Numeracy involves students in recognising and understanding the role of mathematics in the world and having the dispositions and capacities to use mathematical knowledge and skills purposefully.

The *Melbourne Declaration of Educational Goals for Young Australians* (MCEETYA 2008) recognises that numeracy is an essential skill for students in becoming successful learners at school and in life beyond school, and in preparing them for their future roles as family, community and workforce members. More broadly, a highly numerate population is critical in ensuring the nation's ongoing prosperity, productivity and workforce participation.

Scope of the Numeracy capability

Numeracy encompasses the knowledge, skills, behaviours and dispositions that students need to use mathematics in a wide range of situations. The Numeracy learning continuum identifies the related mathematical knowledge and skills, and contextualises these through learning area examples.

When teachers identify numeracy demands across the curriculum, students have opportunities to transfer their mathematical knowledge and skills to contexts outside the mathematics classroom. These opportunities assist students to recognise the interconnected nature of mathematical knowledge, learning areas and the wider world, and encourage them to use their mathematical skills broadly.

For a description of the organising elements for the Numeracy learning continuum, go to Organising elements.

Numeracy across the curriculum

In the Australian Curriculum, much of the explicit teaching of numeracy skills occurs in Mathematics. Being numerate involves more than the application of routine procedures within the mathematics classroom. Students need to recognise that mathematics is constantly used outside the mathematics classroom and that numerate people apply mathematical skills in a wide range of familiar and unfamiliar situations. In the context of schooling, this is most often encountered in other learning areas.

Using mathematical skills across the curriculum both enriches the study of other learning areas and contributes to the development of a broader and deeper understanding of numeracy. Therefore, a commitment to numeracy development is an essential component of learning areas across the curriculum and a responsibility for all teachers. This requires that teachers:

- identify the specific numeracy demands of their learning area
- provide learning experiences and opportunities that support the application of students' mathematical knowledge and skills

- use the language of numeracy in their teaching as appropriate.

Understanding mathematical terminology and the specific uses of language in mathematics is essential for numeracy. Therefore, teachers should be aware of the correct use of mathematical language in their own learning areas.

The Numeracy capability is addressed through the learning areas and is identified wherever it is developed or applied in content descriptions. It is also identified where it offers opportunities to add depth and richness to student learning in content elaborations. An icon indicates where numeracy has been identified in learning area content descriptions and elaborations. A filter function on the Australian Curriculum website assists users to identify F–10 curriculum content where numeracy has been identified. Teachers may find further opportunities to incorporate explicit teaching of numeracy depending on their choice of activities. Students can also be encouraged to develop capability through personally relevant initiatives of their own design.

- Numeracy in English (http://www.australiancurriculum.edu.au/English/General-capabilities)
- Numeracy in Mathematics (http://www.australiancurriculum.edu.au/Mathematics/General-capabilities)
- Numeracy in Science (http://www.australiancurriculum.edu.au/Science/General-capabilities)
- Numeracy in History (http://www.australiancurriculum.edu.au/History/General-capabilities)

Background

This background summarises the evidence base from which the Numeracy capability's introduction, organising elements and learning continuum have been developed. It draws on recent international and national research, as well as initiatives and programs that focus on numeracy across the curriculum.

The identification of numeracy as a general capability or competence to be addressed across the curriculum is supported by the literature. In Australia, the *National Numeracy Review Report* (Commonwealth of Australia 2008) argued for an emphasis both on mathematics as a distinct area of study and numeracy as an across-the-curriculum competency. In order to develop the ability to communicate numeric information effectively, students should engage in learning that involves using mathematics in the context of other disciplines. This requires a cross-curricular commitment and is not just the responsibility of the Mathematics Department (Miller 2010).

The Numeracy capability and learning continuum have been informed by a range of findings identified in the literature over a considerable period of time. Steen (2001) pointed out the ever-increasing gap between the quantitative needs of citizens and their quantitative capacity, while Miller (2010) continues to argue that quantitative literacy is a proficiency that is essential for people to be able to participate fully in a democratic society. Most recently, concerns about low levels of financial literacy shown by young people in Australia prompted the development of a *National Consumer and Financial Literacy Framework* to support the development of financial literacy skills in young people (MCEECDYA 2011).

Aspects of numeracy in the literature that have informed the approach to the numeracy capability and that need to inform the approach taken in schools include that:

- there is a difference between the mathematics that people use in context and the mathematics they learn in school (Carraher, Carraher & Schliemann 1985; Zevenbergen & Zevenbergen 2009)
- knowledge is not automatically transferable from mathematics to other contexts (Lave 1988)
- numeracy requires contextual and strategic knowledge as well as mathematical skills (AAMT 1998)
- in numeracy there may be more than one suitable answer or method (Cohen 2001)
- numeracy moments often arise in unexpected situations (Thornton & Hogan 2005).

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Organising elements

The Numeracy learning continuum is organised into six interrelated elements:

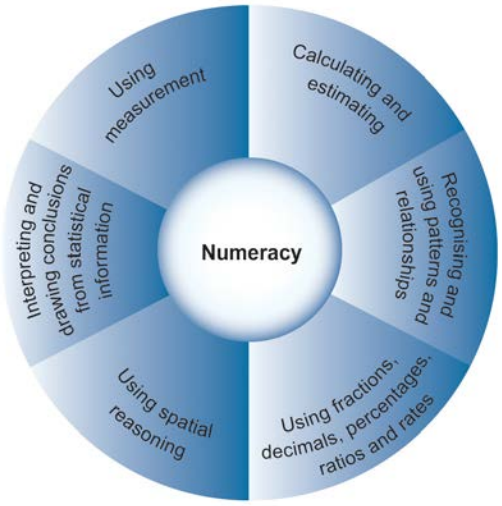
- Calculating and estimating
- Recognising and using patterns and relationships
- Using fractions, decimals, percentages, ratios and rates
- Using spatial reasoning
- Interpreting and drawing conclusions from statistical information
- Using measurement.

These elements are drawn from the strands of the Australian Curriculum: Mathematics as shown in the table below:

Numeracy Continuum	Australian Curriculum: Mathematics
Calculating and estimating	Number and Algebra
Recognising and using patterns and relationships	Number and Algebra (and other strands to a lesser extent)
Using fractions, decimals, percentages, ratios and rates	Number and Algebra
Using spatial reasoning	Measurement and Geometry
Interpreting and drawing conclusions from statistical information	Statistics and Probability
Using measurement	Measurement and Geometry

Financial literacy is a key aspect of numeracy. Relevant knowledge and skills relating to numeracy such as number and place value, money and financial mathematics have been incorporated into the Numeracy continuum, notably in the *Calculating and estimating*, *Using fractions, decimals, percentages, ratios and rates* and *Interpreting and drawing conclusions from statistical information* elements.

The diagram below sets out these elements.



Organising elements for Numeracy

Calculating and estimating

This element involves the application of skills in calculating with whole numbers, all types of fractions, decimals and percentages, squared and cubed numbers, and numbers raised to larger powers.

Students develop numeracy capability as they apply the four operations of addition, subtraction, multiplication and division in a wide range of authentic situations requiring estimation and calculation, such as halving or doubling quantities for recipes, circumstances involving cost, calculation of change, budgeting, saving and spending money, using spreadsheets for financial calculations, and using scientific notation in science when working with very large or very small numbers. They can estimate values to check the validity of their own answers and the answers of others, and so avoid potential error.

Recognising and using patterns and relationships

This element involves identifying and describing a wide range of patterns and relationships, including those requiring algebra and equations that can be visually represented on a graph.

These skills help students to make sense of and describe change as it occurs over time. Students demonstrate numeracy capability as they apply their understanding by making connections between apparently diverse facts and suggesting solutions to problems in a range of circumstances. For example: the relationship between weather patterns and the likelihood of landslides or droughts; the effect of political unrest and its effect on the number of homeless people; grammatical patterns and patterns in the structure of texts; patterns in the arts, architecture and design; the use of trends to predict specific outcomes; and identification of financial patterns as they occur with loans and/or savings.

Using fractions, decimals, percentages, ratios and rates

This element involves developing an understanding of the meaning of fractions and decimals, their representations as ratios, rates and percentages, and how they can be applied in real-life situations.

Students demonstrate numeracy capability as they apply these skills in areas such as working with scale in geography; constructing timelines in history; investigating the growth and decay of cultures in science; determining the relationship between everyday values such as fuel consumption and speed; investigating water usage and rates of consumption; comparing pay rates on an hourly basis, weekly basis and as a salary; and comparing housing loans and mobile phone packages.

Using spatial reasoning

This element involves students in making sense of the space immediately around them. Students demonstrate numeracy capability as they apply the skills of spatial reasoning by creating and interpreting maps through the use of coordinates, using graphic organisers such as mind maps, conceptualising either extremely small or extremely large spaces within the environment and the way these spaces affect the behaviour of living things, and using the properties of shapes and objects in design and architecture.

Interpreting and drawing conclusions from statistical information

This element requires students to gain familiarity with the way in which statistical information is represented through experience with a variety of graphs, lists and tables.

Students demonstrate numeracy capability in a range of learning areas and circumstances when they draw conclusions from and make predictions based on given or collected data, recognise the use and abuse of statistics in the media and advertising, identify bias in advertising and other texts that use probability, and understand randomness as it occurs in science and the environment. Numeracy can be used to analyse data relating to population density and its variations, comparative land use, fluctuations in share markets or the price of everyday commodities.

Using measurement

This element requires students to learn about measurement of length, area, volume, capacity, time and mass.

Students become numerate as they apply their skills and understanding of measurement by selecting appropriate units of measurement for a given situation and developing an ability to estimate units in measurement. As their skills increase, they use formal units for measurement and find areas and volumes when learning about environmental issues, such as comparing capacities for water storage, researching areas of land put aside for parkland or preservation or recognising how scales are used to report on environmental incidents such as earthquakes. Students identify commercial development and residential development within their local area, read timetables and timelines and plan itineraries, apply their understanding of mass when carrying out experiments in science or when preparing food, and use strategies that draw upon their knowledge of Pythagoras' theorem and trigonometry to calculate distance and direction.

Numeracy continuum across stages of schooling

Calculating and estimating

By the end of Year 2 students:	By the end of Year 4 students:	By the end of Year 6 students:	By the end of Year 8 students:	By the end of Year 10 students:
use numbers up to four digits in familiar contexts English – understanding and using numbers in texts Science – using numbers to describe and order observations	use numbers up to five digits in everyday contexts Science – using large numbers to describe time scales for changes in the Earth's surface History – using numbers to order events by date, recognising that dates such as 1770 describe time	use numbers larger than one million correctly in authentic situations English – using library classification systems to order and search for books Science – ordering planets in the Solar System according to size and distance from the Sun History - using data to develop graphs and tables from population figures	use positive and negative numbers in authentic situations involving change Science – using positive and negative numbers to demonstrate that substances have different boiling and freezing points History – categorising time into periods and interpreting timelines History – identifying the approximate beginning and end dates of ancient societies and the period in which they coexisted	use scientific notation to represent very large and very small numbers and calculations Science – using scientific notation to explore the scales involved in measurement of earthquake strength, sound levels or nanotechnology
recognise when a situation requires the use of addition or subtraction apply estimation and calculation strategies in familiar contexts Science – using addition, subtraction and estimation in the collection and recording of information History – calculating the age of objects brought from home	decide whether to use addition, subtraction, multiplication or division in everyday contexts experiment with and use number patterns to assist them in mental calculations and estimation History – calculating the difference between the number of convicts who left Britain on the First Fleet and the number who arrived in Australia	use mental and written strategies and digital technologies in calculations involving authentic situations use estimation and rounding to check the reasonableness of their calculations	choose and use a range of strategies (including mental and written strategies and digital technologies) in calculations to solve complex problems in authentic situations Science – comparing temperature variations in different parts of the world, including those with negative temperatures	choose and use a range of strategies (including mental and written strategies and digital technologies) in calculations involving complex data and contexts History – using historical sources to explain population movements, for example the transportation of slaves, the growth of cities

By the end of Year 2 students:	By the end of Year 4 students:	By the end of Year 6 students:	By the end of Year 8 students:	By the end of Year 10 students:
recognise familiar situations that involve the use of money	compare the costs of similar items	create financial plans and budgets to suit a range of contexts and recognise the benefits of saving for their future	create budgets that support specific financial goals justify 'best value for money' decisions	create financial plans that support specific financial goals and evaluate their effectiveness analyse the impact of debt on achieving financial goals and identify strategies for debt management

Recognising and using patterns and relationships

By the end of Year 2 students:	By the end of Year 4 students:	By the end of Year 6 students:	By the end of Year 8 students:	By the end of Year 10 students:
describe patterns in number Science - grouping living things based on the number of different body parts	describe, continue and create number patterns	describe, continue and create number patterns and predict a sequence Science - describing patterns in the natural environment, for example the Fibonacci sequence	describe, continue and create number patterns and look for patterns/rules that would help them to make predictions	recognise how the practical application of patterns can be used in authentic situations to make predictions History - developing interactive timelines to show relationships between events and developments and the places and times in which they occurred
describe patterns in the world around them English -recognising patterns in language, for example in rhymes and repetition Science - identifying patterns involving shapes in natural and constructed environments History - ordering important family and community events in a time sequence	identify and describe patterns in identified contexts English - identifying patterns in spelling of words, poetry Science - recognising patterns in the characteristics of living and non-living things History - developing timelines of significant people and events	recognise that patterns observed over time assist us to predict possible outcomes English - identifying and describing regular patterns in texts, for example in narrative structure Science - identifying patterns and trends in data and using these to make predictions Science - recording change in shadows' length and position throughout the day History - developing annotated timelines for key people and events	use their understanding of patterning to identify and extend linear patterns and make predictions English - explaining patterns and relationships in texts, for example cause and effect and rhetorical devices Science - using data (fuel consumptions vs distance) to determine patterns of vehicles' fuel consumption over time History - developing annotated timelines, showing broad patterns of continuity and change	use their understanding of patterning to identify and extend linear and non-linear patterns and make predictions Science - using linear modelling to predict air or water temperature, using non-linear modelling to predict changes in populations due to environmental changes

Using fractions, decimals, percentages, ratios and rates

By the end of Year 2 students:	By the end of Year 4 students:	By the end of Year 6 students:	By the end of Year 8 students:	By the end of Year 10 students:
recognise terms such as ‘a half’ and ‘a quarter’ as used in everyday language and use them in familiar contexts	recognise the equivalence of fractions and decimal representations and their use in everyday contexts, for example a quarter is equivalent to 0.25; 0.25 of $1 is 25 cents	make connections between equivalent fractions, decimals and percentages, and calculate these in authentic situations History - using data to calculate percentages, for example votes for and against Federation; the percentage of the Australian population born overseas	apply knowledge of percentages (including percentage increases and decreases), rates and ratios, and means and proportions in representative data, in a range of authentic contexts Science - calculating means and proportion in representative data, for example water storage, flow and usage	use graphs and equations to analyse and illustrate proportional relationships in a range of authentic contexts Science - analysing and illustrating the rate of chemical reactions History - using proportional reasoning to assess the impact of changes in society and significant events, for example population loss from 1919 influenza epidemic

Using spatial reasoning

By the end of Year 2 students:	By the end of Year 4 students:	By the end of Year 6 students:	By the end of Year 8 students:	By the end of Year 10 students:
recognise, visualise and classify familiar two-dimensional shapes and three-dimensional objects in the world around them describe position and movement in familiar contexts English - understanding and using the language of shape, position and movement Science - describing the shape of objects and the ways they move	identify and compare two-dimensional shapes and three-dimensional objects recognise symmetry in natural and built environments, and the importance of angles in symmetry English - using features such as shape and angle when creating visual texts Science: observing symmetry as a property of some living things History - building a 3-D structure of a past building	describe features of prisms and pyramids estimate, measure and compare angles using degrees English - identifying how camera angles impact on the viewer's experience Science: explaining why some angles are used more frequently in built environments than others	analyse the combination of different shapes and objects and their positions in the environment, in architecture, art and design English - understanding and using technical elements including shape, size, angle and framing to enhance meaning in visual and multimodal texts Science - describing the movements of objects using speed and direction	use their knowledge of right-angled triangles to solve problems involving direction and angles of elevation and depression English - understanding and evaluating the effect of technical elements in visual texts
give and follow directions to familiar locations	show and describe position and pathways on grid maps	describe routes using landmarks and directional language such as north, south, east, west, north-west History - using maps to explain routes followed by explorers or patterns of development in the Australian colonies		

By the end of Year 2 students:	By the end of Year 4 students:	By the end of Year 6 students:	By the end of Year 8 students:	By the end of Year 10 students:
interpret maps of familiar locations and identify the relative positions of key features Science- using maps to describe features of local environments	interpret information contained on maps to locate a position using simple scales, legends and directions English - using simple scales and legends to make connections between print and images in texts Science: using simple scales, legends and directions to interpret maps of given habitats History: creating and using grid maps, to show the location of historical features in communities	identify and describe locations using a grid reference system Science -using a grid system to locate geological events on the Earth's surface	create and interpret complex spatial information from maps and grids History - using stratigraphy (cross-sectional drawings of archaeological excavations) to identify layers and change over time History - using a map to depict the spread of the Black Death across Europe	

Interpreting and drawing conclusions from statistical information

By the end of Year 2 students:	By the end of Year 4 students:	By the end of Year 6 students:	By the end of Year 8 students:	By the end of Year 10 students:
collect data on an issue or question of interest based on one categorical variable, for example most popular car colours, favourite ice-cream flavours, cheapest toy display data using lists, tables and picture graphs interpret picture graphs, describing the data represented	collect and record data from issues and questions in given situations, using methods such as survey questions and recording sheets organise data into categories and create lists, tables, picture graphs and simple column graphs identify trends in data using class surveys and data displays	create and use data displays such as lists, tables, column graphs and sector graphs assess the relative effectiveness of different displays interpret secondary data presented in digital media and other information sources	interpret a variety of data displays, including tables, histograms, sector graphs, divided bar graphs, time series use the term 'mean' in connection with measures of central tendency and recognise that mean, median and mode can be different measures calculate mean, median, mode and range from a data set assess the practicalities and reasons for obtaining and reporting representative data	identify questions and issues involving several variables, and collect and interpret data from secondary sources use scatter plots to display and comment on relationships between two continuous variables, such as speed and distance describe trends in numerical data where the independent variable is time analyse techniques for collecting data, including census sampling and observation evaluate the use of statistics in media and other reports by linking claims to graphic displays, statistics and representative data
Science - using data displays to represent findings from investigations History - collecting and displaying data to compare their parents' childhoods with their own, for example class sizes, number of children in families then and now	Science - presenting evidence about the foods eaten by animals in a column graph History - organising and displaying data about different groups of people on the First Fleet	English - using data displays in texts to convey information or persuade Science - presenting results about resting pulse rates in a line graph History - interpreting statistical information such as Federation referenda figures or census data	English - using mathematical techniques such as graphs, tables and means to strengthen or support an argument Science - using secondary data collected over time to investigate changes in the mean and median rainfalls and water consumption History - selecting and using quantitative data as evidence to analyse historical events, for example the impact of warfare on the military forces of ancient societies	English - interrogating and using multiple sources of quantitative data as evidence in persuasive texts Science - using scatter plots to display the relationship between two continuous variables such as population growth and the use of fossil fuels History - using bar graphs to compare food rations from WWII with their own food consumption

By the end of Year 2 students:	By the end of Year 4 students:	By the end of Year 6 students:	By the end of Year 8 students:	By the end of Year 10 students:
identify practical activities and familiar events that involve chance such as games involving dice	describe possible outcomes from chance experiments and recognise variations in results	describe possible events using numerical representations, for example a 75% chance of rain, a 50/50 chance of snow, a 1 in 6 chance of rolling a 5 from a six-sided die compare observed frequencies with predicted frequencies of chance experiments	explain why the actual results of chance events are not always the same as expected results	
English - understanding and using language of chance in familiar contexts such as 'will', 'won't' and 'might'	English - understanding and using terms denoting the likelihood of events, including colloquial terms such as 'no way', 'for sure'	English - constructing a scale to depict the likelihood of event in a text from least to most probable		

Using measurement

By the end of Year 2 students:	By the end of Year 4 students:	By the end of Year 6 students:	By the end of Year 8 students:	By the end of Year 10 students:
make direct and indirect comparisons of familiar objects and terms, for example hours are longer than minutes, an elephant is heavier than a mouse use informal measures to collect and record information about length and height of shapes, and mass of objects English - understanding and using language of approximation and comparison and informal measurement terms in texts Science - using informal measures to record observations, comparing masses of objects using balance scale, such as measuring the heights of plants in standard measures, measuring hand spans	measure and compare lengths, mass, capacities and temperatures, using scaled instruments English - understanding and using measurement terms in texts Science - using a thermometer to measure heating and cooling, recording results to the nearest half unit	record measurements using the metric system, including decimals choose and use appropriate units of measurement for length, area, volume, capacity and mass convert between basic metric units of metres, grams and litres English - understanding the use of measurement terms to determine precision and recognising that precision varies according to context History - using measurements from maps, plans and other sources to describe historical buildings and the layout of settlements	choose appropriate formulas to find the areas of regular two-dimensional shapes and the volumes of prisms distinguish between and calculate the perimeter and area of regular shapes English - understanding that vocabulary choice related to measurement contributes to the specificity of texts	recognise that two- and three-dimensional shapes can be made up of composite shapes choose appropriate formulas for finding area and volume
name and order days of the week and months of the year use a calendar to identify the date and determine the number of days in each month describe duration using months, weeks, days and hours English - using the language of time to sequence events in a narrative History - using the language of time (for example now, then, before, after), months, weeks, days and hours to describe duration of events	use the terms ‘am’ and ‘pm’ accurately English - sequencing photographs in a time series (three time periods), identifying and communicating differences between present and past times English - using time-related vocabulary (second, minute, hour, day)	interpret and use timetables in authentic situations History - creating and using timetables of daily activities to describe how people lived in the past compared to today	use their knowledge of 12- and 24-hour time systems to solve problems involving time within a single time zone	use very small and very large timescales and intervals in appropriate contexts Science: using data from radiocarbon dating, DNA and stratigraphy to estimate dates and ages from the fossil record estimate

By the end of Year 2 students:	By the end of Year 4 students:	By the end of Year 6 students:	By the end of Year 8 students:	By the end of Year 10 students:
History - using calendars and pictorial representations to sequence events from the past	Science - using am and pm when describing night and day in relation to the Earth's rotation History - developing a calendar to calculate the duration of events, for example the journey of the First Fleet and comparing this with the time it would take to make the trip from Portsmouth to Sydney today			
tell time to the quarter hour	tell time to the minute	apply their knowledge of 12- and 24-hour time systems to convert between the two systems		

Information and communication technology (ICT) capability

Introduction

In the Australian Curriculum, students develop ICT capability as they learn to use ICT effectively and appropriately to access, create and communicate information and ideas, solve problems and work collaboratively in all learning areas at school, and in their lives beyond school. The capability involves students in learning to make the most of the digital technologies available to them, adapting to new ways of doing things as technologies evolve and limiting the risks to themselves and others in a digital environment.

The *Melbourne Declaration on the Educational Goals for Young Australians* (MCEETYA 2008) recognises that in a digital age, and with rapid and continuing changes in the ways that people share, use, develop and communicate with ICT, young people need to be highly skilled in its use. To participate in a knowledge-based economy and to be empowered within a technologically sophisticated society now and into the future, students need the knowledge, skills and confidence to make ICT work for them at school, at home, at work and in their communities.

Information and communication technologies are fast and automated, interactive and multimodal, and they support the rapid communication and representation of knowledge to many audiences and its adaptation in different contexts. They transform the ways that students think and learn and give them greater control over how, where and when they learn.

Scope of ICT capability

The nature and scope of ICT capability is not fixed, but is responsive to ongoing technological developments. This is evident in the emergence of advanced internet technology over the past few years and the resulting changes in the ways that students construct knowledge and interact with others.

Students develop capability in using ICT for tasks associated with information access and management, information creation and presentation, problem solving, decision making, communication, creative expression, and empirical reasoning. This includes conducting research, creating multimedia information products, analysing data, designing solutions to problems, controlling processes and devices, and supporting computation while working independently and in collaboration with others.

Students develop knowledge, skills and dispositions around ICT and its use, and the ability to transfer these across environments and applications. They learn to use ICT with confidence, care and consideration, understanding its possibilities, limitations and impact on individuals, groups and communities.

ICT capability across the curriculum

ICT capability supports and enhances student learning across all areas of the curriculum. Students develop and apply ICT knowledge, skills and appropriate social and ethical protocols and practices to investigate, create and communicate, as well as developing their ability to manage and operate ICT to meet their learning needs.

Learning areas provide the content and contexts within which students develop and apply the knowledge, skills, behaviours and dispositions that comprise ICT capability.

ICT capability and the Technologies learning area

Information and communication technology is represented in two ways in the Australian Curriculum: through the ICT capability that applies across all learning areas and within the Technologies curriculum through Digital technologies. The ICT capability will be reviewed (and revised if necessary) to ensure that there is consistency with the Technologies curriculum following its development.

The ICT capability is addressed through the learning areas and is identified wherever it is developed or applied in content descriptions. It is also identified where it offers opportunities to add depth and richness to student learning in content elaborations. An icon indicates where ICT capability has been identified in learning area content descriptions and elaborations. A filter function on the Australian Curriculum website assists users to identify F–10 curriculum content where ICT capability has been identified. Teachers may find further opportunities to incorporate explicit teaching of ICT capability depending on their choice of activities. Students can also be encouraged to develop capability through personally relevant initiatives of their own design.

- Information and communication technology in English (http://www.australiancurriculum.edu.au/English/General-capabilities)
- Information and communication technology in Mathematics (http://www.australiancurriculum.edu.au/Mathematics/General-capabilities)
- Information and communication technology in Science (http://www.australiancurriculum.edu.au/Science/General-capabilities)
- Information and communication technology in History (http://www.australiancurriculum.edu.au/History/General-capabilities)

Background

This background summarises the evidence base from which the ICT capability's introduction, organising elements and learning continuum have been developed. It draws on recent international and national research, as well as initiatives and programs that focus on ICT across the curriculum.

ICT capability is based on sets of relevant knowledge, skills, behaviours and dispositions. Internationally, such capability is typically represented developmentally across interrelated domains or elements to show increasingly sophisticated experiences with the technology. For example, the ICT curriculum for England presents 'lines of progression' in strands and sub-strands. The National Education Technology Standards (NETS) for students provided by the International Society for Technology in Education (ISTE) represent capability with six sets of standards.

In Australia, the *Statements of Learning for ICT* were presented as five broadly defined conceptual organisers, representing key aspects of ICT that apply across the curriculum. The Australian Council for Educational Research (ACER) has also identified a progression in research associated with the National Assessment Program – ICT Literacy.

Early researchers into ICT in education, such as Papert (1980) and Turkle (1984), considered that students constructed reality from experience and prior knowledge. The student interacts with the environment and, to cope with this environment, develops a conceptual framework to explain the interaction. More recent theorists, such as Dede (2009), echo these earlier propositions even as technologies evolve, giving rise to the set of constructs upon which the ICT capability is based. In particular, the overarching element *Applying social and ethical protocols and practices when using ICT* addresses the personal, social and cultural contexts introduced by theorists such as Papert and Turkle.

ICT capability is based on the assumption that technologies are digital tools that enable the student to solve problems and carry out tasks. That is, the ICT system needs to suit the student and the task, while the student needs to develop an understanding of what the machine can do and an appreciation of the limitations under which it operates. In this way, students come to perceive ICT systems as useful tools rather than feeling that they themselves are the tools of the machine (Maas 1983). The latter often occurs when users have little information about how ICT systems operate and simply follow set, standard procedures, determined for them by the system.

Therefore, ICT capability needs to consider the types of tasks that provide authentic contexts for learning. The range of tasks is categorised into three sets: *Investigating with ICT*, *Communicating with ICT* and *Creating with ICT*. Students also need the knowledge and skills to use ICT based on an understanding of the 'nature of the machine'. This is encompassed in the *Managing and operating ICT* element of the continuum.

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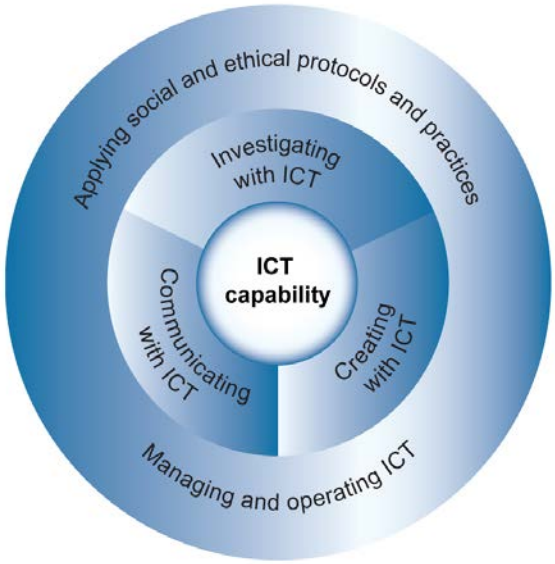
Organising elements

The ICT capability learning continuum is organised into five interrelated elements:

- Applying social and ethical protocols and practices when using ICT
- Investigating with ICT
- Creating with ICT
- Communicating with ICT
- Managing and operating ICT

The diagram below sets out these elements.



Organising elements for ICT capability

Applying social and ethical protocols and practices when using ICT

Students develop ICT capability within a context of social and ethical protocols and practice. This element involves students in developing an understanding of:

- intellectual property pertaining to digital information
- digital information security, including the responsibility to:
    - protect the rights, identity, privacy and emotional safety of online audiences
    - avoid and prevent cyberbullying
    - ensure security of self and/or others
    - respect audiences, being aware of the portrayal of self and others
- the benefits and consequences of ICT for individuals, groups and communities in society, such as:
    - becoming drivers of ICT, seeing themselves as creators as well as consumers of ICT
    - recognising its capacity to enhance participation and inclusion

- analysing how changes in technology impact on and relate to changes in society.

Investigating with ICT

This element involves students in using ICT to access data and information from a range of primary and secondary sources when investigating questions, topics or problems. To do this effectively and efficiently, students use processes of defining, planning, locating, accessing, selecting, organising and evaluating information and data. Students use ICT to:

- define and plan information searches
- locate and access data and information through:
  - search engines, search functions, and general and specialised directories
  - navigation tools between and within documents
  - opening files of different formats
  - organising data and information using a range of ICT tools
- select and evaluate data and information by applying criteria to verify the integrity of data and information and their sources.

Creating with ICT

This element involves students in using ICT to generate ideas, plans, processes and solutions to challenges and tasks. These may relate to learning a concept, completing an activity or responding to a need, and may be self- or teacher-generated. Students use ICT to generate ideas, plans and processes to:

- clarify a task, or the steps and processes required to develop responses to questions or solutions to problems
- generate products or solutions for challenges and learning area tasks to:
  - develop, refine and present new understandings in a digital form
  - create a digital input or a process to support a digital output to transform digital data and information.

Communicating with ICT

This element involves students in using ICT to communicate ideas and information with others and collaboratively construct knowledge, in adherence with social protocols appropriate to the communicative context (purpose, audience and technology). Students use ICT to:

- share, exchange and collaborate to enhance learning by:
  - sharing information in digital forms
  - exchanging information through digital communication
  - collaborating and collectively contributing to a digital product
- understand and apply social protocols to receive, send and publish digital data and information, taking into account characteristics of users

- apply techniques or strategies to ensure security of digital information, to control access, protect files and report abuse.

Managing and operating ICT

This element involves students in using ICT to investigate, create and communicate. This involves applying technical knowledge and skills to work with information as required and use information classification and organisation schemes. Students:

- use digital technologies efficiently including**:**
    - troubleshooting
    - adjusting parameters
    - monitoring occupational health and safety issues
- select appropriate combinations of digital hardware and software to match the needs of the user and the task
- understand the transferability of knowledge and skills between digital systems and applications
- use software to manage and maintain information in digital files.

ICT capability continuum across stages of schooling

Applying social and ethical protocols and practices

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
Intellectual property		
recognise that people create information resources and that the information they create or provide can be used or misused by others (for example understanding that you cannot copy someone else's work)	apply practices that comply with legal obligations regarding the ownership and use of information resources (for example naming sources, avoiding plagiarism, knowing what may or may not be copied)	recognise ethical dilemmas and apply practices that protect intellectual property (for example understanding that pirating denies musicians payment for their work)
Information security		
follow class rules about using resources and apply basic guidelines to secure personal information (for example recognising that when logging onto the network, they are only able to access their own folders)	apply strategies for protecting the security of personal information (for example checking integrity of web links)	use a range of strategies for securing and protecting information and understand the need for codes and conduct (for example using filters to divert junk mail)
Personal security		
recognise the need to take care in sharing personal information (for example messaging only to people you know)	recognise the rights, identity, privacy and emotional safety of themselves and others when using ICT (for example understanding the dangers of providing personal information, recognising ways of using ICT that can result in cyberbullying)	apply appropriate strategies to protect rights, identity, privacy and emotional safety of others when using ICT (for example identifying possible consequences of posting personal information on social networking sites, taking responsibility for the effect of their communications on other people)
ICT and society		
identify how ICT is used in their homes and at school (for example identifying examples in the community such as borrowing a library book, online lunch ordering)	explain the use of ICT at school and in the local community, and understand its impact on their lives (for example recognising the potential impact on health of prolonged electronic game playing)	assess the impact of ICT in the workplace and in society, and speculate on its role in the future and how they can influence its use (for example recognising the potential of enhanced inclusivity for people with disability through ICT)

Investigating with ICT

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
Defining and planning information searches		
use ICT to identify, record, group and classify textual and graphic information to show what is known and what needs to be investigated (for example using colour coding, drawing software to show steps in a sequence)	use appropriate ICT to identify and represent patterns in sets of information and to pose questions (for example using tables in word processing and charts in spreadsheets)	select and use appropriate ICT independently and collaboratively, analyse information to frame questions and plan search strategies (for example using wikis, searching databases)
Locating and accessing data and information		
locate and retrieve textual and graphic information from a range of digital sources (for example locating information following hyperlinks and typing in simple URL, printing pages, copying and pasting text and images)	plan, locate (using search engines and basic search functions), retrieve and organise information in meaningful ways (for example searching within document – find/search/buttons/tabs; locating files within school directory; searching across web or within site)	use advanced search tools and techniques to locate precise data and information that supports the development of new understandings (for example using logical statements such as true/false; searching within fields or for data type; using datalogger equipment, digital microscope)
Selecting and evaluating data and information		
explain the usefulness of located information (for example explaining how digital information answers a question)	assess the suitability of information using appropriate criteria (for example selecting the most useful/reliable/relevant digital resource from a set of three or four alternatives)	develop and use criteria systematically to evaluate the quality, suitability and credibility of located information and sources (for example comparing objective data from multiple digital sources to evaluate the likely credibility of the information provided)

Creating with ICT

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
Generating ideas, plans and processes		
use ICT to prepare simple plans to find solutions or answers to questions (for example drawing simple mindmap using conceptual mapping software; drawing software to show steps in sequence	use ICT effectively to record ideas, represent their thinking and plan solutions (for example using timeline software to plan processes; concept mapping and brainstorming software to generate key ideas	select and use ICT to articulate ideas and concepts, and plan the development of complex solutions(for example using software to create hyperlinks, tables and charts)
Generating solutions to challenges and learning area tasks		
experiment with ICT as a creative tool to generate simple solutions or modifications for particular audiences or purposes (for example using the basic functionality of limited software to manipulate text, images, audio and numbers)	create digital solutions, independently or collaboratively, for particular audiences and purposes (for example manipulating images, text, video and sound for presentations; creating podcasts)	design and modify creative digital solutions, for particular audiences and for a range of purposes (for example modelling solutions in spreadsheets, creating movies, animations, websites and music; programming games; using databases; creating web pages for visually impaired users)

Communicating with ICT

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
Collaborating, sharing and exchanging		
use identified ICT tools safely to share and exchange information with appropriate audiences (for example using email to read and post electronic messages)	select and use appropriate ICT tools safely to share and exchange information and to collaborate with others (for example contributing to the content of a wiki; blogging and posting to bulletin boards)	select and use a range of ICT tools efficiently and safely to share and exchange information and to construct knowledge collaboratively (for example using online applications and management tools for collaborative projects such as online portals, wikis)
Understanding and applying social protocols		
apply basic social protocols when communicating with known audiences (for example addressing recipients appropriately in emails)	apply generally accepted social protocols when sharing information in online environments, taking into account different social and cultural contexts (for example not posting a photo without the owner's permission; not revealing details of identity)	discriminate between protocols suitable for different communication tools when collaborating with local and global communities (for example using appropriate salutations; adjusting length and formality of message to suit form of communication)
Applying techniques or strategies to ensure security of information		
use limited techniques to ensure digital security (for example logging on to server and email)	independently establish secure accounts for approved online environments (for example using non-predictable user names and passwords)	assess the risks associated with online environments and establish appropriate security strategies as required (for example modifying default parameters at social networking site)

Managing and operating ICT

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
Using ICT efficiently and ergonomically		
safely use a limited range of devices, functions and commands when operating an ICT system (for example mouse, USB flash drive, printer, digital camera, robot)	use a range of devices ergonomically and with increasing efficiency, and use basic troubleshooting procedures to solve routine malfunctions (for example using printer queues, file servers, scanners, probes, digital cameras)	use and optimise a selected range of devices and software functions to meet particular tasks (for example altering toolbars, sorting and layout functions; using duplex printing; setting proxies)
Selecting hardware and software		
identify appropriate software for a task (for example using page layout software for posters)	select from appropriate hardware and software to undertake specific tasks (for example selecting specific graphics software or graphic tools in word processors)	independently select and apply appropriate software and hardware to suit specific tasks, purposes and social contexts (for example selecting an appropriate option for creating a website such as an online tool or an HTML editor)
Understanding ICT systems		
identify the main components of an ICT system, their fundamental functions, and describe them using basic ICT terminology (for example identifying basic hardware and peripherals, such as mouse, keyboard, monitor, printer, and some software programs, such as word processing, drawing and paint software)	understand the uses of basic ICT system components (for example input – keyboard; process – central processing unit; output – display to monitor; storage – USB, hard drive)	apply an understanding of ICT system components to make changes to functions, processes, procedures and devices to fit the purpose of the solutions (for example saving files in different formats so that they are compatible across different software platforms)
Managing digital data		
manage and maintain digital files with guidance (for example saving and retrieving files; providing unique names for files; applying basic functions such as opening and dragging-and dropping files)	effectively manage and maintain files on different storage mediums – locally and on networks (for example saving/exporting data in files of different formats; routinely backing up and protecting data; moving a file from one location to another))	manage and maintain files securely in a variety of storage mediums and formats (for example designing and using logical and sustainable file/folder naming conventions; maintaining version control of documents; limiting access to files by location or password)

Critical and creative thinking

Introduction

In the Australian Curriculum, students develop capability in critical and creative thinking as they learn to generate and evaluate knowledge, clarify concepts and ideas, seek possibilities, consider alternatives and solve problems. Critical and creative thinking are integral to activities that require students to think broadly and deeply using skills, behaviours and dispositions such as reason, logic, resourcefulness, imagination and innovation in all learning areas at school and in the lives beyond school.

The *Melbourne Declaration on Educational Goals for Young Australians* (MCEETYA 2008) recognises that critical and creative thinking are fundamental to becoming successful learners. Thinking that is productive, purposeful and intentional is at the centre of effective learning. By applying a sequence of thinking skills, students develop an increasingly sophisticated understanding of the processes they can employ whenever they encounter problems, unfamiliar information and new ideas. In addition, the progressive development of knowledge about thinking and the practice of using thinking strategies can increase students' motivation for, and management of, their own learning. They become more confident and autonomous problem-solvers and thinkers.

Responding to the challenges of the twenty-first century – with its complex environmental, social and economic pressures – requires young people to be creative, innovative, enterprising and adaptable, with the motivation, confidence and skills to use critical and creative thinking purposefully.

Scope of Critical and creative thinking

This capability combines two types of thinking – critical thinking and creative thinking. Though the two are not interchangeable, they are strongly linked, bringing complementary dimensions to thinking and learning.

Critical thinking is at the core of most intellectual activity that involves students in learning to recognise or develop an argument, use evidence in support of that argument, draw reasoned conclusions, and use information to solve problems. Examples of thinking skills are interpreting, analysing, evaluating, explaining, sequencing, reasoning, comparing, questioning, inferring, hypothesising, appraising, testing and generalising.

Creative thinking involves students in learning to generate and apply new ideas in specific contexts, seeing existing situations in a new way, identifying alternative explanations, and seeing or making new links that generate a positive outcome. This includes combining parts to form something original, sifting and refining ideas to discover possibilities, constructing theories and objects, and acting on intuition. The products of creative endeavour can involve complex representations and images, investigations and performances, digital and computer-generated output, or occur as virtual reality.

Concept formation is the mental activity that helps us compare, contrast and classify ideas, objects, and events. Concept learning can be concrete or abstract and is closely allied with metacognition. What has been learned can be applied to future examples.

It underpins the elements outlined below. Dispositions such as inquisitiveness, reasonableness, intellectual flexibility, open- and fair-mindedness, a readiness to try new ways of doing things and consider alternatives, and persistence both promote and are enhanced by critical and creative thinking.

Critical and creative thinking can be encouraged simultaneously through activities that integrate reason, logic, imagination and innovation – for example, focusing on a topic in a logical, analytical way for some time, sorting out conflicting claims, weighing evidence, thinking through possible solutions, and then, following reflection and perhaps a burst of creative energy, coming up with innovative and considered responses. Critical and creative thinking are communicative processes that develop both flexibility and precision. Communication is integral to each of the thinking processes. By sharing thinking, visualisation and innovation, and by giving and receiving effective feedback, students learn to value the diversity of learning and communication styles.

For a description of the organising elements for Critical and creative thinking, go to Organising elements.

Critical and creative thinking across the curriculum

The imparting of knowledge (content) and the development of thinking skills are accepted today as primary purposes of education. The explicit teaching and embedding of critical and creative thinking throughout the learning areas encourages students to engage in higher order thinking. By using logic and imagination, and by reflecting on how they best tackle issues, tasks and challenges, students are increasingly able to select from a range of thinking strategies and employ them selectively and spontaneously in an increasing range of learning contexts.

Activities that foster critical and creative thinking should include both independent and collaborative tasks, and entail some sort of transition or tension between ways of thinking. They should be challenging and engaging, and contain approaches that are within the ability range of the learners, but also challenge them to think logically, reason, be open-minded, seek alternatives, tolerate ambiguity, inquire into possibilities, be innovative risk-takers and use their imagination.

Critical and creative thinking is addressed through the learning areas and is identified wherever it is developed or applied in content descriptions. It is also identified where it offers opportunities to add depth and richness to student learning in content elaborations. An icon indicates where critical and creative thinking has been identified in learning area content descriptions and elaborations. A filter function on the Australian Curriculum website assists users to identify F–10 curriculum content where critical and creative thinking has been identified. Teachers may find further opportunities to incorporate explicit teaching of critical and creative thinking depending on their choice of activities. Students can also be encouraged to develop capability through personally relevant initiatives of their own design.

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- Critical and creative thinking in Mathematics (http://www.australiancurriculum.edu.au/Mathematics/General-capabilities)
- Critical and creative thinking in Science (http://www.australiancurriculum.edu.au/Science/General-capabilities)

- Critical and creative thinking in History
  (http://www.australiancurriculum.edu.au/History/ General-capabilities)

Background

This background summarises the evidence base from which the Critical and creative thinking capability's introduction, organising elements and learning continuum have been developed. It draws on foundational and recent international and national research, as well as initiatives and programs that focus on critical and creative thinking across the curriculum.

Critical and creative thinking are variously characterised by theorists as dispositions (Tishman, Perkins and Jay; Ritchhart, Church and Morrison), taxonomies of skills (Bloom; Anderson, Krathwohl et al.), habits and frames of mind (Costa and Kallick; Gardner; de Bono), thinking strategies (Marzano, Pickering and Pollock), and philosophical inquiry (Lipman, Sharp and Oscanyan). Each of these approaches has informed the development of the Critical and creative thinking capability.

The capability is concerned with the encouragement of skills and learning dispositions or tendencies towards particular patterns of intellectual behaviour. These include being broad, flexible and adventurous thinkers, making plans and being strategic, demonstrating metacognition, and displaying intellectual perseverance and integrity. Students learn to skilfully and mindfully use thinking dispositions or 'habits of mind' such as risk taking and managing impulsivity (Costa and Kallick 2000) when confronted with problems to which solutions are not immediately apparent.

Both Gardner (1994) and Robinson (2009) emphasise that we need to understand and capitalise on the natural aptitudes, talents and passions of students – they may be highly visual, or think best when they're moving, or listening, or reading. Critical and creative thinking are fostered through opportunities to use dispositions such as broad and adventurous thinking, reflecting on possibilities, and metacognition (Perkins 1995), and can result from intellectual flexibility, open-mindedness, adaptability and a readiness to experiment with and clarify new questions and phenomena (Gardner 2009). Recent discoveries in neuroscience have furthered theories about thinking, the brain, perception and the link between cognition and emotions. Theorists believe that learning is enhanced when rich environments contain multiple stimuli, stressing the importance of engaging the mind's natural curiosity through complex and meaningful challenges.

Educational taxonomies map sequences of skills and processes considered to be foundational and essential for learning. The most well known of these, developed by Bloom et al. (1956), divided educational objectives into domains where learning at the higher levels was dependent on having attained prerequisite knowledge and skills at lower levels. In 1967, Bruner and colleagues described the process of concept learning as an active process in which learners construct new concepts or ideas based on their knowledge.

The philosophical inquiry model, first applied to school education by Lipman, Sharp and Oscanyan (1980), has two major elements: critical and creative thinking, and forming a classroom environment called a 'community of inquiry', to support the development of thinking and discussion skills. This model places emphasis on possibilities and meanings, wondering, reasoning, rigour, logic, and using criteria for measuring the quality of thinking.

Lave and Wenger (1991) described 'learning communities' that value their collective competence and learn from each other. Through their notion of 'authentic' learning, the importance of engagement and linking student interests and preferred learning modes with classroom learning has emerged. Marzano, Pickering and Pollock (2001) identified the strategies most likely to improve student achievement across all content areas and grade levels. These include using non-linguistic representations and learning organisers, and generating and testing hypotheses.

In 2001, Anderson and Krathwohl changed Bloom's cognitive process of 'synthesis' to 'creativity' and made it the highest level of intellectual functioning. They believed the ability to create required the production of an original idea or a product from a unique synthesis of discrete elements.

Twenty-first century learning theories emphasise the importance of supporting authentic and ubiquitous (anywhere, anyhow) learning, and providing students with opportunities, resources and spaces to develop their creative and critical thinking skills (Newton and Fisher 2009; McGuinness 1999, 2010). Gardner's (2009) five 'minds' for the future – the disciplined, synthesising, creating, respectful and ethical minds – offers a helpful starting place. Learners need to develop the skills to analyse and respond to authentic situations through inquiry, imagination and innovation.

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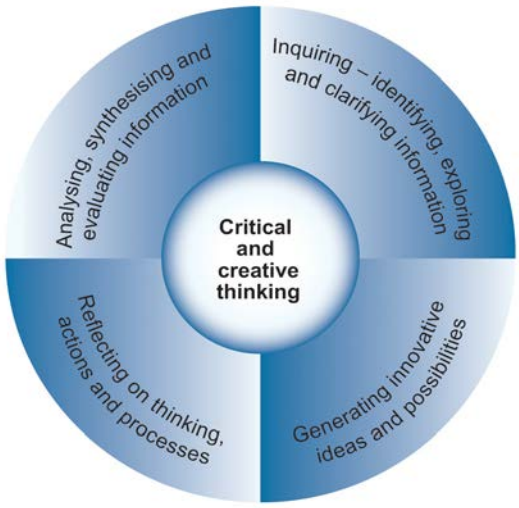
Organising elements

The Critical and creative thinking learning continuum is organised into four interrelated elements, each detailing differing aspects of thinking. The elements are not a taxonomy of thinking. Rather, each makes its own contribution to learning and needs to be explicitly and simultaneously developed.

- Inquiring – identifying, exploring and clarifying information
- Generating innovative ideas and possibilities
- Reflecting on thinking, actions and processes
- Analysing, synthesising and evaluating information.

The diagram below sets out these elements.



Organising elements for Critical and creative thinking

Inquiring – identifying, exploring and clarifying information

This element involves students in the identification and clarification of questions and issues, followed by gathering and processing information. When gathering, exploring and clarifying information and ideas creatively, students develop the capacity to be open-minded and ask different kinds of questions. Identifying and facing new challenges and opportunities leads them to more effectively process new information and more efficiently expand their knowledge. In summary, inquiring primarily consists of:

- identifying, exploring and clarifying questions and issues
- gathering, organising and processing information
- transferring knowledge into new contexts.

Generating innovative ideas and possibilities

This element involves students in the investigation, organisation and evaluation of ideas through considering alternatives and seeking innovative solutions. Students generate and develop ideas and possibilities through engagement in challenging activities.

Learning to plan and manage thinking aids the development of intellectual flexibility and leads to the consolidation of learning. In summary, generating primarily consists of:

- imagining possibilities and considering alternatives
- seeking and creating innovative pathways and solutions
- suspending judgment to visualise possibilities.

Reflecting on thinking, actions and processes

This element involves students in suspending judgment and reflecting on thinking processes (metacognition), procedures and products to create alternatives or open up possibilities. Through using these thinking skills, processes and dispositions, students gain an understanding of how to best achieve outcomes. They practise the categorisation and linking of ideas in innovative ways. In summary, reflecting primarily consists of:

- reflecting on thinking (metacognition)
- reflecting on procedures and products.

Analysing, synthesising and evaluating information

This element involves students in analysing, synthesising and applying logic, and reflecting on how to best tackle issues, tasks and challenges. Students assess and select from a range of thinking strategies to evaluate ideas and information and draw conclusions. Finding new contexts to employ these conclusions selectively, and synthesising their knowledge, assists in the design of a course of action. In summary, analysing primarily consists of:

- applying logical and inventive reasoning
- drawing conclusions and designing a course of action.

Critical and creative thinking continuum across stages of schooling

Inquiring – identifying, exploring and clarifying information

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
Identifying, exploring and clarifying questions and issues		
pose questions to explore issues in their own world (for example asking why certain actions and events occurred)	pose questions that identify and describe issues beyond their immediate world (for example questioning conventional responses to local and world events, asking who, when and why)	pose questions that probe complex and abstract ideas about societal issues (for example developing and modifying questions to inform an inquiry, uncover complexity or provoke argument)
identify main ideas and clarify meaning in information (for example examining themes in texts or images)	prioritise ideas and select information to form a considered and/or creative response to an issue (for example giving reasons for preferring a photo or a memory to recall an occasion)	explore the coherence and logic of multiple perspectives on an issue (for example exploring contrasting positions such as in an environmental issue)
Gathering, organising and processing information		
organise information based on similar ideas from given sources (for example finding examples of kindness in several resources)	identify and categorise information from multiple sources (for example establishing issues of a similar nature in literature and film)	pose questions to test possibilities and examine independently sourced data for bias and reliability (for example critiquing a range of sources to establish ways of verifying reliability)
compare and contrast points identified within information	sequence, paraphrase, elaborate or condense information from a range of sources	process complementary and contradictory information from primary and secondary sources
Transferring knowledge into new contexts		
use relevant information from a previous experience to inform a new experience (for example recalling the reasons previously given and applying them in new situations)	apply knowledge gained from one context to another unrelated context and apply new meaning (for example considering the meaning of change as it is used in science compared with its meaning in history)	construct systematic plans to transfer ideas and trends between different scenarios (for example looking for patterns and integrating various topics into one problem)

Generating innovative ideas and possibilities

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
Imagining possibilities and considering alternatives		
create new ideas by linking what they know in imaginative and original ways (for example considering whether it is possible for a person to be taller and shorter than you at the same time)	create analogies by matching two ideas in context (for example using unusual or unexpected combinations of ideas to create new possibilities)	draw parallels between known and new scenarios, and use ideas, patterns and trends to consider new possibilities (for example developing hypotheses based on known models and theories)
explain or demonstrate ideas in a variety of ways to help others' understanding	use a range of visualisation strategies to challenge and investigate possibilities (for example diagrams, mindmapping)	represent explanations and ideas by using imagery and symbolism to communicate creative ideas to others
Seeking and creating innovative pathways and solutions		
think imaginatively – asking 'What if ...?' to generate unusual responses to a problem (for example What if a person understood the language spoken by everyone?)	recognise there are multiple choices for solving a problem and imagine outcomes of these possibilities (for example generating and building on varied possible solutions to a problem that affects their lives)	predict possibilities and envisage consequences when seeking new meanings (for example pursuing an unexpected result or several solutions in an inquiry)
look for new patterns and connections within information in familiar situations (for example mapping connections between events in texts)	engage in challenging situations, and persist with generating new approaches when initial ideas do not work (for example persisting with an idea when conducting an investigation and seeing 'failures' as challenging)	speculate on possible options and outcomes, and modify responses to concrete and abstract ideas (for example developing ideas for further investigation based on past experiences)
Suspending judgment to visualise possibilities		
consider alternative actions to given situations (for example exploring problems identified in learning areas and ways of overcoming them)	set their judgments to one side to consider alternative ideas and actions (for example taking risks when exploring ideas, concepts and knowledge)	temporarily suspend rational thinking to allow new possibilities to emerge (for example expressing, in other forms, ideas or concepts that cannot be expressed in words)

Reflecting on thinking, actions and processes

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
Reflecting on thinking		
with support, identify and describe thinking and learning strategies they have used(for example deciding the best strategy for solving a problem)	independently reflect on their thinking, consider reasonable criticism and adjust thinking if necessary(for example identifying where methods of investigation and inquiry could be improved)	give reasons to support their own thinking, show awareness of opposing viewpoints and possible weaknesses in their own positions (for example comparing justifications for approaching problems in certain ways)
describe their thinking in terms of personal feelings and concerns	form personal theories, paraphrase and construct analogies or similes to explain their thinking	set personal goals for further development of critical and creative thinking
Reflecting on procedures and products		
reflect on whether they have accomplished what they set out to do (for example Did they listen well to a peer's answer?)	explain and justify actions and solutions against identified criteria (for example examining their own and peer responses to an issue)	evaluate the effectiveness of possible solutions and implement improvement to achieve desired outcomes (for example evaluating the strength of a conclusion, identifying alternative solutions consistent with evidence)

Analysing, synthesising and evaluating information

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
Applying logical and inventive reasoning		
consider and choose information that is relevant to understanding given situations or issues (for example distinguishing between what is 'real' and what is imagined in texts)	identify gaps in knowledge and missing elements in information, seek further information to make improvements and use evidence to test propositions (for example assessing whether there is enough evidence to make a particular claim)	analyse the means and resources available for finding solutions (for example testing propositions to identify reliability of data and faulty reasoning)
identify the details of a whole task and separate it into workable parts (for example sorting information in graphs and graphic organisers)	choose pertinent information from a range of sources and separate this information into smaller parts or ideas (for example examining sources of evidence to identify similarities and differences)	balance rational and irrational components of a complex or ambiguous problem to evaluate evidence (for example exploring attitudes to changing patterns of social groupings)
Drawing conclusions and designing a course of action		
recognise a problem and explore possible pathways for reaching a conclusion	draw on prior knowledge and evidence to formulate solutions to a problem	identify a problem, isolate its important aspects, and use logical and abstract thinking to formulate a response
consider alternative courses of action when presented with new information (for example asking how an outcome would change if a character acted differently)	use concrete, pictorial and digital models to check reasoning and modify actions accordingly (for example using graphs, charts, visuals to chart progress of an action/argument and propose alternatives)	analyse and synthesise complex information to draw conclusions and inform a course of action (for example using primary or secondary evidence to support or refute a conclusion)

Personal and social capability

Introduction

In the Australian Curriculum, students develop personal and social capability as they learn to understand themselves and others, and manage their relationships, lives, work and learning more effectively. The capability involves students in a range of practices including recognising and regulating emotions, developing empathy for and understanding of others, establishing positive relationships, making responsible decisions, working effectively in teams and handling challenging situations constructively.

The *Melbourne Declaration on the Educational Goals for Young Australians* (MCEETYA 2008) recognises that personal and social capability assists students to become successful learners, helping to improve their academic learning and enhancing their motivation to reach their full potential. Personal and social capability supports students in becoming creative and confident individuals with 'a sense of self-worth, self-awareness and personal identity that enables them to manage their emotional, mental, spiritual and physical wellbeing', with a sense of hope and 'optimism about their lives and the future'. On a social level, it helps students to 'form and maintain healthy relationships' and prepares them 'for their potential life roles as family, community and workforce members' (MCEETYA, p. 9).

Students with well-developed social and emotional skills find it easier to manage themselves, relate to others, develop resilience and a sense of self-worth, resolve conflict, engage in teamwork and feel positive about themselves and the world around them. The development of personal and social capability is a foundation for learning and for citizenship.

Scope of Personal and social capability

Personal and social capability encompasses students' personal/emotional and social/relational dispositions, intelligences, sensibilities and learning. It develops effective life skills for students, including understanding and handling themselves, their relationships, learning and work. Although it is named 'Personal and social capability', the words 'personal/emotional' and 'social/relational' are used interchangeably throughout the literature and within educational organisations. The term 'Social and Emotional Learning' is also often used, as is the SEL acronym.

When students develop their skills in any one of these elements, it leads to greater overall personal and social capability, and also enhances their skills in the other elements. In particular, the more students learn about their own emotions, values, strengths and capacities, the more they are able to manage their own emotions and behaviours, and to understand others and establish and maintain positive relationships.

For a description of the organising elements for Personal and social capability, go to Organising elements.

Personal and social capability across the curriculum

Personal and social capability skills are addressed in all learning areas and at every stage of a student's schooling. However, some of the skills and practices implicit in the development of the capability may be most explicitly addressed in specific learning areas, such as Health and Physical Education.

The Personal and social capability is addressed through the learning areas and is identified wherever it is developed or applied in content descriptions. It is also identified where it offers opportunities to add depth and richness to student learning in content elaborations. An icon indicates where Personal and social capability has been identified in learning area content descriptions and elaborations. A filter function on the Australian Curriculum website assists users to identify F–10 curriculum content where Personal and social capability has been identified. Teachers may find further opportunities to incorporate explicit teaching of Personal and social capability depending on their choice of activities. Students can also be encouraged to develop capability through personally relevant initiatives of their own design.

- Personal and social capability in English (http://www.australiancurriculum.edu.au/English/General-capabilities#Critical-and-creative-thinking)
- Personal and social capability in Mathematics (http://www.australiancurriculum.edu.au/Mathematics/General-capabilities#Critical-and-creative-thinking)
- Personal and social capability in Science (http://www.australiancurriculum.edu.au/Science/General-capabilities#Critical-and-creative-thinking)
- Personal and social capability in History (http://www.australiancurriculum.edu.au/History/General-capabilities#Critical-and-creative-thinking)

Background

This background summarises the evidence base from which the Personal and social capability's introduction, organising elements and learning continuum have been developed. It draws on recent international and national research, as well as initiatives and programs that focus on personal and social capability across the curriculum.

The domain of personal and social learning is not new, despite changes to nomenclature, definitions and understandings over the past century. In 1920, Thorndike identified 'social intelligence' as an important facet of intelligence. Since then, many researchers and educators, including Moss and Hunt (1927), Vernon (1933), Wechsler (1940), Gardner (1983), Salovey and Mayer (1990), Seligman (1998) and Goleman (1995, 1998, 2006), have explored this concept, each contributing to current understandings of this domain. Importantly, recent contributors have emphasised the ability to develop and improve personal and social capability both as adults and as children.

Two contributors have been particularly significant to recent developments in personal and social learning as a competence or capability in school education. Gardner's (1983) *Frames of Mind: the theory of multiple intelligences* broadened notions of intelligence, introducing and popularising the concepts of intrapersonal and interpersonal intelligence, which represented two of his eight intelligences. More recently, Goleman further popularised the concepts of emotional intelligence (1995) and social intelligence (2006) in educational discourse.

In 1994, Goleman and others founded the Collaborative for Academic, Social, and Emotional Learning (CASEL) at the University of Illinois Chicago (UIC). Since then, CASEL has been the world's leading organisation in advancing understandings, research, networks, curriculum, school practice and public policy in the area of personal and social learning.

CASEL's evidence-based approach and definitions of Social and Emotional Learning (SEL) are the best known and most highly respected in the world today, and provide an excellent framework for integrating the academic, emotional and social dimensions of learning.

Most educational programs around the world that integrate social and emotional learning are based on CASEL's SEL framework. This framework is also drawn upon and referenced by various personal, interpersonal and social curricula in Australian states and territories, and by programs such as *MindMatter*s, *KidsMatter* and *Response Ability*.

While some differences emerge within the literature about how personal and emotional learning should be named, constructed and taught, and different organisations also include some additional categories, it is widely accepted that a Personal and social capability will always include a minimum foundation of the four interrelated and non-sequential organising elements – *Self-awareness*, *Self-management*, *Social awareness* and *Social management* – used in the Personal and social capability learning continuum.

The capability has also been richly informed by understandings gained through the *National Framework for Values Education in Australian Schools* (DEEWR 2005), and the resultant Values education initiatives in all areas of Australian schooling. In addition, the *Melbourne Declaration on Goals for Young Australians* (MCEETYA, p. 5) states that 'a school's legacy to young people should include national values of democracy, equity and justice, and personal values and attributes such as honesty, resilience and respect for others'. While Values education is certainly found in the Personal and social capability, it is also located within other general capabilities, such as Ethical behaviour.

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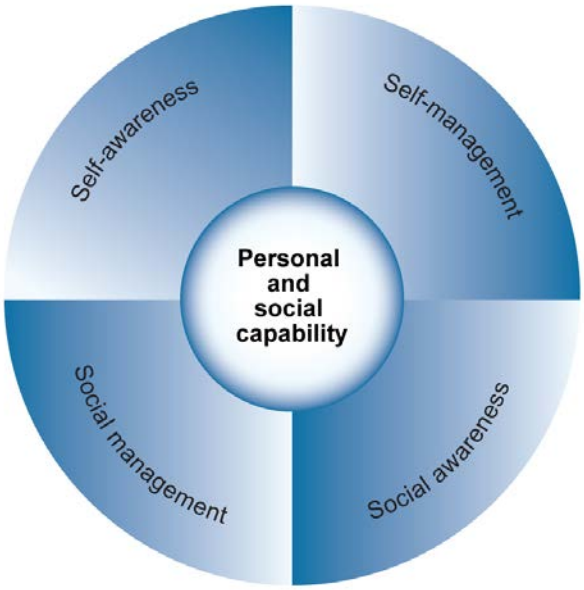
Organising elements

The Personal and social capability learning continuum is organised into four interrelated elements of:

- Self-awareness
- Self-management
- Social awareness
- Social management.

The diagram below sets out these elements.



Organising elements for Personal and social capability

Self-awareness

This element involves students in recognising, understanding and labelling their own emotions, values, strengths and capacities. It involves students in knowing what they are feeling in the moment, having a realistic assessment of their own abilities and a well-grounded sense of self-worth and self-confidence. Self-awareness also involves reflecting on and evaluating one's learning, identifying personal characteristics that contribute to or limit effectiveness, learning from successes or failures, and being able to interpret one's own emotional states, needs and perspectives. In summary, Self-awareness primarily consists of:

- recognition of emotions
- self-knowledge
- self-perception
- self-worth
- reflective practice.

Self-management

This element involves students in effectively managing and regulating their own emotions and behaviour, and persisting in completing tasks and overcoming personal obstacles. It includes learning self-discipline and self-control, and setting personal and academic goals. This is achieved through learning to be conscientious, delaying gratification and persevering in the face of setbacks and frustrations. Self-management also involves managing and monitoring one's own learning, taking responsibility for one's behaviour and performance, increasing personal motivation and planning, and undertaking work independently. It also involves the metacognitive skill of learning when and how to use particular strategies. In summary, Self-management primarily consists of:

- appropriate expression of emotions
- self-discipline
- goal setting and tracking
- working independently and showing initiative
- confidence, resilience and adaptability.

Social awareness

This element involves students in perceiving and understanding other people's emotions and viewpoints, and showing understanding and empathy for others. It includes appreciating and understanding what others are feeling, being able to consider their perspective and interacting positively with diverse groups of people. Social awareness involves being able to interpret and understand others' perspectives, emotional states and needs, which results in inclusive interactions and respect for individual and group differences. It also involves identifying the strengths of team members and defining and accepting individual and group roles and responsibilities. Ideally, this will result in a desire to advocate for and be of service to others, and to respect the principles of inclusivity, equality and social justice. Students will also gain an understanding of the diversity and rich cultural dimensions of contemporary Australia and the capacity to critique societal constructs and forms of discrimination, such as racism and sexism. In summary, Social awareness primarily consists of:

- empathy
- appreciating diverse perspectives
- contributing to civil society, advocacy for and service to others
- understanding relationships.

Social management

This element involves students in forming strong and healthy relationships, and managing and positively influencing the emotions and moods of others. It includes learning how to cooperate, negotiate and communicate effectively with others, work in teams, make decisions, resolve conflict and resist inappropriate social pressure. It also involves the ability to initiate and manage successful personal relationships, and participate in a range of social and communal activities. Social management involves building skills associated with leadership, such as working in harmony with others and with shared purposes. In summary, Social management primarily consists of:

- communication
- working collaboratively
- decision making
- conflict resolution and negotiation
- building and maintaining relationships
- leadership.

Personal and social capability continuum across stages of schooling

Self-awareness

Recognising emotions		
By the end of Year 2 students:	**By the end of Year 6 students:**	**By the end of Year 10 students:**
identify and name their emotions, and the impact emotions have on their lives (for example identifying specific emotions in responding to particular stories)	describe and understand their emotional responses in various situations, including how emotions are linked to behaviour and learning (for example making connections between texts and their own experiences)	demonstrate deepening understandings of their emotional responses in a range of learning and social situations (for example identifying and articulating their challenges and strengths in individual and collaborative learning situations)
Self-knowledge		
discover personal strengths and challenges, and describe their abilities, likes and dislikes (for example understanding that language can be used to explore ways of expressing needs, likes and dislikes)	describe and assess personal strengths and challenges, learning from success and failure (for example keeping a journal of their learning, describing both positive and negative experiences)	apply knowledge of their strengths and abilities as learners to other aspects of their lives (for example applying learning from scientific inquiry, such as forming and testing a hypothesis to other contexts)
Self-perception		
discover who they are and where they fit into their family, class and peer groups (for example using their senses to make observations and explore the world around them)	recognise a range of external influences that may impact on their sense of identity (for example using historical inquiry to examine factors that lead to a sense of identity for people in other cultures, and for themselves)	demonstrate deepening understandings of their personal identity, including its effects on their self-esteem, self-confidence, health, wellbeing, learning and relationships (for example creating literacy texts that reflect an emerging sense of personal style)
Self-worth		
recognise and celebrate what they have done well, and acknowledge and learn from their mistakes (for example sharing a personal experience, interest or discovery with peers, and verbalising what they have learnt from this experience)	demonstrate awareness of personal habits and behaviour, and factors influencing their successes and mistakes (for example setting learning and study goals that take into account their challenges and build on their strengths)	describe, clarify, value and reflect on the range of their own opinions, beliefs, values, questions, choices and emotional responses (for example reflecting on personal understanding of the world drawn from texts they have read, and creating texts that represent personal belief systems)
Reflective practice		
reflect on and discover more about themselves – their strengths, challenges and interests (for example reporting to class through 'show and tell' opportunities to identify and describe their interests)	reflect on and apply learning to their everyday lives to consolidate strengths and address challenges (for example when working in small groups, build on their strengths in various roles, and setting goals to develop specific skills)	reflect on and make realistic assessments of their abilities, identifying characteristics that contribute to or limit their effectiveness as learners, friends and community members (for example developing personal learning plans that take account of their strengths and challenges)

Self-management

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
Appropriate expression of emotions		
understand and begin to demonstrate appropriate expression and management of their emotions (for example using voice level and facial expressions appropriate to different situations)	draw and understand complex connections between their emotions and their behaviour, as they relate to learning and relationships (for example understanding uses of subjective and objective language, including when it is appropriate to share feelings)	express and manage their opinions, beliefs, values, questions, choices and emotional responses (for example choosing appropriate language and voice to convey personal responses and opinions to a range of audiences)
Self-discipline		
show self-discipline in their learning, recognising the need to complete tasks within a given time (for example organising their time using calendars and clocks)	show self-discipline in organising their learning (for example identifying and using strategies to manage time and resources effectively)	manage and check their behaviours and performance in learning activities, applying learning from school to their personal lives (for example using spreadsheets and other organisers to plan and arrange activities at school and study outside school)
Goal setting and tracking		
set goals to assist their learning and personal organisation, demonstrating care for personal property and shared materials	set and keep track of personal and academic goals	set, keep track of and are accountable for goals related to self-management, self-regulation and stress management
Working independently and showing initiative		
begin to work independently, showing initiative and recognising when to ask for help and support	recognise the value of working independently, taking initiative to do so where appropriate	are accountable for their own learning, working independently, and setting and monitoring personal goals
Confidence, resilience and adaptability		
build confidence and resilience, being willing to undertake and persist with short tasks, and acknowledging successes	demonstrate confidence in themselves, showing persistence and adaptability in completing challenging tasks	demonstrate motivation, confidence and commitment when faced with new or difficult situations, and acknowledging progress and accomplishments

Social awareness

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
Empathy		
interpret and anticipate the emotional states of others based on their words, facial expressions and body language (for example comparing their own and others' responses to stories, images and historical artefacts, and sharing this with peers)	use listening and observational skills to identify and empathise with the feelings and perspectives of others in a range of situations (for example using historical data to imagine the experiences of people, dislocated by war, on their arrival and settlement in Australia)	identify increasingly complex verbal, physical and situational cues to interpret and empathise with the emotional states, needs and perspectives of others (for example understanding that language can be used to include or exclude people)
Appreciating diverse perspectives		
describe commonalities and differences between themselves and people in their communities, recognising that people hold many viewpoints (for example comparing changes in daily lives over time and in different places, describing what they would like their grandchildren to know about their lives)	recognise that social cues and means of communication may differ within and between various communities, explaining a point of view that is different from their own (for example identifying the ways that language is used in a range of social settings, identifying points of view in the past and present)	understand that social and cultural groups are represented in a range of ways by their own members and by others, evaluating two differing points of view (for example recognising how language can be used to position listeners in particular ways, analysing different accounts of the same event)
Contributing to civil society, advocacy for and service to others		
identify and carry out ways of contributing to their homes, classrooms and communities, and recognise how others help them (for example identifying where and how people use science in their daily lives, describing contributions made by significant individuals to their communities in the past)	explain and act on personal roles and responsibilities in their homes, schools and communities (for example considering how personal and community choices influence the use of sustainable sources of energy)	plan, implement and evaluate ways of contributing to their communities (for example assessing personal and social roles and responsibilities and ways of contributing to a more just society)
Understanding relationships		
value relationships and friendships, recognising how words and actions can help or hurt others, and recognise the effects of modifying their behaviour (for example discussing the effects of characters' words and actions on others in texts)	identify the differences between positive and negative relationships and ways of managing these(for example using visual and linguistic cues to describe and interpret relationships between characters in texts)	explain how relationships differ between peers, parents, teachers and other adults, and identify the skills needed to manage different types of relationships (for example identifying the various communities to which they belong and how language reinforces membership of these communities)

Social management

By the end of Year 2 students	By the end of Year 6 students:	By the end of Year 10 students:
Communication		
use verbal and nonverbal communication skills, such as listening when others speak, waiting their turn and knowing when to respond (for example using spoken language and body language to share observations and ideas)	build verbal and nonverbal communication skills, such as attentive and reflective listening, participation in class discussions, presentation of group reports (for example contributing to discussions and building on the ideas of others)	formulate and apply guidelines for effective communication (verbal, nonverbal, digital) to complete tasks of varying complexity (for example using agreed protocols to interrupt in group discussions, asserting their own viewpoint appropriately, showing willingness to entertain divergent views)
Working collaboratively		
work with partners and in small groups, using strategies such as taking turns, staying on task, sharing resources (for example participating in guided investigations as part of a group)	work in teams, encouraging others and recognising their contributions, negotiating roles and managing time and tasks (for example working collaboratively to suggest improvements in methods used for group investigations and projects)	develop strategies for working in diverse teams, drawing on the skills and contribution of team members to complete complex tasks (for example developing a plan for achieving group goals and criteria for evaluating success, considering the ideas of others in reaching an independent or shared decision)
Decision making		
practise group decision making with peers in situations such as class meetings and when working in pairs and small groups (for example negotiating and engaging in group rules such as taking turns, decision making)	identify and explain how factors such as feelings, social and cultural norms, and conflicting points of view influence individual and group decision making (for example discussing the influence of scientific knowledge on personal and community decisions)	develop and apply criteria to evaluate the consequences of individual and group decisions (for example using scientific, ethical, economic and social arguments to make decisions regarding personal and community issues)
Conflict resolution and negotiation		
clarify and practise solving simple interpersonal problems, recognising that there are many ways to solve conflicts (for example showing courtesy to others when voicing disagreement or an alternative point of view)	identify causes and effects of conflict, and use effective strategies to manage, resolve and negotiate these conflict situations (for example identifying issues that cause conflict and exploring how conflict has been resolved in a range of contexts)	generate, apply and evaluate strategies such as active listening, mediation and negotiation to prevent and resolve interpersonal problems and conflicts (for example using mediation skills to support people holding different views on a given topic and to respect one another's views)
Building and maintaining relationships		
build relationships with peers as they participate in and contribute to classroom and group activities (for example acknowledging the contribution of others in group tasks)	understand the difference between safe and risky behaviours in relationships (for example identifying risks in potentially dangerous situations and strategies for avoiding unsafe behaviours)	consolidate and evaluate skills used for communication and effective relationships with peers, teachers and families (for example differentiating between passive, assertive and aggressive responses)
Leadership		
show a sense of responsibility and sensitivity to others and become skilled in treating others fairly	initiate or help to organise classroom and group activities, identifying and addressing a common need	propose, implement and monitor strategies to address needs prioritised in classrooms, schools and communities

Ethical behaviour

Introduction

In the Australian Curriculum, students develop capability in learning to behave ethically as they identify and investigate the nature of ethical concepts, values, character traits and principles, and understand how reasoning can assist ethical judgment. Ethical behaviour involves students in building a strong personal and socially oriented ethical outlook that helps them to manage context, conflict and uncertainty, and to develop an awareness of the influence that their values and behaviour have on others.

The *Melbourne Declaration on Education Goals for Young Australians* (MCEETYA 2008) recognises that ethical behaviour assists students to become 'confident and creative individuals and active and informed citizens'. It does this through fostering the development of 'personal values and attributes such as honesty, resilience, empathy and respect for others', and the capacity to act with ethical integrity (MCEETYA, pp. 8–9).

As cultural, social, environmental and technological changes transform the world, the demands placed on learners and education systems are changing. Technologies bring local and distant communities into classrooms, exposing students to knowledge and global concerns as never before. Complex issues require responses that take account of ethical considerations such as human rights and responsibilities, animal rights, environmental issues and global justice.

Building capability in learning to behave ethically throughout all stages of schooling will assist students to engage with the more complex issues that they are likely to encounter in the future and to navigate a world of competing values, rights, interests and norms.

Scope of Ethical behaviour

Students learn to behave ethically as they explore ethical issues and interactions with others, discuss ideas, and learn to be accountable as members of a democratic community.

In this context, students need regular opportunities to identify and make sense of the ethical dimensions in their learning. As ethics is largely concerned with what we ought to do and how we ought to live, students need to understand how people can inquire collaboratively and come to ethical decisions. They need the skills to explore areas of contention, select and justify an ethical position, and engage with and understand the experiences and positions of others. These skills promote students' confidence as decision-makers and foster their ability to act with regard for others. Skills are enhanced when students have opportunities to put them into practice in their learning – for example, understanding the importance of applying appropriate ethical practices in areas such as Australian Indigenous studies (AIATSIS 2011).

Students also need to be introduced to agreed values and ethical principles – such as human rights, values and principles – to assist them in justifying their ethical position and in engaging with the position of others.

The processes of reflecting on and interrogating core ethical issues and concepts underlie all areas of the curriculum. These concepts include justice, right and wrong, freedom, truth, identity, empathy, goodness and abuse.

Processes of inquiring into ethical issues include giving reasons, being consistent, finding meanings and causes, and providing proof and evidence. Interrogating such concepts through authentic cases such as global warming, sustainable living and socioeconomic disparity can involve group and independent inquiry, critical and creative thinking, and cooperative teamwork, and can contribute to personal and social learning.

As students engage with these elements in an integrated way, they learn to recognise the complexity of many ethical issues. They develop a capacity to make reasoned ethical judgments through the investigation of a range of questions drawn from varied contexts in the curriculum.

For a description of the organising elements for Ethical behaviour, go to Organising elements.

Ethical behaviour across the curriculum

Ethical issues arise across all areas of the curriculum, with each learning area containing a range of content that demands consideration from an ethical perspective. This includes analysing and evaluating the ethics of the actions and motivations of individuals and groups, understanding the ethical dimensions of research and information, debating ethical dilemmas and applying ethics in a range of situations.

The Ethical behaviour capability is addressed through the learning areas and is identified wherever it is developed or applied in content descriptions. It is also identified where it offers opportunities to add depth and richness to student learning in content elaborations. An icon indicates where the Ethical behaviour capability has been identified in learning area content descriptions and elaborations. A filter function on the Australian Curriculum website assists users to identify F–10 curriculum content where Ethical behaviour capability has been identified. Teachers may find further opportunities to incorporate explicit teaching of Ethical behaviour capability depending on their choice of activities. Students can also be encouraged to develop capability through personally relevant initiatives of their own design.

- Ethical behaviour in English (http://www.australiancurriculum.edu.au/English/General-capabilities)
- *Ethical b*ehaviour in Mathematics (http://www.australiancurriculum.edu.au/Mathematics/General-capabilities)
- Ethical behaviour in Science (http://www.australiancurriculum.edu.au/Science/General-capabilities)
- Ethical behaviour in History (http://www.australiancurriculum.edu.au/History/General-capabilities)

Background

This background summarises the evidence base from which the Ethical behaviour capability's introduction, organising elements and continuum have been developed. It draws on recent international and national research, as well as initiatives and programs that focus on ethical behaviour across the curriculum.

Ethical behaviour can be informed by reason, character, values and ethical principles. Each of these is addressed in the Ethical behaviour learning continuum.

People call on principles, concepts, experiences, senses, emotions and reasoning to guide them when making judgments. Therefore, it is important that students are exposed to situations that develop both their awareness of meanings and their practical reasoning abilities associated with their thoughts and actions.

Ethical theories can be divided broadly into those that focus on action and those that focus on agency or character; both are concerned with the 'good life' and how concepts such as fairness and justice can inform our thinking about the world. These considerations can lead to students' developing a broad understanding of values and ethical principles as they mature.

Although they have their supporters and critics, interrogation of frameworks such as Kohlberg's stages of moral development (1964, in Crain 1985), Ruggiero's encouragement to apply ethical issues (1997), and the Values for Australian Schooling (in National Framework for Values Education in Australian Schools 2005), guides thinking about the dimensions of learning about ethical behaviour and how it might be developed or encouraged throughout schooling.

The Australian educational philosophers Burgh, Field and Freakley (2006) describe ethics as pertaining to the character of persons and the wider society. Lipman, Sharp and Oscanyan (1980) state that ethical inquiry should be 'an open-ended, sustained consideration of the values, standards and practices by which we live … taking place in an atmosphere of mutual trust, confidence and impartiality' (p.189).

One area of study in ethics is human nature itself and how that may equip us to answer the question: 'How ought I to live?' The classical philosophers Plato, Aristotle and Aquinas, along with Kant during the Enlightenment, and more recently modern philosophers such as Peter Singer (1997), identified the importance of reason as a human attribute – although their justification varied. Developing a capacity to be reasonable is one of the three elements of the Ethical behaviour learning continuum. Other dimensions in the exploration of human nature are perceptions of activities, virtues and character: 'What kind of person should I be?' For some philosophers, this replaces the question of 'How ought I to live?'

Although the basis of justification of what is right or good for the individual and for others is contentious, it is misleading to confuse disagreements in ethics with there being no right or wrong answer. There may be different positions, each with their strengths and weaknesses, and often there is the need to make a judgment in the face of competing claims. At the same time there is need for an open-minded, ongoing endeavour to create an ethical life.

The Ethical behaviour capability has also been richly informed by understandings gained through the *National Framework for Values Education in Australian Schools* (2005), and the resultant Values education initiatives in all areas of Australian schooling. In addition, the *Melbourne Declaration on Goals for Young Australians* (MCEETYA, p. 5) states that 'a school's legacy to young people should include national values of democracy, equity and justice, and personal values and attributes such as honesty, resilience and respect for others'. While Values education is certainly found within the Ethical behaviour capability, it is also located within other general capabilities, such as Personal and social capability.

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Organising elements

The Ethical behaviour learning continuum is organised into three interrelated organising elements:

- Understanding ethical concepts and issues
- Reflecting on personal ethics in experiences and decision making
- Exploring values, rights and ethical principles.

The diagram below sets out these elements:

Organising elements for Ethical behaviour

Understanding ethical concepts and issues

This element involves students in identifying, clarifying and exploring ethical concepts such as fairness, honesty and respect for others, and the different emphases placed on these values historically and culturally. As ethics is largely concerned with what we ought to do and how we ought to live, students need to explore areas of contention in order to understand how they can inquire collaboratively in order to come to ethical decisions. This is especially important for democratic societies that have a plurality of values and different beliefs about living an ethical life. Ethical judgment requires the ability to understand ethical concepts and issues.

Reflecting on personal ethics in experiences and decision making

This element involves students in reflection on character traits such as honesty, integrity, compassion and empathy, and shared values. Students explore questions that involve engaging with the meaning of specific traits and characteristics, and investigating the role of feelings, conscience and self-interest to promote understanding of ethical concerns and dilemmas.

Interacting with others, considering the place of experiences and authority in decision making and engaging critically with ethical dilemmas are ways that students can investigate ideas and account for their views and actions. This enriches their ethical maturity and their understandings of the benefits of a democratic society and participation in civic life. They become aware of the strengths and weaknesses of their own emotional responses, arguments and viewpoints.

Exploring values, rights and ethical principles

This element involves students in the exploration of values, beliefs and principles often used as the basis for making ethical judgments and acting responsibly and with integrity. Students identify values and rights promoted by groups such as peers, communities, corporations, cultural groups and governments through an exploration of ethical issues, the notion of the common good, the place of national values and human rights and universally accepted principles and values.

They examine the ways that values and principles such as freedom, honesty and equality are commonly used in ethical discourse but may be inconsistently applied. Exploring values and principles through authentic situations enables students to make connections with their own surroundings and to understand their impact, especially when values conflict.

Ethical behaviour continuum across stages of schooling

Understanding ethical concepts and issues

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
use examples to explain concepts such as right and wrong, good and bad, true and false (for example the difference between making a mistake and telling a lie)	explain the ethical concepts associated with achieving a particular outcome (for example considering the importance of 'intention and effect' in different ethical frameworks such as equality of results)	use contexts from learning areas to critique generalised statements about ethical concepts such as justice and concerns such as freedom of speech(for example denial of freedom of speech and defamation of others in the context of denying historical events)
identify and express their view on ethical issues within a range of familiar contexts (for example in scenarios involving fairness, honesty, and care for other people, animals and the environment)	explain what constitutes an ethically better or worse outcome to an issue and how particular outcomes might be accomplished (for example exploring the consequences for individuals of others' actions, in a range of scenarios)	identify ethical obligations and justify the need for these to be enacted (for example the implications of being a bystander in the context of bullying and cyberbullying)
recognise ethical and unethical behaviours in everyday settings (for example sharing, and bullying in friendship groups)	make relative judgments about ethical and unethical behaviours in a range of settings and contexts (for example analysing the ways that images and words are used for deliberate effect in advertisements)	distinguish between ethical and unethical dimensions of situations in complex settings found in literary, scientific and historical contexts (for example considering ethical or unethical behaviours of companies, governments and local farmers when patenting produce)

Reflecting on personal ethics in experiences and decision making

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
identify the role of conscience and self-interest when interacting with others (for example recognising when acting with self-interest clashes with the interests of others)	apply and test their understanding of ethical concepts such as honesty, fairness and respect in different social contexts (for example the role of human rights and values when considering equal treatment of others)	engage in reasoned debate to probe ethical concepts in issues of personal, social and global importance (for example ethical considerations associated with the treatment of refugees in the context of global socioeconomic disparity)
describe how personal feelings and values influence how people behave (for example keeping promises, being honest)	test their feelings about and perceptions of ethical and non-ethical behaviours in familiar and hypothetical scenarios (for example What if the rules of a game exclude a student with a disability or a language barrier?)	analyse the objectivity or subjectivity of ethical principles, particularly where there is more than one issue under consideration (for example exploring the complexities associated with issues such as land or water management)
recognise that there are many factors influencing individuals' decisions (for example wants, needs, feelings and experiences)	demonstrate awareness of a range of thinking strategies in ethical decision making (for example considering alternative perceptions and points of view, distinguishing relative merits of several options)	evaluate diverse perceptions, reasoning and ethical basis for decisions in complex settings (for example considering the circumstances in which it might be justifiable to restrict or limit the right to liberty or allow freedom from arbitrary arrest)

Exploring values, rights and ethical principles

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
identify some values and ethical principles agreed in family and school contexts (for example everyone's right to participate and express their opinion)	describe values and ethical principles agreed in local communities (for example instances where equality, respect, fairness, dignity and non-discrimination occur)	explain the role of values and ethical principles in national and international forums and debates (for example debates around medical research in the context of socioeconomic disparity between developed and developing countries)
appreciate the role of rules in classroom, school and family contexts (for example rules against bullying in school that help establish principles of respect and equality)	explain the roles that rules play in different communities (for example identifying examples of rules in their own and other communities, suggesting reasons for their creation)	critically analyse the role of law in democratic and pluralist societies (for example positive role of law in enforcing ethical behaviour such as respectful relationships in the public and private domain)
identify and demonstrate respect for the rights of their classmates (for example identifying times they felt hurt by another's behaviour and reflecting on the values of mutual respect, equality and inclusion)	ensure consistency between their words and actions associated with rights when interacting in face-to-face and virtual situations (for example role and responsibility of bystanders in bullying and cyberbullying)	apply their understanding of rights and associated duties and obligations to a range of personal and social situations – including the use of digital technologies(for example problematising freedom of speech in the context of internet censorship, such as websites inciting racial hatred)
recognise that there may be many points of view about ethical issues (for example recognising that individuals may have different views on caring for animals)	identify and explain different possibilities and points of view when thinking about ethical issues (for example diversity and socioeconomic disparity between groups of people in Australia)	use reasoning skills to consider the relative merits of different perspectives on ethical issues (for example the importance of 'intention and effect' in the context of equality of opportunity and of results)
explore the relevance of a range of values and principles in solving ethical problems and dilemmas (for example the need for honesty, fairness, respect and equality when working with others)	recognise that using values and principles to resolve ethical problems and dilemmas is rarely simple (for example modifying games to be inclusive, applying ethical principles to reach fair and respectful solutions)	analyse the interplay between ethical and other considerations in making decisions/policies (for example the ethical complexity of mandatory detention of refugees and 'intervention' programs)

Intercultural understanding

Introduction

In the Australian Curriculum, students develop intercultural understanding as they learn to value their own cultures, languages and beliefs, and those of others. They come to understand how personal, group and national identities are shaped, and the variable and changing nature of culture. The capability involves students in learning about and engaging with diverse cultures in ways that recognise commonalities and differences, create connections with others and cultivate mutual respect.

Intercultural understanding is an essential part of living with others in the diverse world of the twenty-first century. It assists young people to become responsible local and global citizens, equipped through their education for living and working together in an interconnected world.

The *Melbourne Declaration on Educational Goals for Young Australians* (MCEETYA 2008) recognises the fundamental role that education plays in building a society that is 'cohesive and culturally diverse, and that values Australia's Indigenous cultures' (MCEETYA, p. 4). Intercultural understanding addresses this role, developing students who are active and informed citizens with an appreciation of Australia's social, cultural, linguistic and religious diversity, and the ability to relate to and communicate across cultures at local, regional and global levels.

Scope of Intercultural understanding

Intercultural understanding combines personal, interpersonal and social knowledge and skills. It involves students in learning to value and view critically their own cultural perspectives and practices and those of others through their interactions with people, texts and contexts across the curriculum.

Intercultural understanding encourages students to make connections between their own worlds and the worlds of others, to build on shared interests and commonalities, and to negotiate or mediate difference. It develops students' abilities to communicate and empathise with others and to analyse intercultural experiences critically. It offers opportunities for them to consider their own beliefs and attitudes in a new light, and so gain insight into themselves and others.

Intercultural understanding stimulates students' interest in the lives of others. It cultivates values and dispositions such as curiosity, care, empathy, reciprocity, respect and responsibility, open-mindedness and critical awareness, and supports new and positive intercultural behaviours. Though all are significant in learning to live together, three dispositions – empathy, respect and responsibility – have been identified as critical to the development of intercultural understanding in the Australian Curriculum.

For a description of the organising elements for Intercultural understanding, go to Organising elements.

Intercultural understanding across the curriculum

Although the Intercultural understanding capability focuses primarily on the development of skills, behaviours and dispositions, it also draws on students' growing knowledge, understanding and critical awareness of their own and others' cultural perspectives and practices derived from learning area content.

Intercultural understanding is more apparent in some learning areas than others, being most evident in those aspects of learning concerned with people, their societies, relationships and interactions, and in conjunction with the cross-curriculum priorities for Aboriginal and Torres Strait Islander histories and cultures, Asia and Australia's engagement with Asia, and Sustainability.

Intercultural understanding is addressed through the learning areas and is identified wherever it is developed or applied in content descriptions. It is also identified where it offers opportunities to add depth and richness to student learning in content elaborations. An icon indicates where intercultural understanding has been identified in learning area content descriptions and elaborations. A filter function on the Australian Curriculum website assists users to identify F–10 curriculum content where intercultural understanding has been identified. Teachers may find further opportunities to incorporate explicit teaching of intercultural understanding depending on their choice of activities. Students can also be encouraged to develop capability through personally relevant initiatives of their own design.

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- Intercultural understanding in Mathematics (http://www.australiancurriculum.edu.au/Mathematics/General-capabilities)
- Intercultural understanding in Science (http://www.australiancurriculum.edu.au/Science/General-capabilities)
- Intercultural understanding in History (http://www.australiancurriculum.edu.au/History/General-capabilities)

Background

This background summarises the evidence base from which the Intercultural understanding capability's introduction, organising elements and learning continuum have been developed. It draws on recent international and national research, as well as initiatives and programs that focus on intercultural understanding across the curriculum.

Intercultural understanding is a relatively recent addition to Australian school curriculums. It has its origins in several fields including cultural studies (Hall 1997), language education (Kramsch 1998; Liddicoat, Lo Bianco and Crozet 1999), multicultural education (Banks and Banks 2004; Noble and Poynting 2000) and more broadly in sociology, linguistics and anthropology. Given its diverse origins, it is not surprising that the nature and place of intercultural learning are by no means settled and the definition of the term 'culture' is itself not agreed upon.

The Intercultural understanding capability adopts the *Shape of the Australian Curriculum: Languages* (ACARA 2011) definition of culture as involving:

> … a complex system of concepts, values, norms, beliefs and practices that are shared, created and contested by people who make up a cultural group and are passed on from

> generation to generation. Cultural systems include variable ways of seeing, interpreting and understanding the world. They are constructed and transmitted by members of the group through the processes of socialisation and representation. (p.16)

Drawing on this definition, Intercultural understanding focuses on sharing, creating and contesting different cultural perceptions and practices, and supports the development of a critical awareness of the processes of socialisation and representation that shape and maintain cultural differences.

Furthermore, in acknowledging the founding status of Aboriginal and Torres Strait Islander Peoples in Australia, it is alert to the place of negotiation and boundaries in engagements at the cultural interface (Nakata 2007) and mindful of practices that both celebrate and protect Aboriginal and Torres Strait Islander cultural heritage (Janke 2008). In recognising the importance for Australia of maintaining positive relations and communications in its region, it promotes recognition, communication and engagement with the different countries and cultures within Asia. It also supports the development of a strong vision for a sustained and peaceful global future.

Intercultural understanding assumes an integral connection between language and culture, acknowledging language as the primary means through which people establish and exchange shared meaning and ways of seeing the world (Scarino, Dellitt and Vale 2007). It works on the assumption that, in learning to live together in a world of social, cultural, linguistic and religious diversity, students need to look beyond their immediate worlds and concerns (Arigatou Foundation 2008) and engage with the experience and ideas of others (Appiah 2006) in order to understand the politics of culture on the world stage (Sleeter and Grant 2003).

Intercultural understanding identifies knowledge, skills, behaviours and dispositions that assist students in developing and acting with intercultural understanding at school and in their lives beyond school. At a personal level, intercultural understanding encourages students to engage with their own and others' cultures, building both their sense of belonging and their capacity to move between their own worlds and the worlds of others (Kalantzis and Cope 2005), recognising the attitudes and structures that shape their personal identities and narratives.

At an interpersonal level, it considers commonalities and differences between people, focusing on processes of interaction, dialogue and negotiation. It seeks to develop students' abilities to empathise with others, to analyse their experiences critically and to reflect on their learning as a means of better understanding themselves and people they perceive to be different from themselves (Liddicoat, Papademetre, Scarino and Kohler 2003; Wiggins and McTighe 2005). It provides opportunities for students to question the attitudes and assumptions of cultural groups in light of the consequences and outcomes for others.

At a social level, Intercultural understanding builds students' sense of the complex nature of their own histories, traditions and values, and of the history, traditions and values that underpin Australian society (MCEETYA 2008).

Students learn to interpret and mediate cultural inequalities within their own and other societies. They learn to take responsibility for their interactions with others, to act on what they have learnt and to become intercultural citizens in the world (Byram 2008).

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Organising elements

The Intercultural understanding learning continuum incorporates six interrelated organising elements.

Students develop intercultural understanding through:

- Recognising
- Interacting
- Reflecting
- Empathy
- Respect
- Responsibility.

The diagram below sets out these elements:

Organising elements for Intercultural understanding

Recognising

This element involves students in identifying, observing, analysing and describing increasingly sophisticated characteristics of their own cultural identities and those of others. These range from easily observed characteristics such as group memberships, traditions, customs and ways of doing things, to less readily observed characteristics such as values, attitudes, obligations, roles, religious beliefs and ways of thinking.

Students move beyond their known worlds to explore new ideas and experiences related to specific cultural groups through opportunities provided in the learning areas. They compare their own knowledge and experiences with those of others, learning to recognise commonalities, acknowledging differences between their lives and recognising the need to engage in critical reflection about such differences, seeking to understand them. In developing and acting with intercultural understanding students:

- identify and explain their own cultural beliefs, practices, values and traditions
- recognise that culture is dynamic and complex and that there is variability within all cultural, linguistic and religious groups

- compare the experiences of others with their own, looking for commonalities and differences between their lives and seeking to understand these
- recognise that people have many ways of knowing and being in the world

Interacting

This element gives an experiential dimension to intercultural learning in contexts that may be face-to-face, virtual or vicarious. It involves students in developing the skills to relate to and move between cultures through engagement with different cultural groups. Interacting includes developing critical insight into different viewpoints (perspective taking) and making sense of a culture for someone with limited experience of that culture (interpreting or mediating).

Through perspective taking, students think about familiar concepts in new ways, encouraging flexibility, adaptability and a willingness to try new cultural experiences. In developing and acting with intercultural understanding students:

- view aspects of their own language and culture from another cultural perspective
- view aspects of another language and culture from the perspectives of members of that cultural group
- recognise multiple views within a range of cultural contexts
- act positively in unfamiliar contexts.

Mediating and interpreting involves students learning to 'stand between' cultures – to explain their own cultural perspectives and practices and to understand the perspectives and practices of others. It enables students to engage critically with issues that may be controversial or require solutions. The ability to move between cultures empowers students to contribute to civic life. In developing and acting with intercultural understanding students:

- identify areas of misunderstanding and the cultural knowledge required to facilitate shared understanding
- mediate meaning with and between people who may not share the same world view, considering the importance of language in shaping how we see the world.

Reflecting

The capacity to process or reflect on the meaning of experience is an essential element in intercultural learning. Students use reflection to better understand the actions of individuals and groups in specific situations and how these are shaped by culture. They are encouraged to reflect on their own responses to intercultural encounters and to identify cultural influences that may have contributed to these. In developing and acting with intercultural understanding students:

- think critically to see their point of view as one of many
- consider how intercultural encounters have affected their thoughts, feelings and actions
- recognise how their actions, mediated by their own culture, have affected others
- recognise the influence of increased intercultural interaction on their personal identity and the nature of their communities.

Empathy

Empathy assists students to develop a sense of solidarity with others through imagining the perspectives and experiences of others as if they were their own. Empathy involves feeling for others, caring and imagining. Students are asked to consider what it might be like to 'walk in another's shoes'. In developing and acting with intercultural understanding students:

- imagine what their own feelings and responses might be in the situations of others
- seek to understand how others might feel
- consider the impact of their own behaviours on others.

Respect

Strong intercultural relationships are built on mutual respect between people, communities and countries. Respect is based on the recognition that every person is important and must be treated with dignity. It includes recognising and appreciating differences between people and respecting another person's point of view and their human rights. In developing and acting with intercultural understanding students:

- demonstrate respect for themselves and others whatever their cultural, linguistic or religious backgrounds
- understand and acknowledge the value of distinctive cultures within nations, including those of Aboriginal and Torres Strait Islander cultures in Australia
- understand that ways of demonstrating respect and its significance vary between cultural groups.

Responsibility

To cultivate respect, students need to reflect on and to take responsibility for their own behaviours and their interactions with others within and across cultures. They understand that behaviour can have unintended effects on individuals and communities, and they identify situations requiring intercultural understanding. In developing responsibility, students learn to respect the human rights of others and the values of democracy, equity and justice (MCEETYA 2008). In developing and acting with intercultural understanding, students:

- demonstrate a commitment to reconciliation between Aboriginal and Torres Strait Islander peoples and other Australians
- take responsibility for their understanding of and behaviour towards different cultural groups in Australia, the Asia-Pacific region and the world
- understand their reciprocal roles and shared responsibilities as local and global citizens.

Intercultural understanding across stages of schooling

Recognising

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
describe aspects of their personal identity and identify various groups to which they belong (for example describing place/role in family and their membership of different social and cultural groups)	explore and express aspects of their identities as they interact with others (for example explaining differences in their behaviour, such as language use and values, at home, at school and within different groups)	recognise how their membership in cultural groups shapes their identities (for example exploring the concept of multiple identities and what it means personally)
recognise that cultures influence how people live, work, dress, eat, speak and celebrate within their families and local communities, (for example identifying values and beliefs important to them and their families)	describe and compare cultural assumptions, beliefs and practices, with particular reference to traditions and customs (for example comparing traditions and customs surrounding a particular cultural practice)	understand the complex and dynamic nature of cultural experiences (for example comparing the biographies of people from different cultures who have relocated, considering their motivations, experiences, reflections)
understand that the way they live may not be the same as the ways other people live (for example showing interest in stories from other cultures, making comparisons and accepting differences)	recognise and respond to cultural diversity, its contributions and effects in national and regional contexts (for example describing the contribution of particular groups to the history and development of Australia and its region)	recognise and respond to the challenges of cultural diversity and the politics of culture (for example analysing media reports on particular groups within Australia and internationally with reference to stereotypes, prejudice, racism, privilege, voice)

Interacting

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
respond positively to stories and encounters that represent a range of cultural experiences and contexts (for example engaging with people, texts and artefacts from different cultures)	identify differences within and across cultures in relation to specific situations and events (for example explaining different perspectives on familiar and specific events)	analyse the visible and less visible features of their own and others' cultures (for example analysing their own cultural assumptions and those of others in relation to particular issues or events)
describe aspects of their own lives to others and make comparisons between their lives and those of other children (for example describing ways they relate to their immediate and extended families, listening to others and make comparisons)	value intercultural exchanges and work towards mutual understanding (for example adapting their communication to check for understanding)	understand the complex relations between language, culture, thought and context (for example engaging with the texts and experiences of others to gain insight into the way cultures shape peoples' perspectives)
engage in communication with others they perceive to be different from them (for example adapting their communication to ensure everyone is included in group activities)	look for similarities with people they think of as being unlike themselves and differences with people they consider to be similar (for example engaging with views they know to be different from their own to challenge their own thinking)	interpret cultural differences for others by identifying values and beliefs they take for granted and consider how these might look to someone with different values, beliefs and behaviours (for example suggesting cultural assumptions and perspectives that might underpin unfamiliar behaviours)
		identify areas of potential misunderstanding on the basis of language or culture and seek clarification or further explanation (for example analysing and reflecting on aspects of language and culture that need further explanation)

Reflecting

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
reflect on similarities and differences with children in their classes, in their local communities or whom they have met in other situations (for example describing and comparing their own experiences with those of other children)	reflect on how intercultural encounters have affected their thoughts, feelings and actions (for example describing their responses to the diversity of values and experiences represented in texts, films, the arts and other media)	reflect critically on their responses and attitudes to intercultural experiences (for example describing how exposure to a diversity of views, ideas or experiences has the potential to change the way they think about a particular issue or event)
demonstrate an initial understanding of the concept of cultural diversity and its presence and influence in Australian society (for example describing the effect of sharing different stories and experiences on their learning)	accept that their point of view is one of many and begin to see themselves as others may see them (for example describing an experience or event from another's viewpoint)	demonstrate open-mindedness to the positions of others (for example representing both sides of an argument, giving value to a variety of perspectives)
	identify and reflect on the impact of stereotypes and prejudices (for example identifying positive and negative effects of attributing features to particular social or cultural groups)	reflect on cultural diversity and its effects and influences in Australia and internationally (for example articulating an informed position on issues such as immigration, refugees, dispossession, globalisation, and analysing their impact on Australia)

Empathy

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
demonstrate care and consideration for others, recognising situations where others are in need or feeling excluded (for example acting to include children who are new or visiting the class)	demonstrate sensitivity to the feelings and needs of others(for example through a variety of role plays imagining how people can feel when included or excluded)	demonstrate empathy for others, understanding the role stereotyping, prejudice and racism may have played and may continue to play in their experiences (for example through imagined or authentic scenarios demonstrating an understanding of what it is like to be systematically excluded as a member of a cultural minority)
imagine and ask: 'How would I feel if this were me?' (for example in scenarios concerning difference imagining how it would feel to be excluded)	justify their decisions, choices and behaviours in relating to others (for example giving reasons for their own ideas and actions and relating these to the ideas and actions of others)	look for cultural explanations in analysing their societies or groups' decisions and actions and those of other societies and groups (for example describing the role of intercultural suspicion and misunderstanding in world conflicts)
	imagine and ask: 'How do I imagine others might feel?' (for example in scenarios concerning difference imagining how others might feel, putting themselves in the other person's shoes)	look beyond their immediate situations by considering questions such as: 'How might my actions affect another person?', 'Are there other people who might also be affected by what I say or do?' (for example recognising that their own actions and perspectives are subject to interpretation by others who might want them to think and act differently)

Respect

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
demonstrate respect for themselves and everyone they encounter at home, at school and in the local community (for example practising different ways of greeting others, considering language, culture and social context)	respect the right of others to be different and be accepting of others (for example listening, sharing and responding thoughtfully to the views and ideas of others)	respect the right of all to be heard (for example understanding the need to defend the right of all to be heard as a basic human right)
identify the Aboriginal Country or Torres Strait Islander place in which their school is located (for example learning and using the names for local peoples and places)	acknowledge the continuous and enduring contribution of Aboriginal and Torres Strait Islander peoples in Australia (for example showing respect for Aboriginal and Torres Strait Islanders peoples' knowledge and values relating to connection to family and the land)	challenge stereotypical representations of various social and cultural groups (for example comparing and analysing texts prepared by Aboriginal and Torres Strait Islander people about their lives with those developed historically by others)
express an awareness and appreciation of cultural diversity in familiar contexts (for example learning familiar expressions in another language)	acknowledge the importance of mutual respect for promoting harmony and peace in an interconnected world (for example cooperating and negotiating in culturally diverse networks of learning)	demonstrate respect for cultural and linguistic diversity in a range of local, regional and global settings (for example demonstrating skills of intercultural communication, including negotiation and conflict resolution in networks)
		understand and act in ways that observe local Aboriginal and Torres Strait Islander protocols (for example working with local groups to inform school-based learning)
		understand the importance of maintaining cultural traditions to the development of personal, group and national identities (for example recognising and valuing the significant relationship between language, culture and identity)

Responsibility

By the end of Year 2 students:	By the end of Year 6 students:	By the end of Year 10 students:
join in events that recognise and celebrate cultural diversity (for example joining with Chinese students and families in celebrating Chinese New Year)	contribute to the development of positive relationships between people from different cultural groups to achieve common goals (for example exploring possibilities for cooperation between diverse groups in working on a shared project)	take responsibility for listening and seeking to understand others' perspectives (for example developing strategies to achieve mutual understanding)
act to include children from diverse cultural groups in their games and activities (for example showing willingness to explain and demonstrate the rules of games to others)	identify ways people can work together and resist prejudice (for example developing and applying strategies for overcoming differences and for countering prejudice)	recognise the challenges of living harmoniously in a culturally diverse society and of negotiating, interpreting and mediating difference (for example representing the ideas and perspectives of others in a range of contexts)
cooperate in diverse groups to share information, narratives and interests (for example contributing to group tasks, valuing the contributions of others)	share responsibility for negotiating difference and resolving issues or tensions created by different cultural assumptions and practices (for example examining cultural perspectives and assumptions underlying issues of local or national concern)	act to secure positive outcomes for members of cultural groups faced with prejudice and misunderstanding (for example challenging and countering instances of prejudice and negotiating positive outcomes)