

Literacy learning progression and Design and Technologies



Purpose of the literacy and numeracy progressions

The purpose and intent of the progressions are to provide a tool to:

- locate the literacy and numeracy development of students
- plan for student progress in literacy and numeracy
- facilitate shared professional understanding of literacy and numeracy development
- support a whole school approach to literacy and numeracy development.

Literacy and numeracy in the learning areas

The learning areas provide rich opportunities for extending and enriching literacy and numeracy. To effectively plan for differentiated teaching of literacy and numeracy in the learning areas, teachers draw on their knowledge of the Australian Curriculum and their knowledge of their students. Recognising that students learn at different rates, the progressions provide a continuum for teachers to identify and build on students' literacy and numeracy skills. The intention is that students will develop their literacy and numeracy expertise purposefully, in meaningful contexts.

Using this advice and the progressions to plan for student progress in literacy and numeracy

This advice illustrates how the progressions can be used in Design and Technologies to support student progress in literacy and numeracy. This advice:

- identifies the sub-elements of the progressions that are most relevant to studying Design and Technologies
- identifies some aspects of an achievement standard that include literacy or numeracy demands
- lists some relevant indicators at one or more levels of the progressions to illustrate how the progressions might be unpacked to support student progress in literacy and numeracy in the study of Design and Technologies.

Figure 1 illustrates how the progressions are to be used by teachers to identify where students are at on the literacy and numeracy continuum and plan for their ongoing development within the learning areas. Therefore, this advice can support use of the progressions in developing explicit and targeted programs to ensure students are able to access discipline-specific knowledge, concepts, understanding and skills. While advice is provided on the most relevant sub-elements of each progression for the discipline of Design and Technologies, whole school planning may address other sub-elements to progress students' literacy and numeracy.

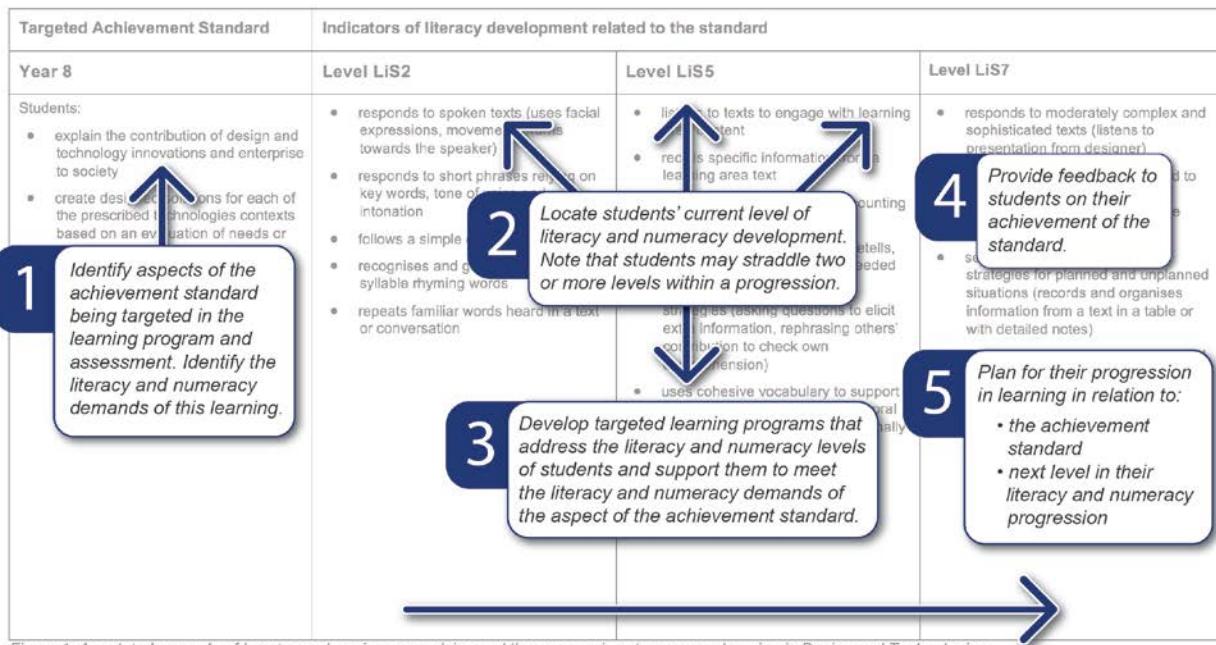


Figure 1: Annotated example of how to use learning area advice and the progressions to progress learning in Design and Technologies

Literacy in Design and Technologies

Students need to read, write, speak, listen, and use language effectively in all learning areas of the Australian Curriculum and in their lives more broadly. Supporting students' literacy in learning areas will enhance and supplement the content learning by ensuring they have the literacy skills which allow them to access and understand the content area and demonstrate their knowledge and understanding. Learning in Technologies requires students to listen to, read, understand and be able to use and evaluate a range of increasingly challenging informational texts. Students need to integrate and evaluate content presented in diverse media and formats, understand how to use a range of reading cues such as chapter headings and follow complex procedural and explanatory texts. Students need to be able to recognise and appropriately use technical symbols, icons and key terms which have more generic use as well as those that align with technical topics. Students will create clear and coherent informative, explanatory and persuasive texts using precise vocabulary and a range of visual and diagrammatic elements. Their texts will be developed and organised using a format and style appropriate to the purpose and audience. They will produce and publish a range of texts where information and ideas are relevant to the topic and supported by evidence and examples, where needed.

Planning for student progress in literacy in Year 8 Design and Technologies

The highlighted text below indicates where there are literacy demands in the Design and Technologies achievement standard.

By the end of Year 8, students explain factors that influence the design of products, services and environments to meet present and future needs. They explain the contribution of design and technology innovations and enterprise to society. Students explain how the features of technologies impact on designed solutions and influence design decisions for each of the prescribed technologies contexts.

Students create designed solutions for each of the prescribed technologies contexts based on an evaluation of needs or opportunities. They develop criteria for success, including sustainability considerations, and use these to judge the suitability of their ideas and designed solutions and processes. They create and adapt design ideas, make considered decisions and communicate to different audiences using appropriate technical terms and a range of technologies and graphical representation techniques. Students apply project management skills to document and use project plans to manage production processes. They independently and safely produce effective designed solutions for the intended purpose.

Using the literacy progression to support students in Design and Technologies

The most relevant sub-elements of the literacy progression for Design and Technologies are:

- Listening
- Speaking
- Interacting
- Understanding texts
- Creating texts.

These sub-elements are essential for students to develop discipline-specific knowledge, understanding and skills and to demonstrate the learning described in the Design and Technologies achievement standard. The following descriptions of the role of each sub-element in Design and Technologies are organised by productive and receptive modes:

- Receptive – Listening and Understanding texts
- Productive –Speaking, Interacting, and Creating Texts.

Table 1 focuses on Year 8 but also reflects where similar or more sophisticated demands may be required in Year 10.

Literacy

Table 1: Literacy indicators related to the achievement standard

Targeted Achievement Standard	Examples of how indicators relate to the AC standard. <i>Individual student literacy may be at different levels of the progression as indicated in Figure 1.</i>				
Year 8	Receptive		Productive		
	Listening	Understanding texts	Speaking	Interacting	Creating texts
Students: explain factors that influence the design of products, services and environments to meet present and future needs	LiS8 <ul style="list-style-type: none"> identifies and paraphrases key points of a speaker's arguments 	UnT10 <ul style="list-style-type: none"> reads and views moderately complex or some sophisticated texts interprets abstract or more remote content analyses visual text to identify point of view recognises layers of meaning synthesises information from a variety of complex texts selects and cites the most appropriate evidence from a text to support an argument or opinion analyses the credibility and validity of primary and secondary sources 	Spk7 <ul style="list-style-type: none"> speaks on topics which explore and interpret concepts drawn from research or learning area content uses language structures and features appropriate to learning area content selects vocabulary to intensify and sharpen focus uses a range of evaluative language to express opinions or convey emotion 	Int7 <ul style="list-style-type: none"> gives an extended explanation and evaluation of a complex concept, issue or process (justifies design decisions) justifies a personal stance after analysis of arguments on a particular issue using evidence and elaboration in a group situation 	CrT10 <ul style="list-style-type: none"> writes to explain and analyse includes counterargument or refutation if appropriate (<i>investigates sustainability considerations and impact</i>) uses a range of synonyms for frequently occurring words, in a longer text (<i>impact, consequence, result</i>)

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Year 8	Receptive		Productive			
	Listening	Understanding texts	Speaking	Interacting	Creating texts	
explain the contribution of design and technology innovations and enterprise to society	LiS7 <ul style="list-style-type: none"> • responds to moderately complex and sophisticated texts (<i>listens to presentation from designer</i>) • identifies how vocabulary is used to impact on the target audience (<i>identifies the technical language used by a designer</i>) 	UnT10 <ul style="list-style-type: none"> • analyses bias in texts • explains assumptions, beliefs and implicit values in texts • evaluates the social, moral and ethical positions taken in texts 	Spk7 <ul style="list-style-type: none"> • speaks on topics which explore and interpret concepts drawn from research or learning area content • uses language structures and features appropriate to learning area content • selects vocabulary to intensify and sharpen focus • uses a range of evaluative language to express opinions or convey emotion 		CrT10 <ul style="list-style-type: none"> • uses vocabulary to indicate and describe relationships (additionally, similarly) 	
explain how the features of technologies impact on designed solutions and influence design decisions for each of the prescribed technologies contexts			Spk7 <ul style="list-style-type: none"> • speaks on topics which explore and interpret concepts drawn from research or learning area content • uses language structures and features appropriate 	InT6 <ul style="list-style-type: none"> • gives an extended explanation and evaluation of a complex concept, issue or process • justifies a personal stance after analysis of arguments on a particular issue using 	CrT10 <ul style="list-style-type: none"> • writes to compare and contrast phenomena 	

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			<p>to learning area content (<i>explains how product lifecycle may influence design decisions</i>)</p> <ul style="list-style-type: none"> selects vocabulary to intensify and sharpen focus 	evidence and elaboration in a group situation	
create designed solutions for each of the prescribed technologies contexts based on an evaluation of needs or opportunities	LiS7 <ul style="list-style-type: none"> selects appropriate listening strategies for planned and unplanned situations (records and organises information from a text in a table or with detailed notes) 				CrT10 <ul style="list-style-type: none"> writes to discuss, evaluate and review (<i>evaluates needs and opportunities to develop a design brief</i>)
develop criteria for success, including sustainability considerations, and use these to judge the suitability of their ideas and designed solutions and processes					CrT10 <ul style="list-style-type: none"> uses passive voice and nominalisation strategically (<i>the results were analysed</i>)
create and adapt design ideas, make				InT6	CrT10

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considered decisions and communicate to different audiences using appropriate technical terms and a range of technologies and graphical representation techniques				<ul style="list-style-type: none"> • synthesises ideas from group discussion into a common theme or hypothesis • poses problems, hypothesises and formulates questions about abstract ideas in group situations • restates different views and makes suggestions to negotiate agreement • questions others to evaluate accuracy of thinking or problem-solving processes <p>Int7</p> <ul style="list-style-type: none"> • gives an extended explanation and evaluation of a complex concept, issue or process • justifies a personal stance after analysis of arguments on a particular issue using evidence and 	<ul style="list-style-type: none"> • orients the reader to the topic or concept (outlines design situation and creates a design brief) • intentionally selects structural elements for effect (structures a design folio to record design process) • uses discipline-specific terminology to provide accurate and explicit information (discipline metalanguage) • includes multimodal resources to support the development of ideas throughout the text (uses images, diagrams, tables, animations to convey ideas in a design folio or pitch) • uses research including multimodal

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apply project management skills to document and use project plans to manage production processes				elaboration in a group situation	resources to add authority	
produce effective designed solutions for the intended purpose.	<ul style="list-style-type: none"> • responds to moderately complex and sophisticated texts (follows multi-step instructions) 				CrT10 <ul style="list-style-type: none"> • writes to explain and analyse (develops project plan including timelines, schedules) CrT10 <ul style="list-style-type: none"> • writes to explain and analyse (evaluates final designed solution and processes) 	