Years 9–10 standard elaborations — Australian Curriculum v9.0: Design and Technologies

Purpose

The standards elaborations (SEs) support teachers to connect curriculum to evidence in assessment so that students are assessed on what they have had the opportunity to learn. The SEs can be used to:

- make consistent and comparable judgments, on a five-point scale, about the evidence of learning in a folio of student work across a year/band
- develop task-specific standards (or marking guides) for individual assessment tasks
- quality assure planning documents to ensure coverage of the achievement standard across a year/band.

Structure

The SEs have been developed using the Australian Curriculum achievement standard. The achievement standard for Design and Technologies describes what students are expected to know and be able to do at the end of each year. Teachers use the SEs during and at the end of a teaching period to make on-balance judgments about the qualities in student work that demonstrate the depth and breadth of their learning.

In Queensland, the achievement standard represents the C standard — a sound level of knowledge and understanding of the content, and application of skills. The SEs are presented in a matrix where the discernible differences and/or degrees of quality between each performance level are highlighted. Teachers match these discernible differences and/or degrees of quality to characteristics of student work to make judgments across a five-point scale.

Years 9–10 Australian Curriculum: Design and Technologies achievement standard
By the end of Year 10 students explain how people consider factors that impact on design decisions and the technologies used to design and produce products, services and environments for sustainable living. They explain the contribution of innovation, enterprise skills and emerging technologies to global preferred futures. For one or more of the technologies contexts, students explain the features of technologies and their appropriateness for purpose, and create designed solutions based on an analysis of needs or opportunities. Students create, adapt and refine design ideas, processes and solutions and justify their decisions against developed design criteria that include sustainability. They communicate design ideas, processes and solutions to a range of audiences, including using digital tools. Students independently and collaboratively develop and apply production and project management plans, adjusting processes when necessary. They select and use technologies skilfully and safely to produce designed solutions.
Source: Australian Curriculum, Assessment and Reporting Authority (ACARA), *Australian Curriculum Version 9.0 Design and Technologies for Foundation–10* https://v9.australiancurriculum.edu.au/f-10-curriculum/learning-areas/design-and-technologies/year-9?view=quick&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&side-by-side=1&strands-start-index=0&subjects-start-index=0

Years 9–10 Design and Technologies standard elaborations

		A	B	C	D	E
		The folio of student work contains evidence of the following:				
Knowledge and understanding	**Technologies and society**	discerning explanation of how people consider factors that impact on design decisions and the technologies used to design and produce products, services and environments for sustainable living	detailed explanation of how people consider factors that impact on design decisions and the technologies used to design and produce products, services and environments for sustainable living	explanation of how people consider factors that impact on design decisions and the technologies used to design and produce products, services and environments for sustainable living	description of how people consider factors that impact on design decisions and the technologies used to design and produce products, services and environments for sustainable living	statement/s about factors that impact on design decisions and/or the technologies used to design and produce designed solutions
		discerning explanation of the contribution of innovation, enterprise skills and emerging technologies to global preferred futures	detailed explanation of the contribution of innovation, enterprise skills and emerging technologies to global preferred futures	explanation of the contribution of innovation, enterprise skills and emerging technologies to global preferred futures	description of the contribution of innovation, enterprise skills and emerging technologies to global preferred futures	statement/s about innovation, enterprise skills, and/or emerging technologies

		A	B	C	D	E
	Technologies contexts	**discerning** explanation of the features of technologies and their appropriateness for purpose for one or more of the prescribed technologies contexts	**detailed** explanation of the features of technologies and their appropriateness for purpose for one or more of the prescribed technologies contexts	explanation of the features of technologies and their appropriateness for purpose for one or more of the prescribed technologies contexts	**description** of the features of technologies and their appropriateness for purpose for one or more of the prescribed technologies contexts	**statement/s about** the features of technologies **and/or** their appropriateness for purpose
Processes and production skills	**Investigating and defining**	**proficient** analysis of needs or opportunities for one or more of the prescribed technologies contexts	**effective** analysis of needs or opportunities for one or more of the prescribed technologies contexts	analysis of needs or opportunities for one or more of the prescribed technologies contexts	**superficial** analysis of needs or opportunities for one or more of the prescribed technologies contexts	**identification** of needs or opportunities for one or more of the prescribed technologies contexts
	Generating and designing	• development of **reasoned** design criteria that include sustainability • **proficient** creation, adaptation and refinement of **comprehensive** design ideas, processes and solutions based on analysis of needs or opportunities	• development of **effective** design criteria that include sustainability • **informed** creation, adaptation and refinement of **effective** design ideas, processes and solutions based on analysis of needs or opportunities	• development of design criteria that include sustainability • creation, adaptation and refinement of design ideas, processes and solutions based on analysis of needs or opportunities	• **guided** development of design criteria that include sustainability • **partial** creation, adaptation and refinement of **simple** design ideas, processes and solutions based on analysis of needs or opportunities	• **directed** development of design criteria that include sustainability • **fragmented** creation, adaptation and refinement of **basic** design ideas, processes and solutions based on needs or opportunities
		communication of **comprehensive** design ideas, processes and solutions to a range of audiences, including using digital tools	communication of **effective** design ideas, processes and solutions to a range of audiences, including using digital tools	communication of design ideas, processes and solutions to a range of audiences, including using digital tools	communication of **superficial** design ideas, processes and solutions to a range of audiences, including using digital tools	communication of **fragmented** design ideas, processes and solutions

		A	B	C	D	E
	Producing and implementing	**purposeful** selection and use of technologies to **proficiently**, skilfully and safely produce designed solutions	**effective** selection and use of technologies to **effectively**, skilfully and safely produce designed solutions	selection and use of technologies to skilfully and safely produce designed solutions	**simple** selection and use of technologies to safely produce **simple** designed solutions	**basic** selection and use of technologies to safely produce **basic** solutions
	Evaluating	**discerning** justification of decisions against developed design criteria that include sustainability	**logical** justification of decisions against developed design criteria that include sustainability	justification of decisions against developed design criteria that include sustainability	**partial** justification of decisions against **aspects of** developed design criteria that include sustainability	**statement/s about** design decisions
	Collaborating and managing	independent and collaborative: • **proficient** development of – production plans – project management plans • **proficient** application of – production plans – project management plans, adjusting processes when necessary.	independent and collaborative: • **effective** development of – production plans – project management plans • **effective** application of – production plans – project management plans, adjusting processes when necessary.	independent and collaborative development and application of production and project management plans, adjusting processes when necessary.	independent and collaborative: • **partial** development of – production plans – project management plans • **partial** application of – production plans – project management plans, adjusting processes when necessary.	independent **and/or** collaborative: • **fragmented** development of – production plans – project management plans • **fragmented** application of – production plans – project management plans, adjusting processes when necessary.

Key	shading emphasises the qualities that discriminate between the A–E descriptors