# Australian Curriculum: Digital Technologies advice for providers

Version: 1.2 Date: 140314

Author: ACARA

## Background

The Australian Curriculum: Technologies describes two distinct but related subjects: Design and Technologies and Digital Technologies. As Digital Technologies content will be new to many teachers who will be teaching it there are three implementation challenges to be addressed:

* professional development for teachers
* initial teacher education
* teaching and learning resources.

The implementation of the Digital Technologies curriculum within the Technologies learning area presents a potential professional development challenge for some teachers, schools and systems. This is particularly the case for primary teachers as the focus of their teaching and learning programs needs to extend beyond ICT capability where students *use* digital technologies to support learning, to a curriculum focus where they *create* digital solutions using digital technologies. Industry and universities have expressed considerable interest in supporting implementation of the Digital Technologies curriculum and the advice below has been collated to focus professional learning and resource development on areas of greatest need.

ACARA has liaised with states and territories to identify and prioritise the aspects of the Digital Technologies curriculum that require the most immediate support. This advice is designed to provide a guide for providers of professional development and teaching resources to ensure the areas of greatest need are addressed in the first instance and to avoid unnecessary duplication of support.

## Priorities for development of implementation support

The Australian Curriculum: Digital Technologies provides a continuum of learning involving incremental development of skills, knowledge and understanding. In addition to understanding the structure and intent of the Digital Technologies curriculum and how to plan units of work using the achievement standards, content descriptions and band descriptions, the bands and content in Table 1 have been identified as requiring the most support.

In particular, it was recognised that many primary teachers will need explicit support to increase their own knowledge and understanding of teaching Digital Technologies, including examples of best practice and how they can integrate aspects of the Digital Technologies curriculum with other subjects. In addition, professional learning and resources that highlight suitable pedagogies, for example technological pedagogical content knowledge (TPCK) would be desirable.

Providers should also consider the development of resources that allow for a range of access to digital technologies including extensive, limited or no access to ensure all students are able to develop knowledge and understanding in this subject. Media and social media should be exploited to enhance student learning.

Table 1: Priorities for development of implementation support for the Australian Curriculum: Digital Technologies

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| --- | --- | --- |
| **Band** | **Priority** | **Content focus** |
| **F−2** | 4 | Support within this band may be needed for:* understanding the structure of the curriculum
* identifying appropriate software to teach the content
* contextualising the content to make meaningful connections with real world situations
* representation of data (see content description 2.2)
* all content descriptions with a focus on 2.2, 2.3 and 2.4 in particular. (See scope and sequence.)

**Student learning resources including teacher notes are suggested.** |
| **3−4** | **2** | Support within this band may be needed for:* understanding the structure of the curriculum
* representation of data (see content description 4.2)
* defining problems, describing and following algorithms (see content description 4.4)
* visual programming including branching (including pedagogy) (see content description 4.5)
* ethics, privacy and security requirements in relation to the acquisition, storage and use of data (see content descriptions 4.3 and 4.7)
* applications to enable the collection and analysis of data (see content description 4.3)
* all content descriptions with a focus on 4.2, 4.3, 4.4, 4.5 and 4.6 in particular further examples for elaborations.. (See scope and sequence.)

**Professional learning and student learning resources including teacher notes suggested.** |
| **5−6** | **1** | Essential and complex curriculum concepts are introduced for the first time. Support within this band may be needed for:* understanding the structure of the curriculum
* using algorithms, computational thinking and designing solutions using digital methodology (see content descriptions 6.4, 6.5, 6.6 and 6.7)
* applications to enable the collection and analysis of data (see content description 6.3)
* representation of data (see content description 6.2)
* incorporating aspects of digital technologies with other subjects
* matching resources to content descriptions
* all content descriptions with a focus on 6.2, 6.3, 6.5, 6.6, 6.7, 6.8 and 6.9 in particular further examples for elaborations. (See scope and sequence.)

**Professional learning and student learning resources including teacher notes are suggested.** |
| **7−8** | **3** | The availability of Digital Technologies specialist teachers within Year 7 is not consistent nationally. The extent to which Years 7 and 8 is prioritised would depend on access to specialist skilled Technologies teachers. There is a need to ensure that stimulating and appropriate activities and resources are available to promote a student course pathway to Years 9 and 10.Support within this band may be needed for:* understanding the structure of the curriculum
* algorithm design and general-purpose programming (see content descriptions 8.7 and 8.8)
* ethics, privacy and security requirements in relation to the acquisition, storage and use of data (see content description 8.3 and 8.10)
* planning, managing and collaborating in projects (see content description 8.11)
* types of simulations applicable to content descriptions 8.1 and 8.4
* implementing and evaluating solutions (see content description 8.9)
* all content descriptions with a focus on 8.2, 8.6, 8.7, 8.8 and 8.11 in particular further example for elaborations . (See scope and sequence.)
* planning units of work based on time allocations and how Digital Technologies could be taught with and through other subjects
* relevant scenarios and partial solutions.

**Professional learning and student learning resources including teacher notes suggested.** |
| **9−10** | 5 | Professional learning and support will be required to up skill teachers and provide support with content that is new or emerging*.* The extent to which Years 9 and 10 is prioritised would depend on access to specialist skilled Technologies teachers. Support within this band may be needed for:* understanding the structure of the curriculum
* professional learning for appropriate programming languages (see content description 10.8)
* legal issues (see content description 10.10)
* processes and production skills strand examples for elaborations.

**Student learning resources including teacher notes are suggested and professional learning to a lesser extent.** |

## Registering interest

ACARA is working with state and territory curriculum directors to support their implementation planning for Digital Technologies implementation. If you would like to register your intention to provide professional development, initial teacher education or teaching and learning resources please send an email to technologies@acara.edu.au with a short description of your project. ACARA will share information about the project with state and territory directors to inform their support for schools.