

# Update from ACARA

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**acara** AUSTRALIAN CURRICULUM,  
ASSESSMENT AND  
REPORTING AUTHORITY

# Overview

- The Australian Curriculum
- Writing phase
  - Overview of curriculum development
- Implementation phase
  - Discussions with Digital Technologies stakeholders



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# Welcome to the Foundation to Year 12 Australian Curriculum online



## The Australian Curriculum

# Dimensions of the Australian Curriculum

## Learning areas

- *English*
- *Mathematics*
- *Science*
- *Humanities and social sciences – history, geography, economics and business, civics and citizenship*
- *Arts*
- *Languages*
- *Health and physical education*
- *Technologies*

## General capabilities

- *Literacy*
- *Numeracy*
- *Information and communication technology capability*
- *Critical and creative thinking*
- *Personal and social capability*
- *Ethical behaviour*
- *Intercultural understanding*

## Cross-curriculum priorities

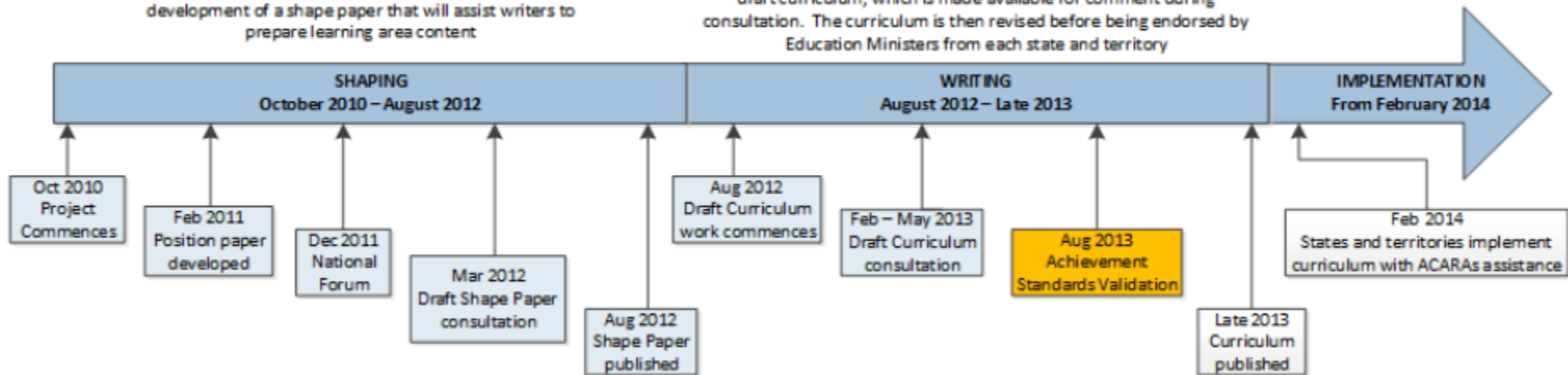
- *Aboriginal and Torres Strait Islander Histories and Cultures*
- *Asia and Australia's engagement with Asia*
- *Sustainability*

# Writing phase

# Curriculum development

Shaping Foundation to Year 10 Technologies involves the development of a shape paper that will assist writers to prepare learning area content

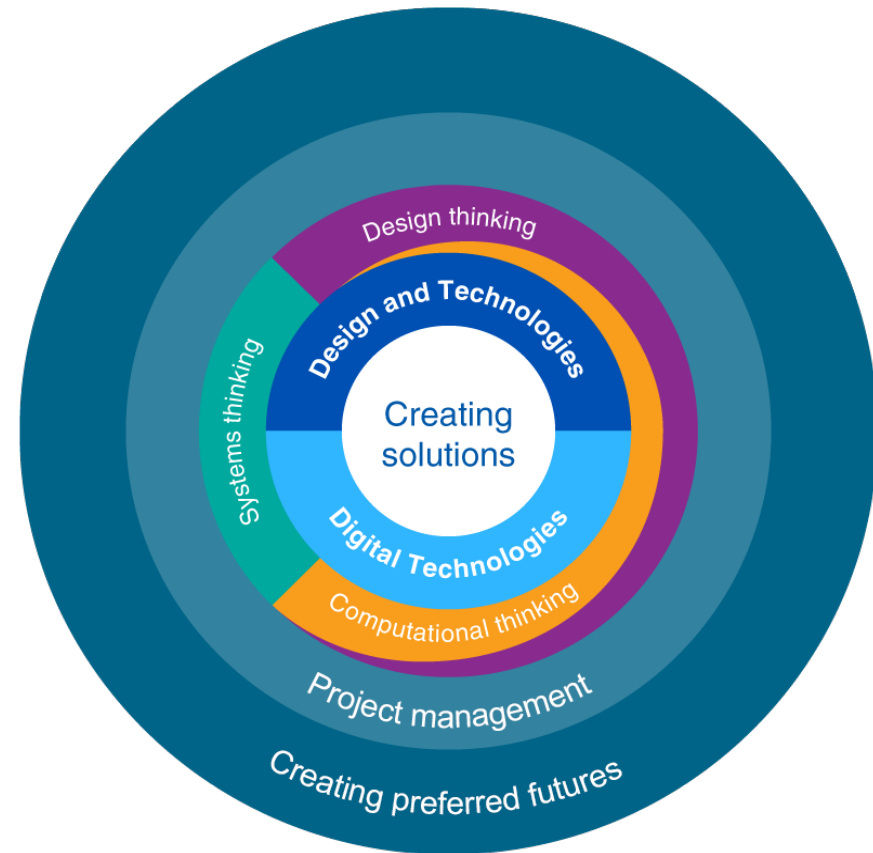
Writing Foundation to Year 10 Technologies involves the preparation of draft curriculum, which is made available for comment during consultation. The curriculum is then revised before being endorsed by Education Ministers from each state and territory



# Technologies curriculum

Curriculum has been developed:

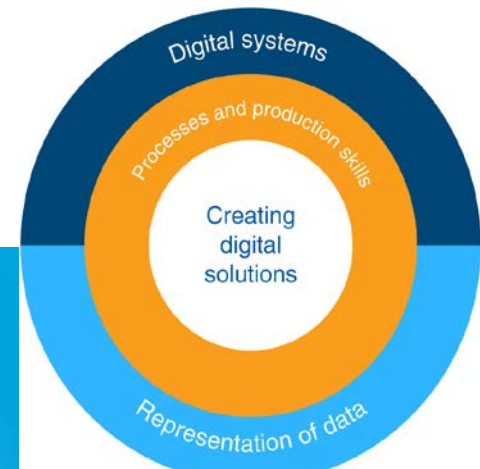
- from Foundation to Year 8 in two subjects: Design and Technologies and Digital Technologies
- from Years 9 to 10 in two optional subjects: Design and Technologies and Digital Technologies



# Digital Technologies structure

Comprises two related strands:

- Digital Technologies knowledge and understanding – the information system components of data, and digital systems (hardware, software and networks)
- Digital Technologies processes and production skills – using digital systems to create ideas and information, and to define, design and implement digital solutions, and evaluate these solutions and existing information systems against specified criteria.





# Keeping up with the future

‘Whilst technologies continue to evolve, they are still nevertheless grounded solidly in foundational knowledge. When understood at a deep level, this can provide students with strong abilities to much more rapidly become competent in new technologies.’  
(Johnston, 2013)

# Key concepts

A number of key concepts underpin the Digital Technologies curriculum:

- **Abstraction**, which underpins all content, particularly the content descriptions relating to the concepts of *data representation* and *specification, algorithms and implementation*
- **Data collection** (properties, sources and collection of data), **data representation** (symbolism and separation) and **data interpretation** (patterns and contexts)
- **Specification** (descriptions and techniques), **algorithms** (following and describing) and **implementation** (translating and programming)
- **Digital systems** (hardware, software and networks and the internet)
- **Interactions** (people and digital systems, data and processes) and **impact** (impacts and empowerment).

# ICT in the Australian Curriculum

- developed across all learning areas/subjects as a general capability: ICT capability
- explicit and foregrounded in two subjects: Digital Technologies and Media Arts
- strengthened, complemented and extended in Design and Technologies

- the capability assists students to become effective *users* of ICT
- the Digital Technologies curriculum assists students to become confident *creators* of digital solutions

# Mitchel Resnick ...

“... most young people learn only to USE digital media, not to CREATE with digital media. It is as if they can ‘read’ but not ‘write’. They are not truly fluent with digital media. They browse websites but can't create their own. They play games, but can't create their own. They interact with simulations, but can't create their own.”

## Year 4 Content description

## Year 8 Content description

### Implementing

4.5 Implement digital solutions as simple visual programs with algorithms involving branching (decisions), and user input

8.8 Implement and modify programs with user interfaces involving branching, iteration and functions in a general-purpose programming language

Year 4 Content description	Year 8 Content description
<b>Collaborating and managing</b>	
<p>4.7 Work with others to manage the creation and communication of ideas and information safely, applying agreed ethical and social protocols</p>	<p>8.10 Create and communicate interactive ideas and information collaboratively online, taking into account social contexts</p>

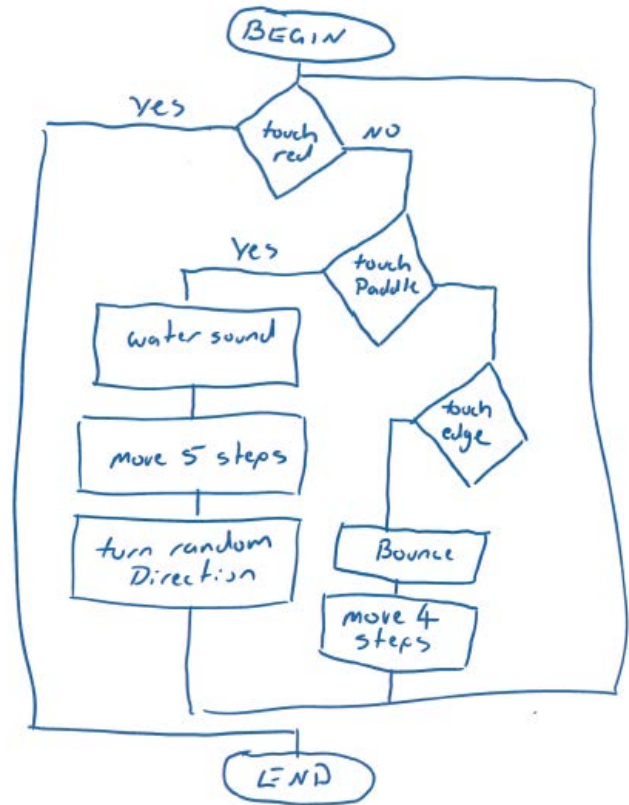
# Consultation on the draft

- 19 February to 10 May 2013
- 352 online survey respondents
- 81 written submissions
- Critical friend feedback



# Intensive engagement

Sample algorithm for ball sprite



# Implementation phase

# Supporting the curriculum

- Australian Computer Society
- Australian Council for Computers in Education
- Australian Council for Deans of Education
- Australian Council of Deans of ICT
- Australian Institute for Teaching and School Leadership
- Information Technology Industry Innovation Council
- Queensland ICT Leaders Group
  
- National ICT Australia (NICTA) *and now through Group X*
- Australian Information Industry Association (AIIA)
- Education Services Australia

# Key implementation issues

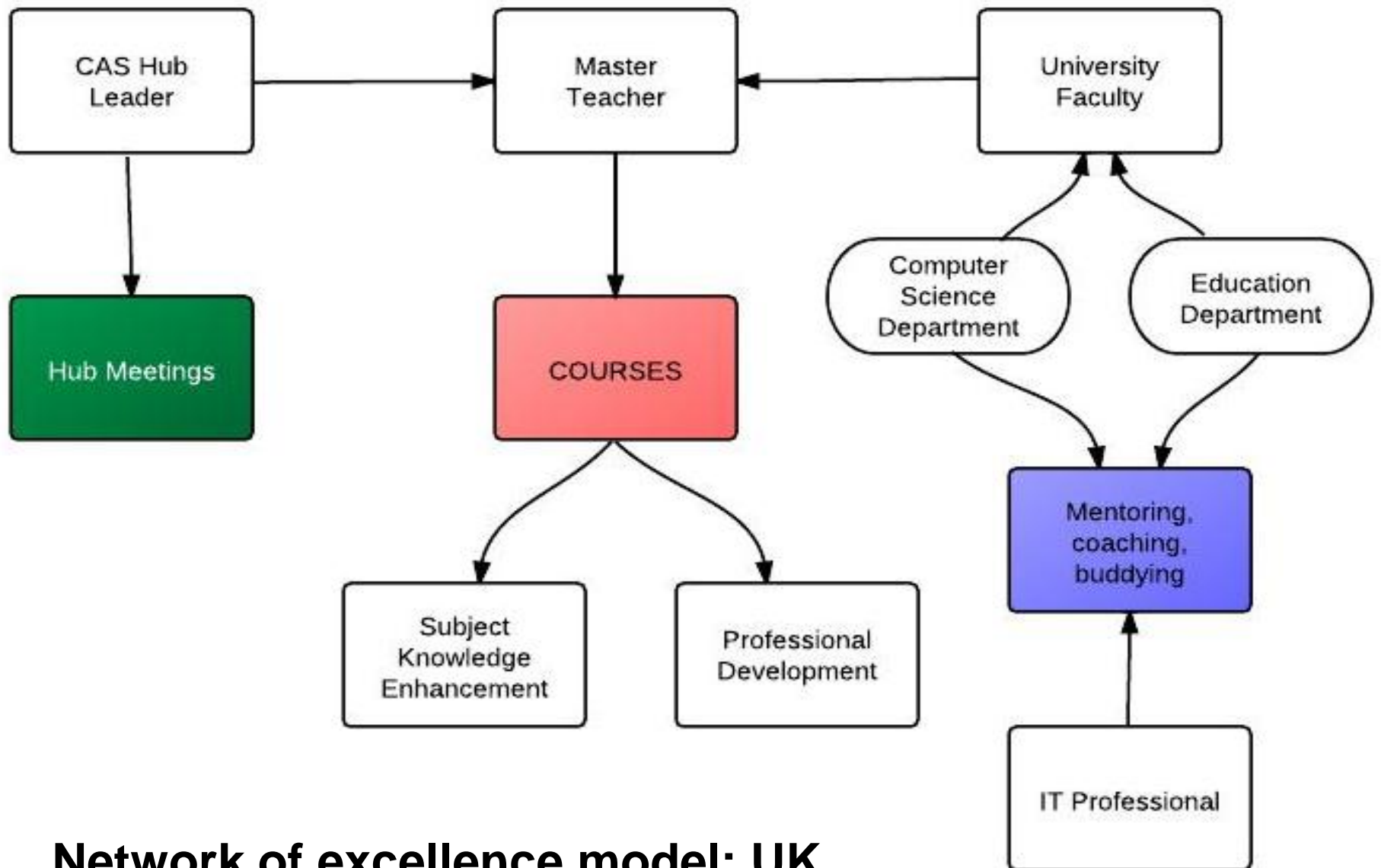
- Professional development
- Initial teacher education
- Resources

How could implementation of Digital Technologies subject be supported?

What possible roles or strategies could be undertaken by participant organisations?

# First steps

- nominating Digital Technologies contacts in each state and territory
- developing advice for providers to target development
- developing support materials, for example work sample portfolios, a detailed illustrated glossary
- exploring the concept of a network of expertise
- making the most of existing resources such as Scootle community



## Network of excellence model: UK

# Network of excellence: UK



# Timeline of key activities

Activity	When
Validation of achievement standards	August 2013
Revised drafts available for viewing	August 2013
Presented to ACARA Board	October 2013
Pending endorsement by AEEYSOC presented to Ministers for approval	November 2013
Publication online	Late 2013



# Contact

Julie King

Senior Project Officer, Technologies

ACARA

[Julie.king@acara.edu.au](mailto:Julie.king@acara.edu.au)