Update from ACARA

Google Summit
7 November 2013
Overview

• The Australian Curriculum
• Writing phase
  – Overview of curriculum development

• Implementation phase
  – Discussions with Digital Technologies stakeholders
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.

**SHAPING**
- October 2010 – August 2012
- Oct 2010 Project Commences
- Feb 2011 Position paper developed
- Dec 2011 National Forum
- Mar 2012 Draft Shape Paper consultation
- Aug 2012 Shape Paper published
- Aug 2012 Draft Curriculum work commences

**WRITING**
- August 2012 – Late 2013
- Aug 2012 Draft Curriculum consultation
- Feb – May 2013 Draft Curriculum consultation
- Aug 2013 Achievement Standards Validation
- Late 2013 Curriculum published

**IMPLEMENTATION**
- From February 2014
- Feb 2014 States and territories implement curriculum with ACARA’s assistance

**Acara**
AUSTRALIAN CURRICULUM, ASSESSMENT AND REPORTING AUTHORITY
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.
‘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
“... 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.”
<table>
<thead>
<tr>
<th>Year 4 Content description</th>
<th>Year 8 Content description</th>
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<tbody>
<tr>
<td><strong>Implementing</strong></td>
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<tr>
<td>4.5 Implement digital solutions as simple visual programs with algorithms involving branching (decisions), and user input</td>
<td>8.8 Implement and modify programs with user interfaces involving branching, iteration and functions in a general-purpose programming language</td>
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<tr>
<td>Year 4 Content description</td>
<td>Year 8 Content description</td>
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<td><strong>Collaborating and managing</strong></td>
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<td>4.7 Work with others to manage the creation and communication of ideas and information safely, applying agreed ethical and social protocols</td>
<td>8.10 Create and communicate interactive ideas and information collaboratively online, taking into account social contexts</td>
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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

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