

# TWENTY-FIRST CENTURY CAPABILITIES

## WHAT ARE 21<sup>st</sup> CENTURY CAPABILITIES?<sup>1,2,5,7,12</sup>

Our world is changing quickly. This means young people need to broaden their knowledge, competencies and attributes to flourish. These are often called 21<sup>st</sup> century capabilities. In the Australian Curriculum they are called general capabilities<sup>2</sup> and the Year 9-12 project in Tasmania refers to transferable skills<sup>14</sup>. These skills are not new but are now considered very important in Australia and around the world.

Of course, content knowledge and skills continue to matter too. For example, to solve a scientific problem a person needs not only the 21<sup>st</sup> century capability of critical thinking, but also relevant scientific understanding and technical expertise, as well as foundational literacy and numeracy skills.

### Two broad categories of 21<sup>st</sup> Century Capabilities:

#### Expert Thinking



##### Critical Thinking

- Using reasoning, analytical thinking and reflection to solve problems and make sound decisions.

##### Creativity

- Using innovation and imagination to generate and apply new ideas.

##### Information, Media & Technology Literacy

- Obtaining, evaluating and using information from different sources.

#### Social Interaction



##### Teamwork & Leadership

- Applying good communication and interpersonal skills to work collegially, take responsibility and support others.

##### Citizenship

- Using intercultural and ethical understanding to be an active and respectful local, national, and global citizen.

##### Flexibility & Persistence

- Using social and self-awareness to deal with unpredictability and respond to challenging or complex situations.

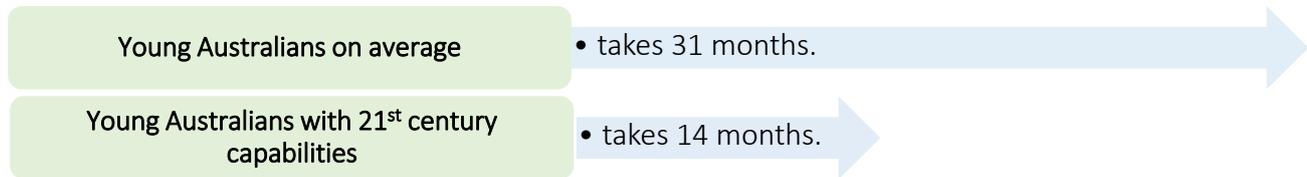
### Underpinned by:

Thorough content knowledge

Sound literacy and numeracy

## DID YOU KNOW?

Transition from full-time education to full-time work for<sup>10</sup>:



The 21<sup>st</sup> century world is complex, competitive, and information and technology-driven. Young people growing up today will experience<sup>9,10</sup>:

- Jobs yet to be created.
- Technologies yet to be invented.
- Social, economic and environmental challenges yet to be anticipated.

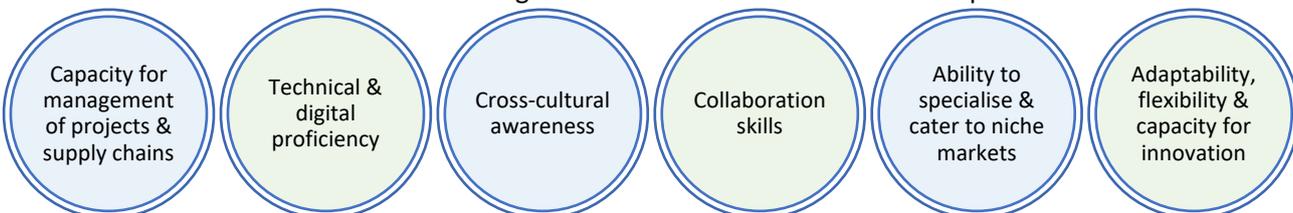


The 21<sup>st</sup> century capabilities help people to flourish in this changing world:



### CASE STUDY | ENGINEERING TRADES IN TASMANIA<sup>8</sup>

Digitisation and globalisation are changing the way Tasmanian engineering firms work to compete globally. This means Tasmanian engineers now needs these six sets of capabilities:



*"The old pure engineer is not valid any more. Young engineers need to be slick and adaptable with a broad knowledge of many things and the ability to jump around"<sup>8</sup>*

Jobs that require human interaction, problem solving and innovation are increasing in Tasmania<sup>13</sup>. Between 2006 and 2016 employment increased in Health Care and Social Assistance (+2.8%) and Education and Training (+1.0%), but declined in Manufacturing (-3.6%).

## WHAT CAN WE DO TO HELP LEARNERS DEVELOP 21<sup>ST</sup> CENTURY CAPABILITIES?<sup>3,4,6,11, 14, 15</sup>

### Teachers & Families



- PROMOTE LEARNING TO LEARN SKILLS
  - PLANNING—Guide learners to think about *what* they need to do; *why* they are being asked to do the task; the *strengths and weaknesses* they bring to the task; *explaining the steps* they are going to take and developing *criteria for success*.
  - STRATEGY EXPERIMENTATION—Encourage learners to explore and experiment with strategies (e.g. brainstorming methods) to manage different aspects of their learning, including learning resources, behaviour, motivation and emotions.
  - FEEDBACK & REFLECT—Provide opportunities for learners to reflect on their learning along the way (e.g. journaling). Support learners to understand feedback and to translate feedback into actions.
  
- PROMOTE PEER INTERACTIONS AND INTERDEPENDENCE
  - Problem-based learning (e.g. reducing school waste) is one way to promote a group of learners to make use of each other's knowledge and ideas and work together as a team.
  - Introduce open-ended challenges to encourage creativity (e.g. design an efficient way to recycle).
  - Encourage learners to provide constructive feedback (e.g. using set rubrics) to help peers improve their work and communication.
  
- INTEGRATE TECHNOLOGY
  - Using technological tools to facilitate learning and activities (e.g., using virtual reality to provide a more hands on learning of the human nervous system, prototyping a design, online collaboration).
  
- EMBRACE GROWTH MINDSET
  - Emphasise the importance of learning versus getting the correct answers (e.g. reward effort).
  - Embrace failures as opportunities to learn, adapt and explore new options.
  - Promote healthy risk-taking (e.g. joining a debate team for shy students).

### Business & Industry



- SUPPORT THE INTEGRATION OF TECHNOLOGY IN SCHOOLS
  - Collaborate with teachers and educational leaders in designing technologies that help to facilitate and transform learning (e.g. 3D printers, Virtual Reality software and hardware).
  
- CO-DESIGN APPRENTICESHIP OPPORTUNITIES
  - Connect with schools and co-design, trial and evaluate different types of apprenticeship-like models (e.g. in creative and media, constructions, agriculture and engineering).
  
- SHARE INDUSTRY KNOWLEDGE
  - Participate in career education and provide advice about current labour market, workforce requirements and industry trends.
  - Improve accessibility to information about job and training opportunities in the industry.
  
- PROMOTE CONTINUOUS LEARNING IN THE JOB
  - Offer opportunities for employees to re-skill and upskill through relevant education and training while in the job.

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