

# *Skills needed for the future of work*

*A discussion of the literature, data, and future research using LSAY*

Peta Skujins

# Educational institutions

## What role should they play?



- Can skills be taught?
  - Technical vs. soft-skills
- Higher education has started embedding skills into their curriculum
- Is VET better placed to meet employer needs?



# What skills are needed for the future of work?

- Soft-skills

- ‘Personal attributes that enable someone to interact effectively and harmoniously with other people.’

Oxford English Dictionary, [www.oxforddictionaries.com](http://www.oxforddictionaries.com)

- Future work skills

- Skills that enable someone to interact effectively with information and technology



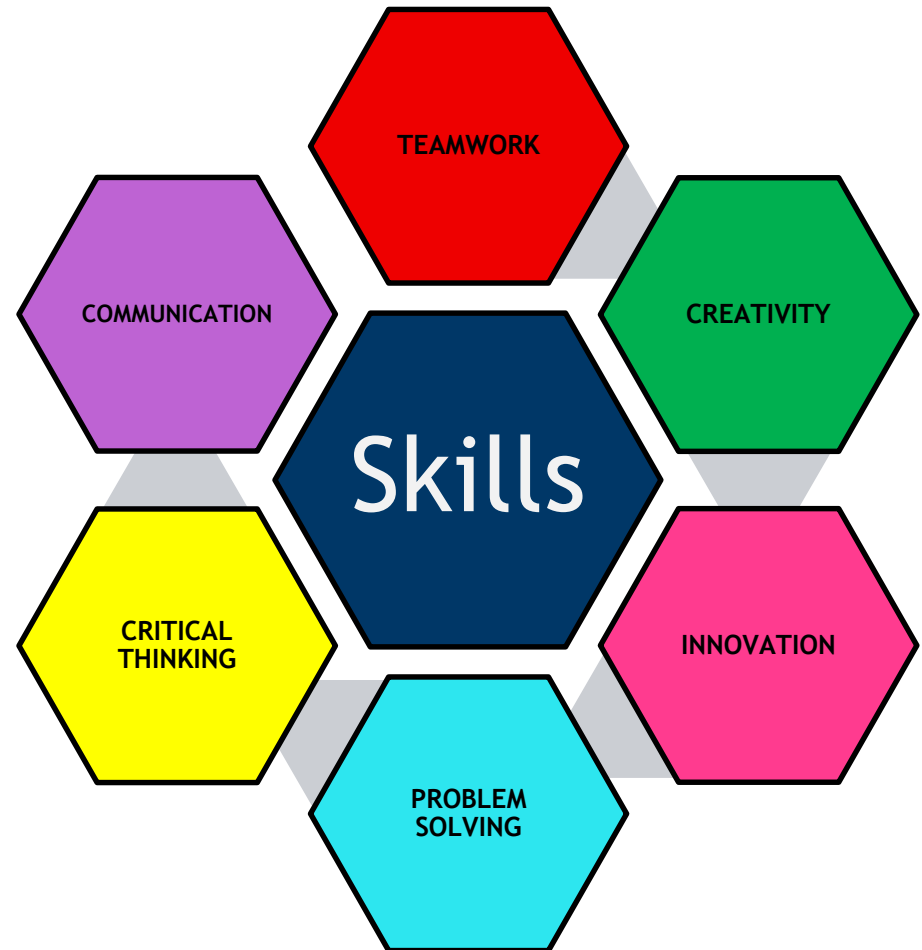
# What skills are needed for the future of work?

- Soft-skills
  - Teamwork
  - Communication
  - Outgoing
  - Emotionally stable
- Future work skills
  - Digital skills
  - Information overload



# Skills Frameworks

- Australian Core Skills Framework
- Core Skills for Work Developmental Framework
- Employability Skills Framework
- Future Work Skills 2020
- Framework for 21<sup>st</sup> Century Learning



# Types of skills



- Basic cognitive
  - literacy & numeracy
- Higher-order cognitive
  - soft-skills
- Socio-emotional
  - personality
- Technical
  - specific work skills

(Cunningham & Villasenor, 2016)



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(Cunningham & Villasenor, 2016)



# Current Australian data

## Basic cognitive & technical skills

- PISA 2015 – release 2016
- PISA 2012
  - ↓ reading achievement
  - ↓ maths achievement
  - science achievement
- NAP-ICTL
  - ↓ computer literacy
- NAP-CC
  - ↓ civics and citizenship



**INCREASE**



**DECREASE**





# Current Australian data

## Higher-order cognitive & socio-emotional skills

- PISA 2012
  - Locus of control – 6-item measure
  - Perseverance – 4-item measure
  - Creative problem solving - module
- LSAY Y06 / Y09
  - Problem solving – improved through study
  - Analytic skills – improved through study
  - Teamwork – improved through study



# Data gaps – What else do we need to know?

- ✓ Basic cognitive
- ✗ Higher-order cognitive
- ✗ Socio-emotional
- ? Technical

# MISSING

\* MISSING STUDENTS \*



PLEASE HELP BRING THEM BACK!



# Measuring skills in LSAY

1. Consultation process
2. Review
3. Prepare items for DET
4. Review
5. New items
6. Cognitive interviewing
7. Pilot
8. Questionnaire



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1. Consultation process
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Longitudinal  
Surveys of  
**Australian Youth**



# Measuring skills in LSAY - Issues

- Phone + Online
- Self-report
- Young people
- 20 minutes



# Measuring skills in LSAY - Issues

## Self-report

- Accurate representation of skills?
- Understanding of the skill?
- Use/ development of the skill?
- Tracking change over time?



# Framework for 21<sup>st</sup> Century Learning: Learning and Innovation Skills

- Creativity and innovation
- Critical thinking and problem solving
- Communication and collaboration



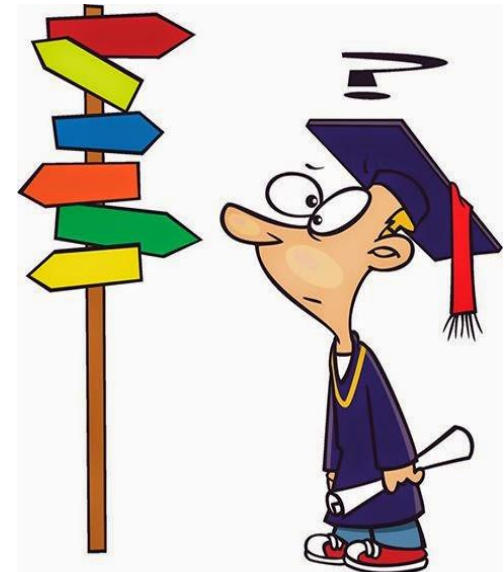
# LSAY questions – Post-school education

The following set of questions refers to the study or training you've recently completed.

On a scale from zero to ten where zero means strongly disagree and ten means strongly agree, how much do you agree or disagree with each of these statements?

The study or training developed...

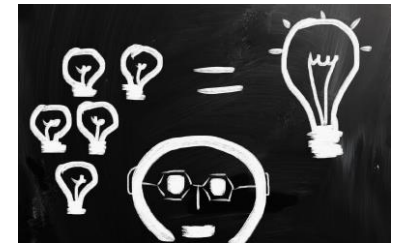
- a) My problem solving skills
- b) My creativity
- c) My ability to work as a team member
- d) My oral communication skills
- e) My critical thinking
- f) My digital skills?





# LSAY questions – soft-skills

## Problem solving sub-scale



The next set of questions is about how you think and behave. For these questions, please answer using a zero to ten scale, where zero means this is nothing like you and ten means this is exactly like you.

- a) I can generally see a way out of problem situations
- b) When I make decisions I am happy with them later
- c) I see problems as challenges to overcome



# Personal attributes



- Personality – Big 5
  - Self-esteem
  - Grit or self-control
  - Psychological distress (K6)
- + PISA 2015 ‘non-cognitive’ outcomes

# Opportunities for research using LSAY data

- Post-school education ↔ skills development  
What types of post-school education result in the greatest skills development?
- Skills development ↔ skills level  
How do participants with higher skills levels rate their skills development?
- Skills level ↔ employment outcomes  
Do participants with higher skills levels have better employment outcomes?



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