Inclusive tech futures:
Secondary school engagement

RMIT University team

RMIT UNIVERSITY Ready for what's next

CRICOS provider number: 00122A | RTO Code: 3046

Acknowledgement of Country

RMIT University acknowledges the people of the Woi wurrung and Boon wurrung language groups of the eastern Kulin Nation on whose unceded lands we conduct the business of the University.

RMIT University respectfully acknowledges their Ancestors and Elders, past and present.

RMIT also acknowledges the Traditional Custodians and their Ancestors of the lands and waters across Australia where we conduct our business.

Artwork ‘Sentient’ by Hollie Johnson
Hollie is a Gunaikurnai and Monero Ngarigo woman from Gippsland who graduated from RMIT with a BA in Photography in 2016.

There’s strength in numbers

Let’s come together to share best practices, and co-create engagement programs that will improve computing education for all secondary students.

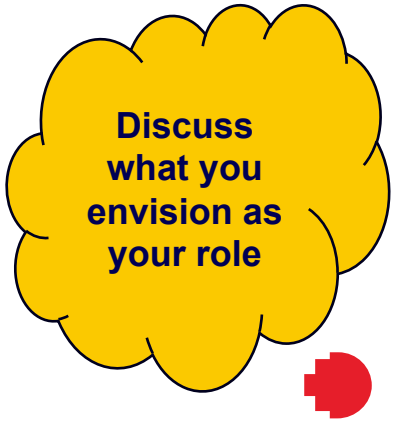
What is our role in secondary school engagement?

Universities play a pivotal role:

- providing computing knowledge and expertise
- inspiring, empowering and educating
- bridging the gap between school and industry

Who should we target?

- students
- teachers
- schools and education systems
- parents
- industry and government



Events and Programs

Co-designed teaching and learning

Ongoing partnership

Linking school and university including projects

Work experience week

Mentoring programs

Competitions, events and excursions

Marketing positively

Parents, students, industry, schools and wider community

Partnerships

Community groups

TAFE

Government

Co-design curriculum with educational institutions

Engaging with Industry partners / non-profit orgs / student orgs

Tell us about you

How can we support each other, collaborate and build programs that are sustainable?

What students identified as *barriers to engagement*?

Challenges

- financial factors and access to programs / facilities
- being in the minority:
  - intimidated
  - like they "can't do it"
  - they "don't belong”
- discouraging content
  - it’s just coding
  - its the same every year
- marketing and stereotypes

Greenwood, J. (2023). Is Computer Science for Me?: Understanding the Barriers of Enrollment and Engagement in Computer Science Courses in High Schools. *American Sociological Association*.

What barriers do schools and teachers face?

- **teacher capacity and confidence**
  - 15.8% cited they struggled to learn complex coding tasks (Bargagna et al., 2019)
- **mostly non-mandated courses with fewer female participants**
- **lack of time to develop skills and dispositions**
- **strict teaching styles**
- **difficult peer relationships**
- **lack or excessive reliance on programming materials**

Mills, K. A., Cope, J., Scholes, L., & Rowe, L. (2025). Coding and computational thinking across the curriculum: A review of educational outcomes. *Review of Educational Research*, *95*(3), 581-618.

What challenges can you identify?

Over to you:

What challenges have you identified / experienced?

- **Post its**
- **Discuss**
  - How does it compare with challenges faced by students and schools?
- **Identify top 3 challenges**

What helps engage diverse learners?

Positive influences

- inspiring teachers
- family influences
- when I’m shown that computing is inventive & creative
- when the content is challenging
- when we explore careers in all areas of computing

Greenwood, J. (2023). Is Computer Science for Me?: Understanding the Barriers of Enrollment and Engagement in Computer Science Courses in High Schools. *American Sociological Association*.

What could help teachers and schools?

- **DT integrated into all areas into the school curriculum**
- **computational thinking, problem solving, creativity, and critical thinking**
- **disciplinary knowledge**
  - CoP and sustained PL for teachers and school communities
- **student agency and active engagement**
  - materials and platforms that support effective pedagogical approaches
- **social and collaborative skills that promote diverse perspectives.**

Mills, K. A., Cope, J., Scholes, L., & Rowe, L. (2025). Coding and computational thinking across the curriculum: A review of educational outcomes. *Review of Educational Research*, *95*(3), 581-618.

What has worked for you to engage students?

Over to you:

What have you identified that has worked and why? Is it scalable?

- **Post its**
- **Discuss**
  - How does it compare with what has worked for students and schools?
- **Identify top 3 positive factors**

*How can we provide equitable engagement programs that inspire **all** secondary students in computing?*

Ideate

- Choose one challenge or positive factor
  - How could I break down this barrier or provide opportunities to positively influence students?

Behind every successful workshop is a recycling bin full of Post-its.

Practical actions

- Who is **one person** you could reach out to form a collaboration?
- What **is one idea** you could share with another person or institution?

What is your practical idea and next step?

Closing

Thank you!



Let us use this workshop as a conversation starter.

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