EXEMPLARS- THANK YOU TO OUR OUTSTANDING STUDENTS!

Please do not copy any of these designs, but use as inspiration for your own excellent poster

Equity in Mathematics for Marginalised Girls at Fairfield High

The Problem:
Despite inclusive values, Fairfield High sees underrepresentation of girls in mathematics, particularly those from marginalized backgrounds.

The Focus:
This report explores how gender, culture, socio-economic status, and other intersecting identities shape girls' access to and participation in mathematics.

"When we fail to consider intersectionality, we risk reinforcing the very inequalities we aim to solve." Crenshaw (1989)

Reimagining the Scientist

- Research Findings: In the 1960s-70s, <1% of children drew female scientists. That figure now stands at 28%.
- Key Insight: Visible, diverse role models in STEM are critical to broadening children's imaginations.
- Data Point: 70% of 6-year-old girls draw a female scientist, but this drops to 25% by age 16.

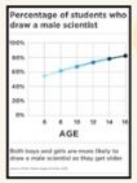
"Representation matters; girls need to see women in STEM who look like them." Crenshaw (1989)

Intersectional Identities

Understanding the Intersectional Barriers

- Gender: Stereotype threat undermines girls' confidence and identity.
- Socioeconomic Status: Limited access compounds disadvantaged.
- Ethnicity & Culture: Language barriers, gender norms, and cultural expectations.
- Indigeneity: Systemic exclusion affects engagement.
- Religion: Traditional roles may shape aspirations.

"Cultural stereotypes and societal expectation can create gendered divisions, often associating mathematics with males, which discourages girls from pursuing the subject." Welch (2018)



Social Exclusion in the Maths Classroom

- "Boys are better at math" narrative persists.

"If you're constantly reminded you don't belong, you believe it." Steele (1995)

- Lower expectations for girls from diverse or low-SES backgrounds.
- Curriculum feels detached from girls' lived experiences.
- Few visible, diverse women in STEM.
- Peer and family pressure to pursue non-STEM paths.

"Cultural expectations shape students' self-perceptions." Welch (2018)

- Maths pedagogy can exclude EAL/D learners.

Data from the Victorian Certificate for Education shows that girls attending a single-sex school are 85% more likely to take advance mathematics than girls in co-ed schools (Bridge, 2022).

Belonging as a Foundation

You can't be what you can't see. Students who feel they belong are likely to succeed.

Barriers:

- Gendered curriculum and pedagogy
- Cultural disconnection
- Implicit bias of teachers
- Limited identity in Mathematics - affirming content

Theoretical Frameworks

- Intersectionality "The lived reality is both race and gender, and more." Crenshaw (1989)
- Funds of Knowledge "Children bring rich knowledge from home, value it." Moll et al. (1992)
- Bourdieu's Theory
  - Cultural Capital: "Schools reward dominant-class culture."
  - Habitus: "Girls internalize the idea that math's isn't for them."

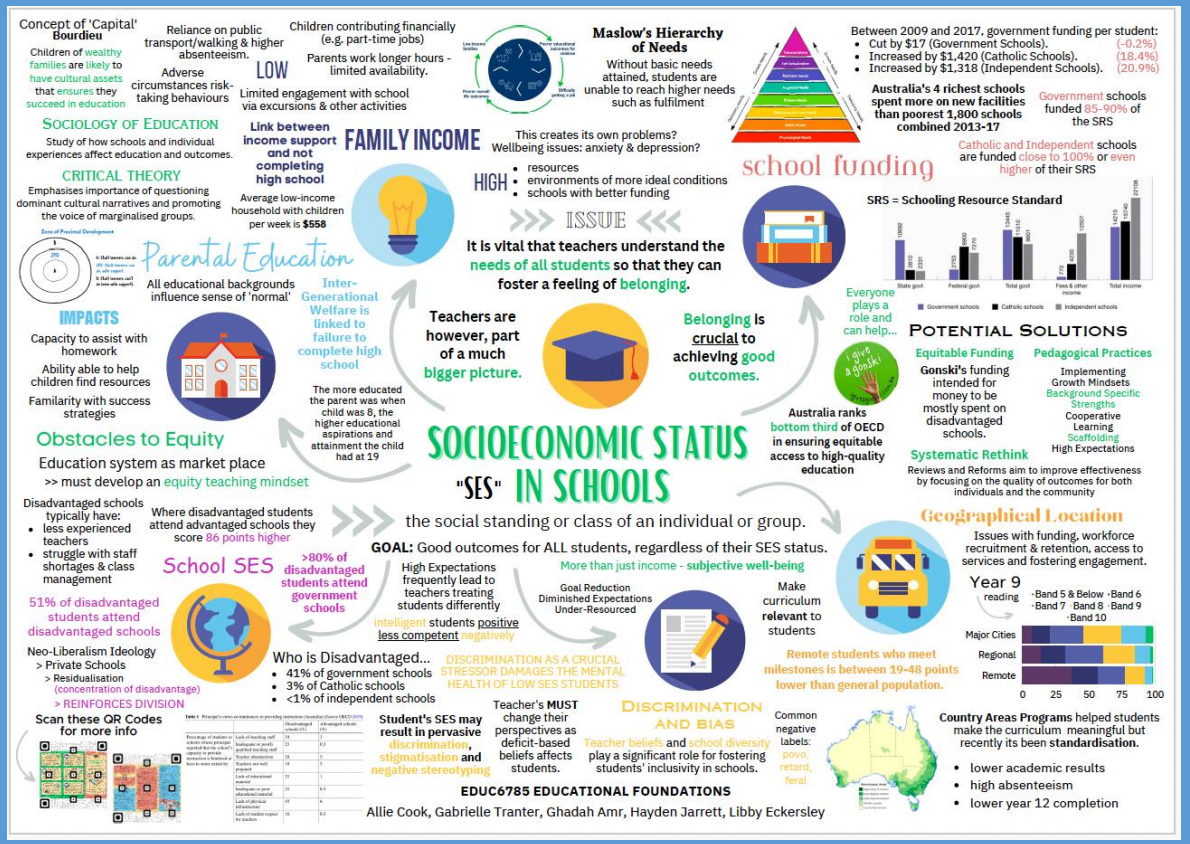
Strategic Interventions: A Multi-Level Response

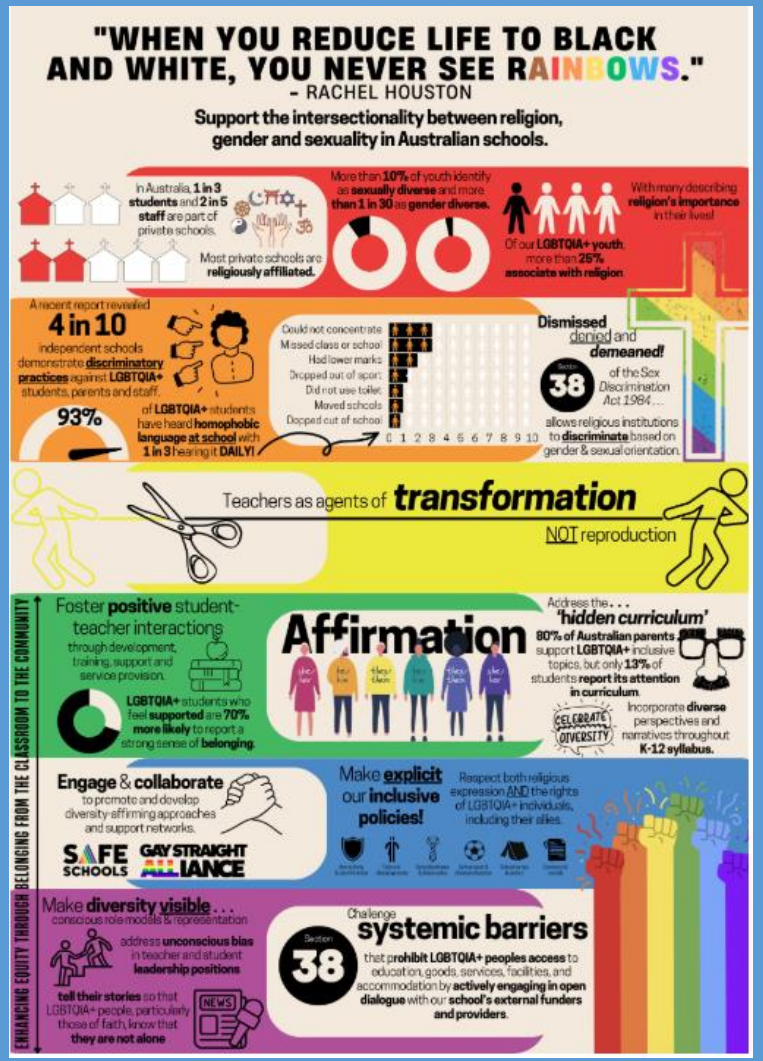
Societal	• Challenge stereotypes • Scholarships for underrepresented girls • Gender and culture-free curriculum
Community	• Partner with cultural groups • Mentors and alumni • Use community languages ***"Families are not a deficit; they are an asset."*** (Moll et al. 1992)
School	• Equity training for teachers. • Diverse women in STEM in teaching materials • Inclusive, relevant maths content • Peer mentoring • Family sessions on maths pathways
Home	• Encourage maths conversations • Resource packs for families • Invite families to Stem events ***"Parental involvement correlates strongly with girls' academic success"*** (Hill & Tyson, 2009)

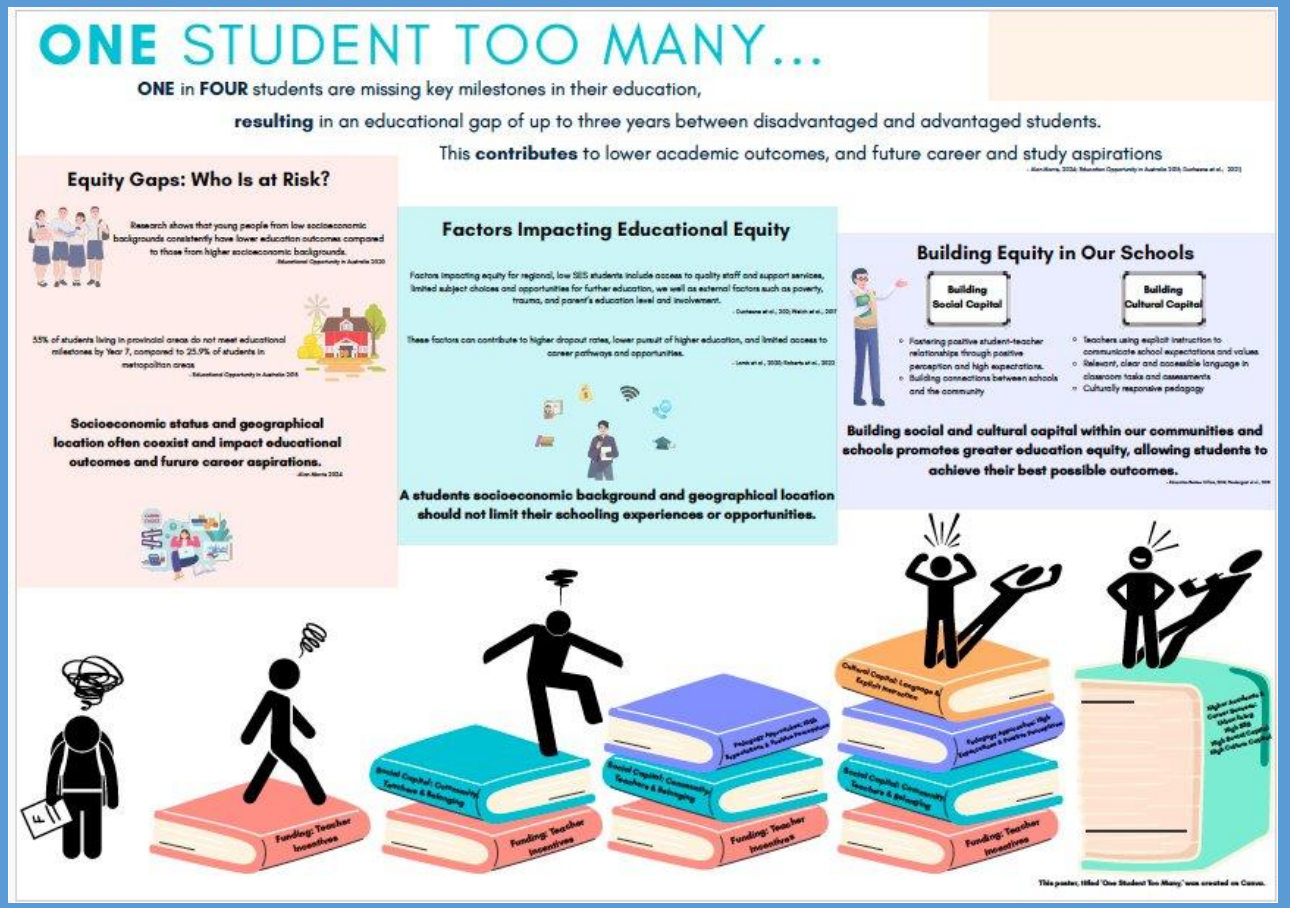
Recommendations

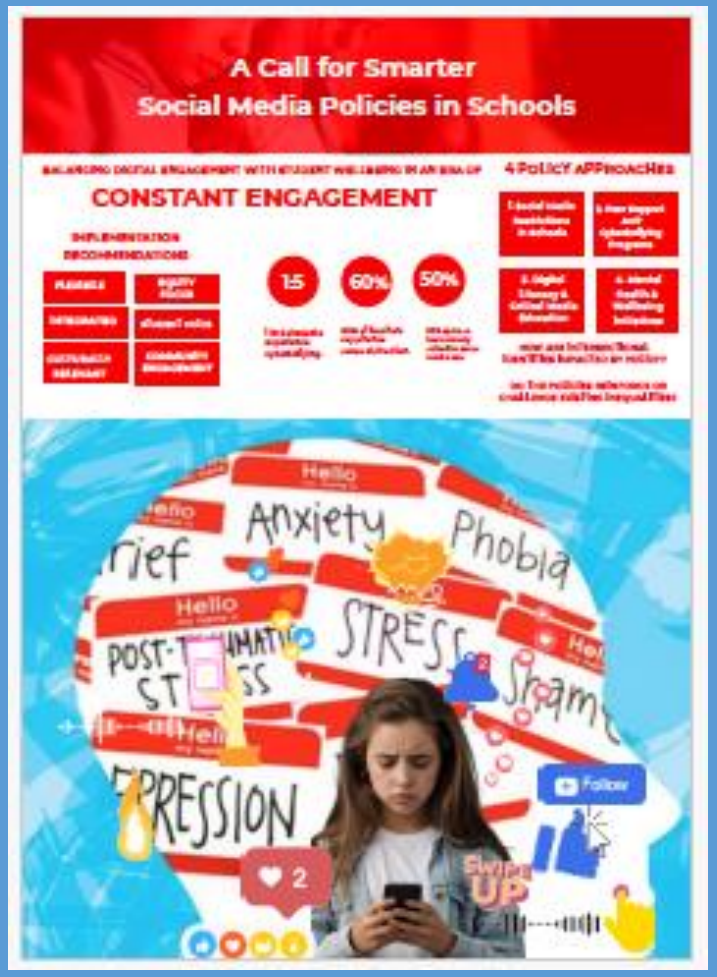
Equity in education means all girls can see themselves as mathematicians. To create lasting change at Fairfield High, we must address:

- Structural inequalities
- Cultural disconnection
- Lack of belonging
- Gendered perceptions

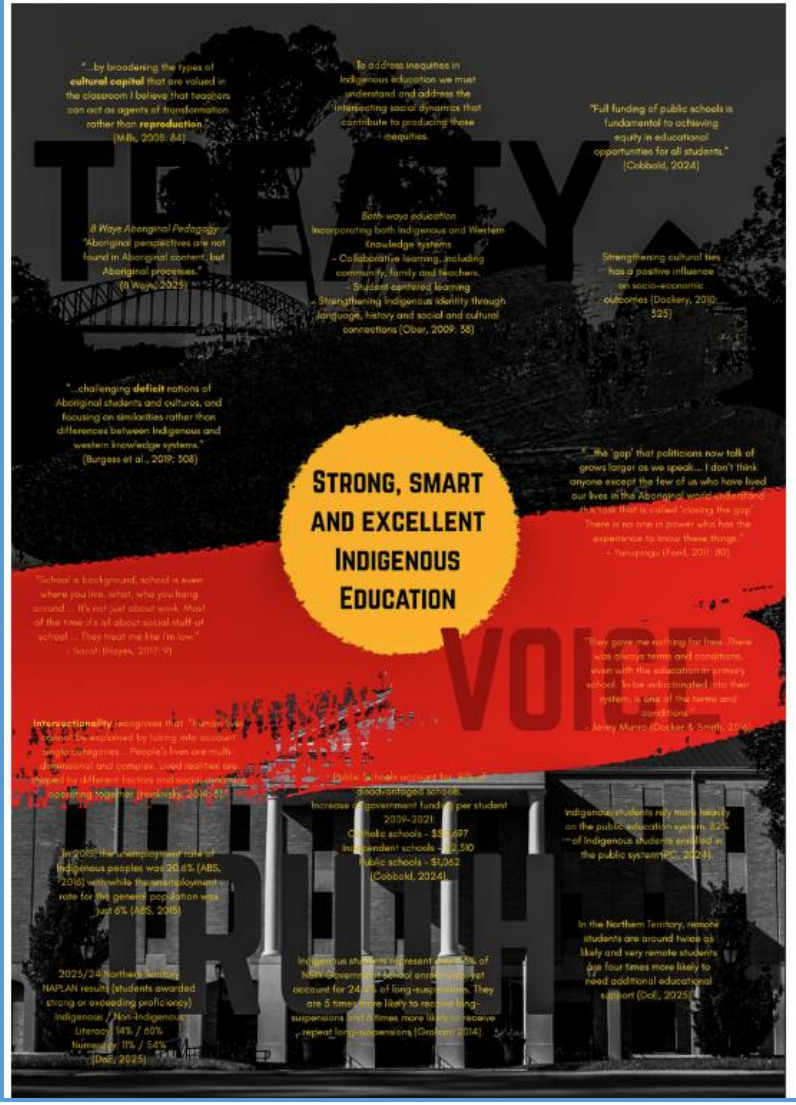


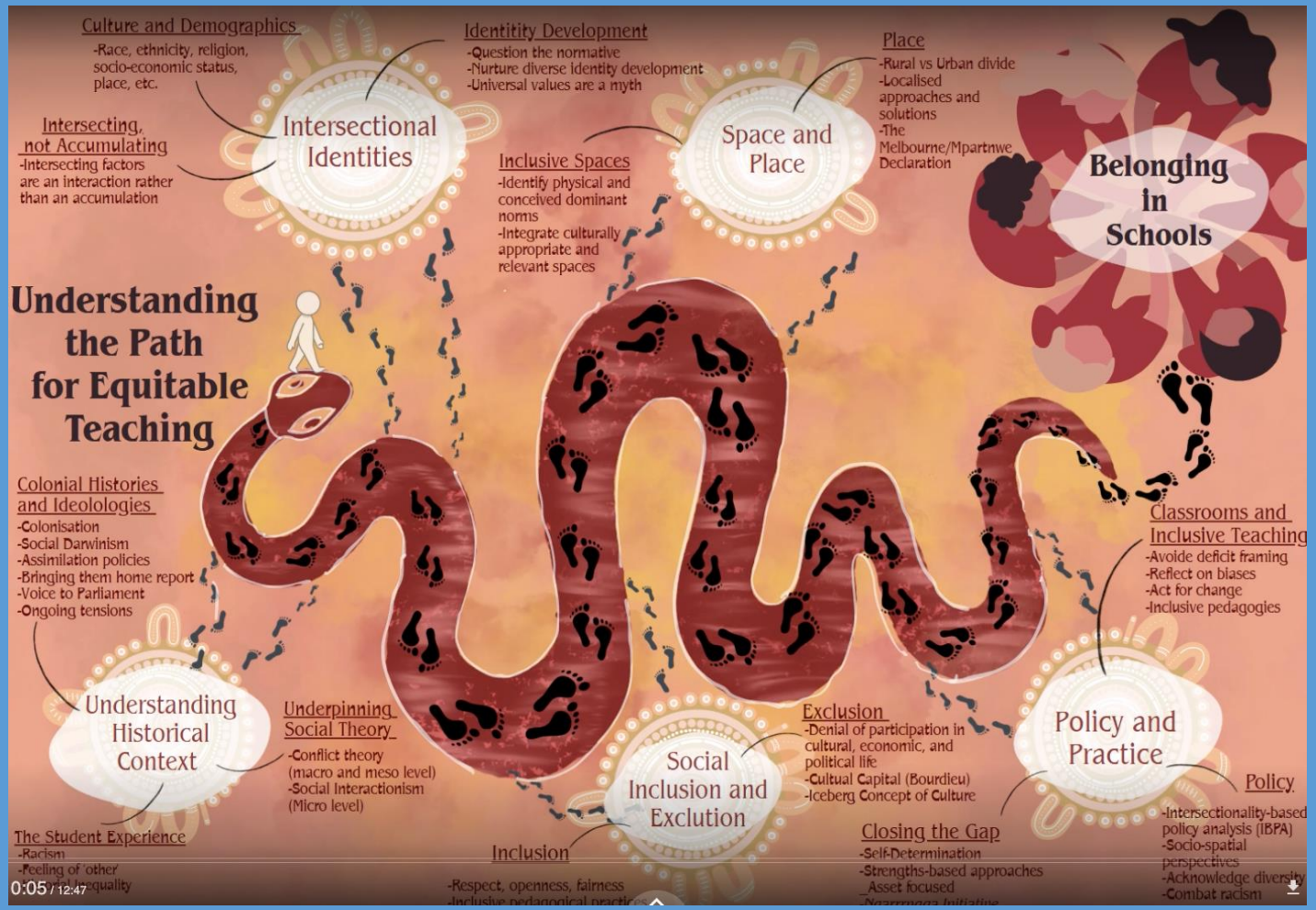

"WHEN YOU REDUCE LIFE TO BLACK AND WHITE, YOU NEVER SEE RAINBOWS."
- RACHEL HOUSTON
Support the intersectionality between religion, gender and sexuality in Australian schools.
In Australia, 1 in 3 students and 2 in 5 staff are part of private schools.
Most private schools are religiously affiliated.
More than 10% of youth identify as sexually diverse and more than 1 in 30 as gender diverse.
Of our LGBTQIA+ youth, more than 25% associate with religion.
With many describing religion's importance in their lives!
A recent report revealed
4 in 10
independent schools demonstrate discriminatory practices against LGBTQIA+ students, parents and staff.
93%
of LGBTQIA+ students have heard homophobic language at school with 1 in 3 hearing it DAILY!
Could not concentrate
Missed class or school
Had lower marks
Dropped out of sport
Did not use toilet
Moved schools
Dropped out of school
0 1 2 3 4 5 6 7 8 9 10
Dismissed
denied and
demeaned!
Section 38 of the Sex Discrimination Act 1984 ...
allows religious institutions to discriminate based on gender & sexual orientation.
Teachers as agents of transformation
NOT reproduction
ENHANCING EQUITY THROUGH BELONGING FROM THE CLASSROOM TO THE COMMUNITY
Foster positive student-teacher interactions
through development, training, support and service provision.
LGBTQIA+ students who feel supported are 70% more likely to report a strong sense of belonging.
Affirmation
Address the...
'hidden curriculum'
80% of Australian parents support LGBTQIA+ inclusive topics, but only 13% of students report its attention in curriculum.
CELEBRATE DIVERSITY
Incorporate diverse perspectives and narratives throughout K-12 syllabus.
Engage & collaborate
to promote and develop diversity-affirming approaches and support networks.
SAFE SCHOOLS
GAY STRAIGHT ALLIANCE
Make explicit our inclusive policies!
Respect both religious expression AND the rights of LGBTQIA+ individuals, including their allies.
Make diversity visible...
conscious role models & representation
address unconscious bias in teacher and student leadership positions
tell their stories so that LGBTQIA+ people, particularly those of faith, know that they are not alone
NEWS
Challenge
Section 38
systemic barriers
that prohibit LGBTQIA+ peoples access to education, goods, services, facilities, and accommodation by actively engaging in open dialogue with our school's external funders and providers.


ONE STUDENT TOO MANY...
ONE in FOUR students are missing key milestones in their education,
resulting in an educational gap of up to three years between disadvantaged and advantaged students.
This contributes to lower academic outcomes, and future career and study aspirations
Equity Gaps: Who Is at Risk?
Research shows that young people from low socioeconomic backgrounds consistently have lower education outcomes compared to those from higher socioeconomic backgrounds.
55% of students living in provincial areas do not meet educational milestones by Year 7, compared to 25.9% of students in metropolitan areas
Socioeconomic status and geographical location often coexist and impact educational outcomes and furure career aspirations.
Factors Impacting Educational Equity
Factors impacting equity for regional, low SES students include access to quality staff and support services, limited subject choices and opportunities for further education, as well as external factors such as poverty, trauma, and parent's education level and involvement.
These factors can contribute to higher dropout rates, lower pursuit of higher education, and limited access to career pathways and opportunities.
A students socioeconomic background and geographical location should not limit their schooling experiences or opportunities.
Building Equity in Our Schools
Building Social Capital
Fostering positive student-teacher relationships through positive perception and high expectations.
Building connections between schools and the community
Building Cultural Capital
Teachers using explicit instruction to communicate school expectations and values
Relevant, clear and accessible language in classroom tasks and assessments
Culturally responsive pedagogy
Building social and cultural capital within our communities and schools promotes greater education equity, allowing students to achieve their best possible outcomes.
Funding: Teacher Incentives
Social Capital: Community Teachers & Belonging
Cultural Capital: Language & Explicit Instruction
This poster, titled 'One Student Too Many,' was created on Canva.


A Call for Smarter
Social Media Policies in Schools
CONSTANT ENGAGEMENT
4 POLICY APPROACHES
15
60%
50%
Anxiety
Phobia
STRESS
Follow
Swipe UP


Social Media in Schools
Belonging is important to childrens' development, contributing to emotional resilience, motivation, academic achievement and wellbeing.
But is social media a space that enhances or diminishes belonging?
In some ways it can enhance it, through:
finding new friends and community, reducing loneliness | more connection to existing friends, increasing social capital | more space for creativity & exploration of identity |
Social media can also be harmful, through:
| cyberbullying, ostracism & loneliness
| social comparison & body image issues
| poor sleep quality & less sustained focus
| poor mental health, anxiety & depression
| suicidal ideation & self-harm
| behavioural difficulties
| exposure to inappropriate content
| addiction
So, what can we do about it?
Various national & state policies, such as:
| age-appropriate design code, requiring platforms to consider the best interests of children in their design
| legislation to make platforms legally responsible for keeping children safe
| minimum age for social media, requiring age verification
| Department of Health warning labels
| incentivising platforms to use fewer addictive design choices, instead focusing on useful tools for community
Or strategies at home, like:
parental monitoring and supervision | setting time limits, or longer breaks | discussions about the potential risks | modelling responsible use | encouraging other hobbies |
Schools could consider:
| smartphone bans
| restricting smartphone use to specific times or areas
| educating students and families about potential risks, promoting digital literacy, teaching moderation
| teachers modelling responsible use in the classroom
| blocking access to social media websites


"...by broadening the types of cultural capital that are valued in the classroom I believe that teachers can act as agents of transformation rather than reproduction." (Mills, 2008: 84)
To address inequities in Indigenous education we must understand and address the intersecting social dynamics that contribute to producing those inequities.
"Full funding of public schools is fundamental to achieving equity in educational opportunities for all students." (Cobbold, 2024)
TREATY
8 Ways Aboriginal Pedagogy
"Aboriginal perspectives are not found in Aboriginal content, but Aboriginal processes." (8 Ways, 2025)
Both-ways education
Incorporating both Indigenous and Western knowledge systems
- Collaborative learning, including community, family and teachers
- Student-centered learning
Strengthening Indigenous identity through language, history and social and cultural connections (Ober, 2009: 38)
Strengthening cultural ties has a positive influence on socio-economic outcomes (Dockery, 2010: 325)
"...challenging deficit notions of Aboriginal students and cultures, and focusing on similarities rather than differences between Indigenous and western knowledge systems." (Burgess et al., 2019: 508)
STRONG, SMART AND EXCELLENT INDIGENOUS EDUCATION
"...the 'gap' that politicians now talk of grows larger as we speak... I don't think anyone except the few of us who have lived our lives in the Aboriginal world understand the task that is called 'closing the gap'. There is no one in power who has the experience to know these things."
- Yunupingu (Ford, 2011: 80)
"School is background, school is even where you live, what, who you hang around... It's not just about work. Most of the time it's all about social stuff at school... They treat me like I'm low."
- Sarah (Hayes, 2017: 9)
VOICE
They gave me nothing for free. There was always terms and conditions, even with the education in primary school. To be indoctrinated into their system, is one of the terms and conditions.
- Jenny Munro (Docker & Smith, 2016)
Intersectionality recognises that "human identity cannot be explained by taking into account single categories... People's lives are multi-dimensional and complex... lived realities are shaped by different factors and social processes operating together" (Hankivsky, 2014: 5)
Public schools account for 71% of disadvantaged schools
Increase in government funding per student 2009-2021
Catholic schools - $30,697
Independent schools - $22,510
Public schools - $1,062
(Cobbold, 2024)
Indigenous students rely more heavily on the public education system. 82% of Indigenous students enrolled in the public system (ACARA, 2024).
In 2015, the unemployment rate of Indigenous peoples was 20.6% (ABS, 2016) while the unemployment rate for the general population was just 6% (ABS, 2015)
TRUTH
2025/26 Northern Territory NAPLAN results (students awarded strong or exceeding proficiency)
Indigenous / Non-Indigenous
Literacy: 14% / 60%
Numeracy: 11% / 54%
(DoE, 2025)
Indigenous students represent around 5% of NSW Government school enrolments, but account for 24.8% of long-suspensions. They are 5 times more likely to receive long-suspensions and 4 times more likely to receive repeat long-suspensions (Graham, 2014).
In the Northern Territory, remote students are around twice as likely and very remote students are four times more likely to need additional educational support (DoE, 2025).


Culture and Demographics
-Race, ethnicity, religion, socio-economic status, place, etc.
Identitity Development
-Question the normative
-Nurture diverse identity development
-Universal values are a myth
Place
-Rural vs Urban divide
-Localised approaches and solutions
-The Melbourne/Mpartnwe Declaration
Intersecting, not Accumulating
-Intersecting factors are an interaction rather than an accumulation
Intersectional Identities
Space and Place
Inclusive Spaces
-Identify physical and conceived dominant norms
-Integrate culturally appropriate and relevant spaces
Belonging in Schools
Understanding the Path for Equitable Teaching
Colonial Histories and Ideolologies
-Colonisation
-Social Darwinism
-Assimilation policies
-Bringing them home report
-Voice to Parliament
-Ongoing tensions
Classrooms and Inclusive Teaching
-Avoide deficit framing
-Reflect on biases
-Act for change
-Inclusive pedagogies
Understanding Historical Context
Underpinning Social Theory
-Conflict theory (macro and meso level)
-Social Interactionism (Micro level)
Social Inclusion and Exclution
Exclusion
-Denial of participation in cultural, economic, and political life
-Cultual Capital (Bourdieu)
-Iceberg Concept of Culture
Policy and Practice
Policy
-Intersectionality-based policy analysis (IBPA)
-Socio-spatial perspectives
-Acknowledge diversity
-Combat racism
The Student Experience
-Racism
-Feeling of 'other'
Inclusion
-Respect, openness, fairness
Closing the Gap
-Self-Determination
-Strengths-based approaches
-Asset focused
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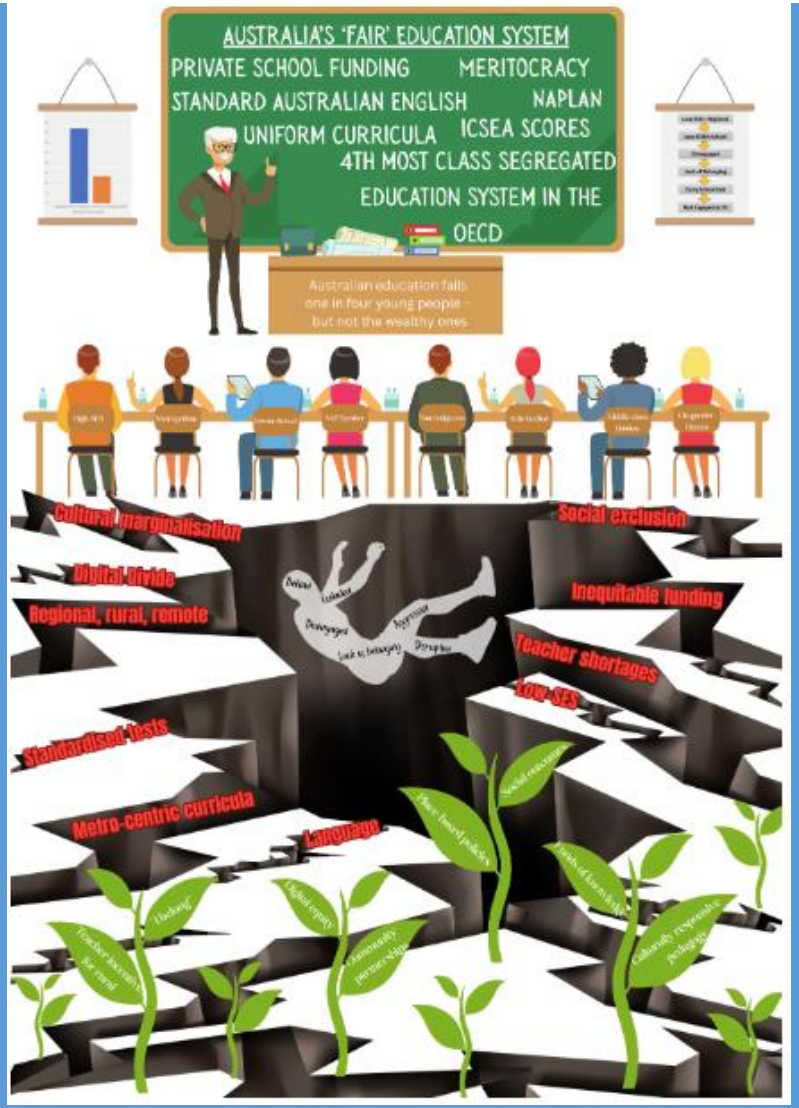

STREAMING
EQUITY & BELONGING

What is Streaming?
Stratifying students into 'ability-based' grouping using academic data
Linked To: Social & economic Status, gender, disability, race and ethnic identities
Impacts: Students academic achievement, sense of belonging, social & emotional wellbeing

PROS

Specialised programming that offers extended curriculum for 'Gifted and Talented' students

Gifted & Talented
Between class ability grouping is marketed to parents from privileged backgrounds who have the cultural capital to select private schooling

Social & Cultural Capital
Schools reproduce the privileges of the dominant social class who possess greater social and cultural capital that is often misconstrued as inherent 'individual excellence'

Social Proximity to High-Achieving Peers

Advantages include:
an advanced curriculum, enriched resources, proximity to like-minded peers, quality learning environments, higher skilled teachers

Access to extended curriculum

CONS

Historically **segregated students** based on their gender, class, race, and 'ability'

Echos of colonial classrooms
Reflected cultural beliefs that intelligence was a 'fixed intrinsic capacity' and that students should be sorted according to their social destiny

Structural humiliation in "Cabbage Class"

Negative physiological & educational impacts on indigenous students whose identity is strongly tied to conceptions of space and place

"Psychological prison,"

Cultural Deficit

Hard to swim 'upstream'

'Big Fish Little Pond' Effect
The drop in self-esteem students feel when they move up/down stream and compare themselves with their peers

A Symbolic Violence
An individual or group being denied resources, being treated as inferior, or given limited opportunities

Low teacher expectations
Ability-grouping reinforces teachers assumptions about students' capabilities and results in inconsistent expectations between high and low streams

Pygmalion Effect:
High expectation = high results
Low expectation = low results

Higher teacher expectations
Homogeneous learning environments allow educators to set 'whole-class' expectations and teach to students 'ability'

Low teacher expectations have a negative **cascading effect** on students self-concept, leading to low motivation and the belief that academic potential is fixed.

Future Career Pathways

Less Academic Opportunities

A NEW METHODOLOGY

A multilevel approach to overcome barriers to belonging & equity:
- Systematic review, policy intervention & clear national guidelines
- Social deconstruction of gendered and racial assumptions
- Inclusive discourse amongst teachers, curriculum developers & communities
- Indigenous representation in schools and recognition of the right to self-determination
- A Culturally Responsive and Relevant Pedagogy (CRRP) within schools that promotes students' sense of belonging.
- Teachers treat all students as 'gifted' and provide equitable opportunities for them to reach their full academic potential.

N. PIERCE