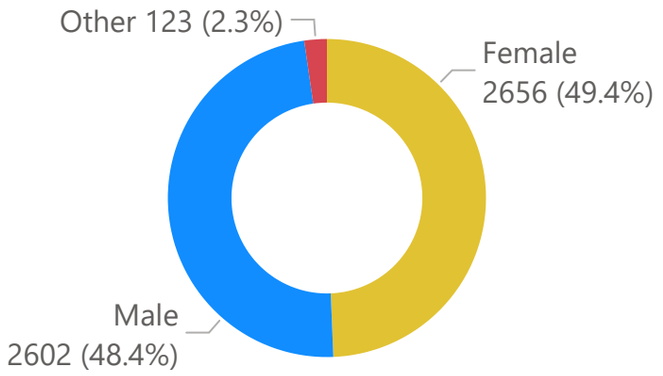
Student Gender Breakdown



Data Slicers

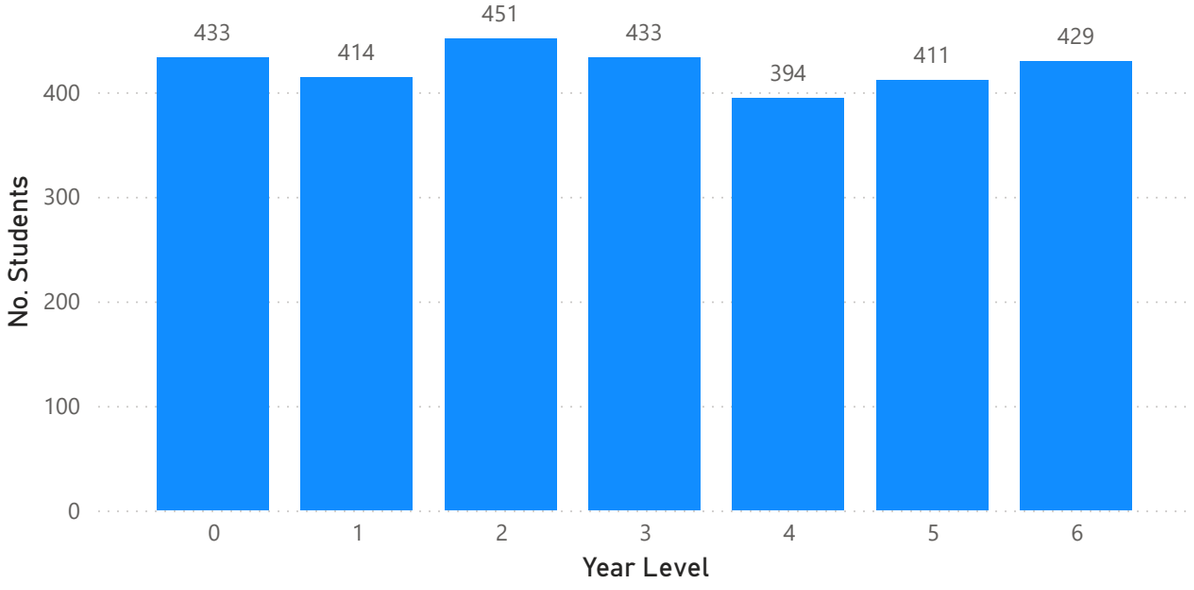
School ID
All

Gender
Female | Male | Other

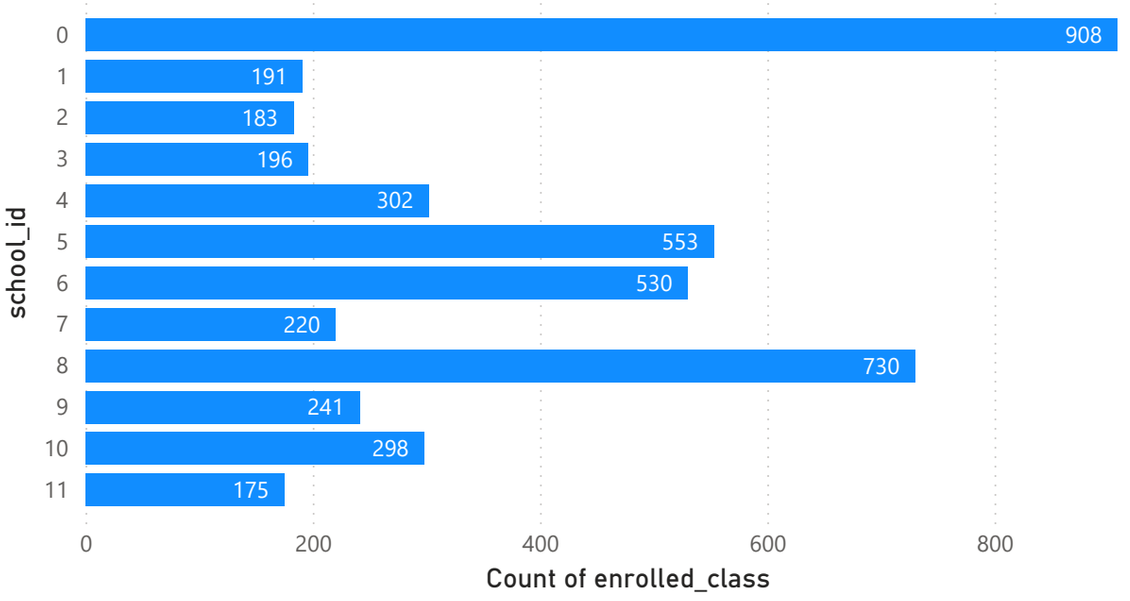
Remoteness Score (1=big city, 5=very remote)
All

Enrolled Year Level
All

Students by Year Level



Count of enrolled_class by school_id



year_of_enrolment

2015	2016	2017	2018	2019	2020	2021

AE ASSESSMENTS

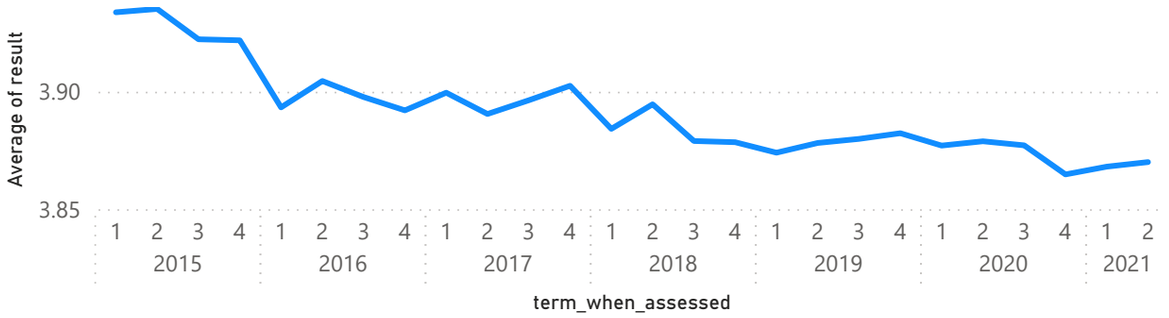
Tracking student performance by: school, gender, geography

year_level_when_assessed: All

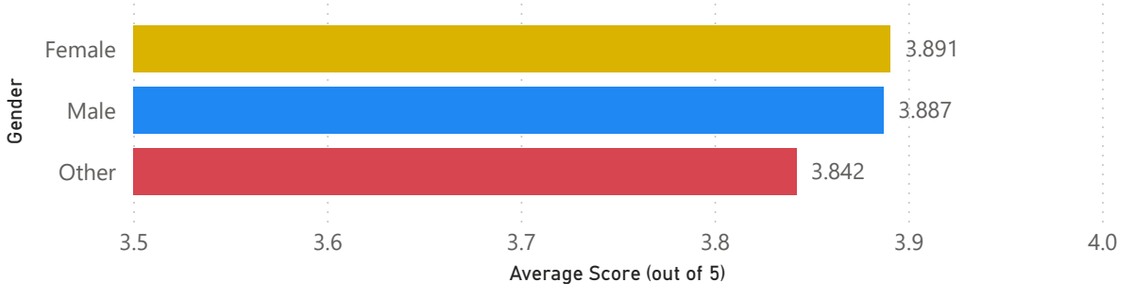
Remoteness Score: All

gender: All

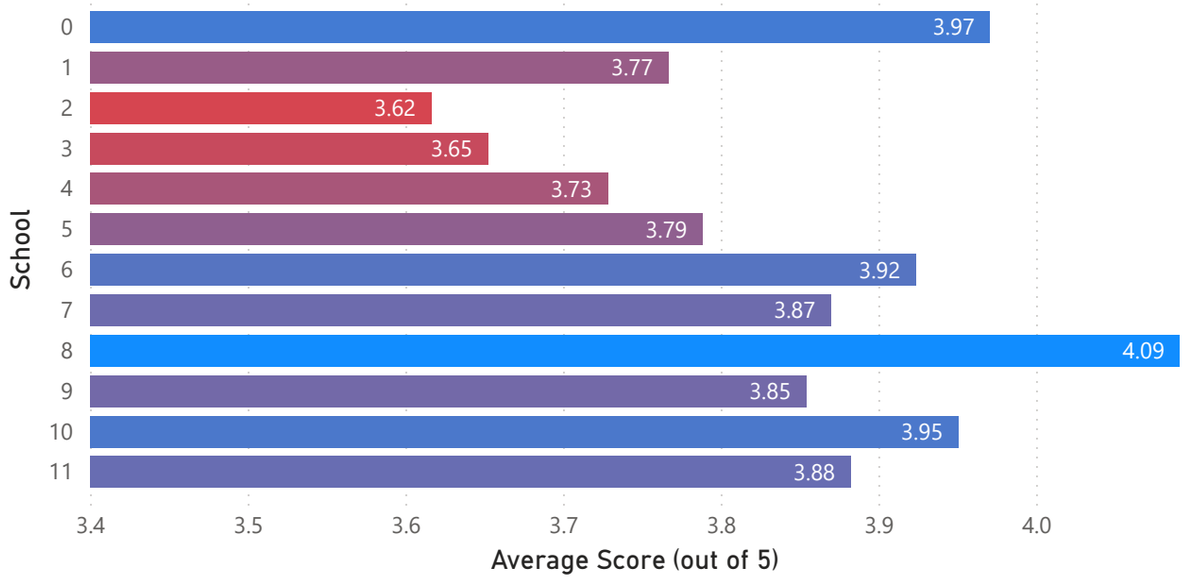
AE Average by term & year



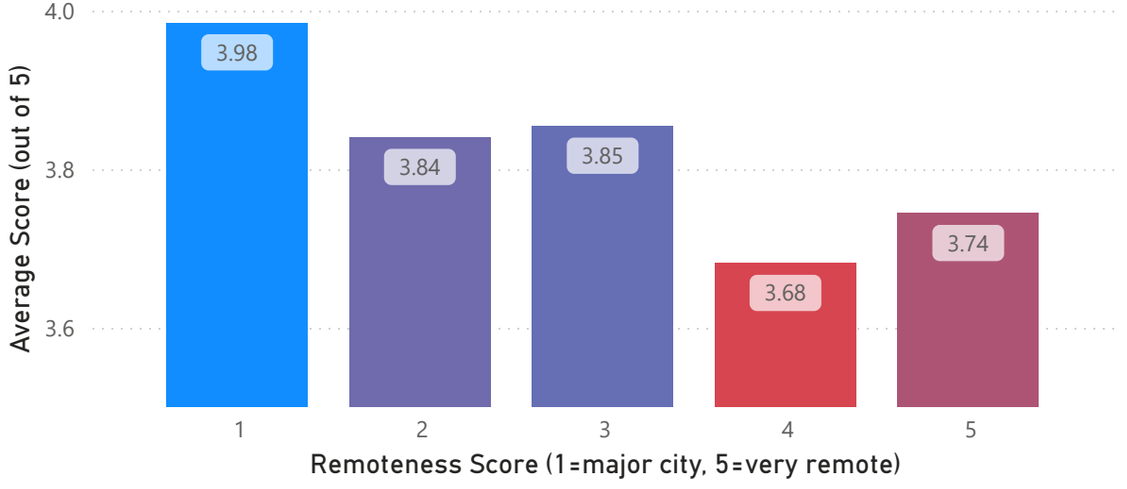
AE Assessment results by gender



AE Assessment: Average results by school



AE Assessment results by geography



PAT ASSESSMENTS

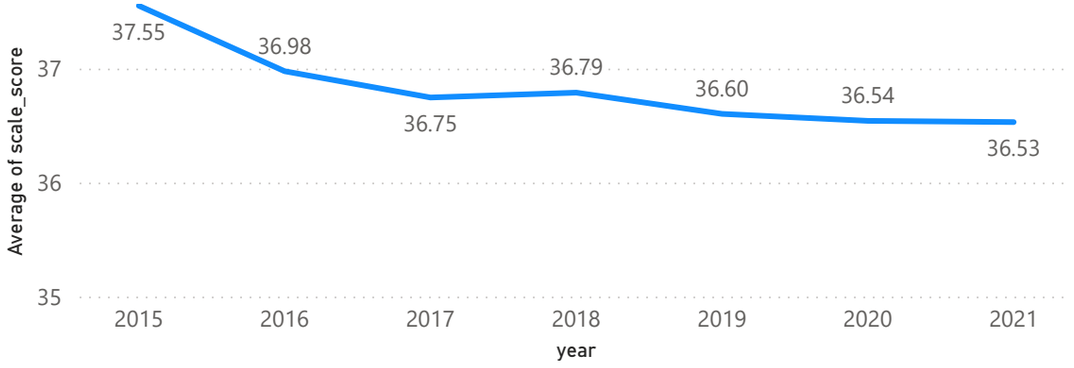
Tracking student performance by: school, gender, geography

gender: All

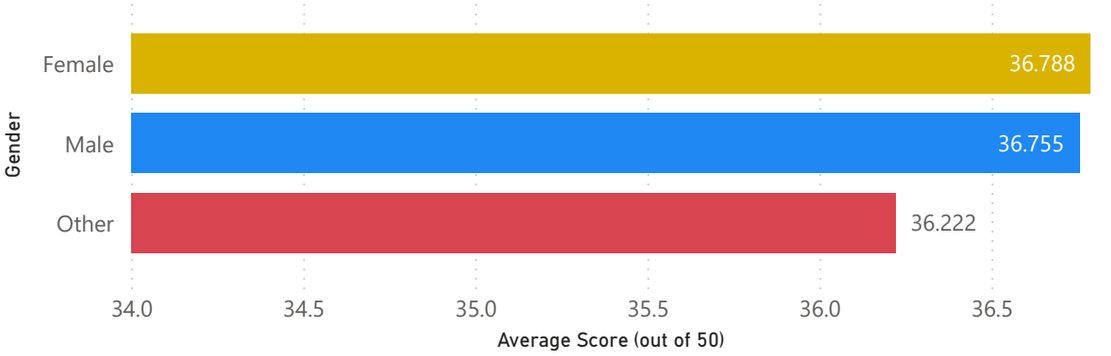
Remoteness Score: All

assessment_name: Mathematics, Reading

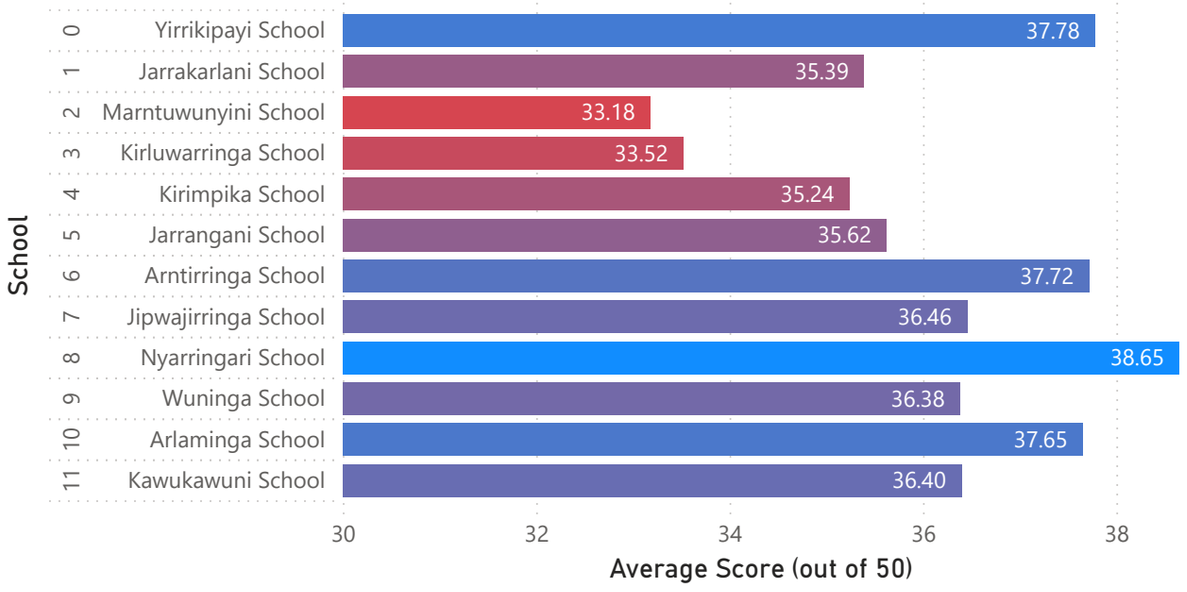
PAT average by year



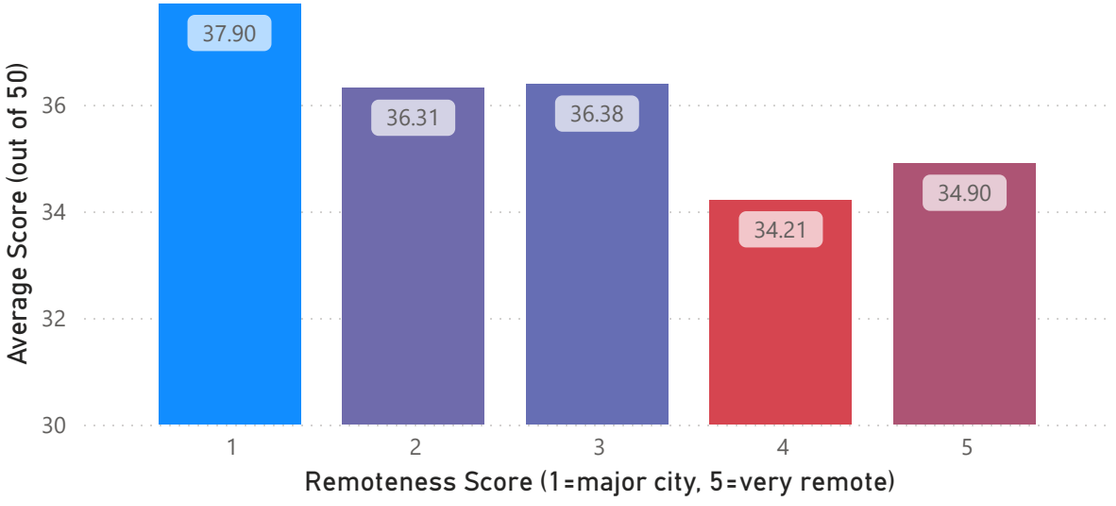
PAT Assessment results by gender



PAT Assessment: Average results by school



PAT Assessment results by geography

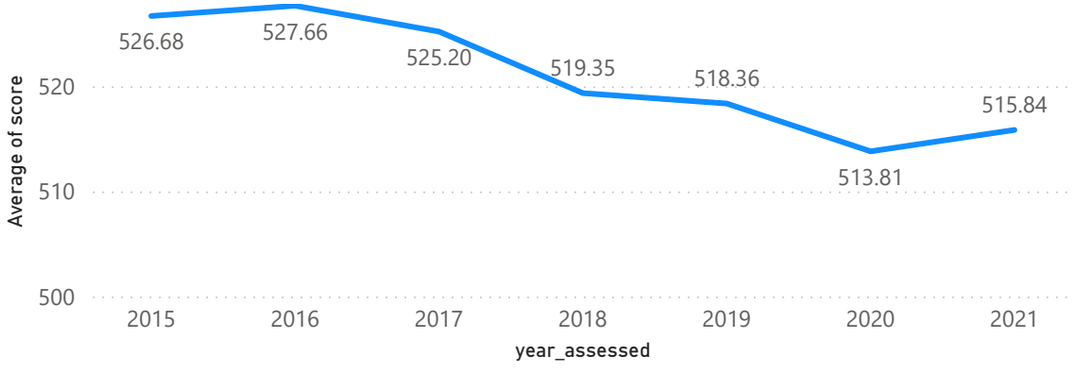


NAPLAN ASSESSMENTS

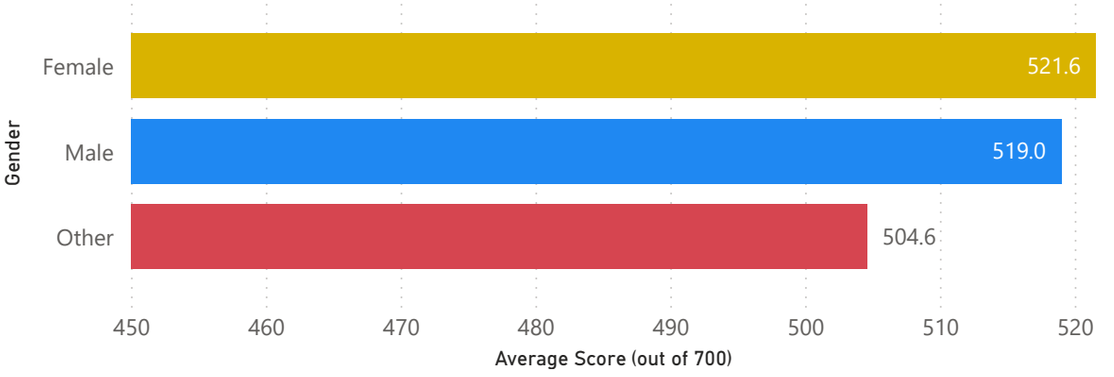
Tracking student performance by: school, gender, geography

year_assessed: All | gender: All | Remoteness Score: All

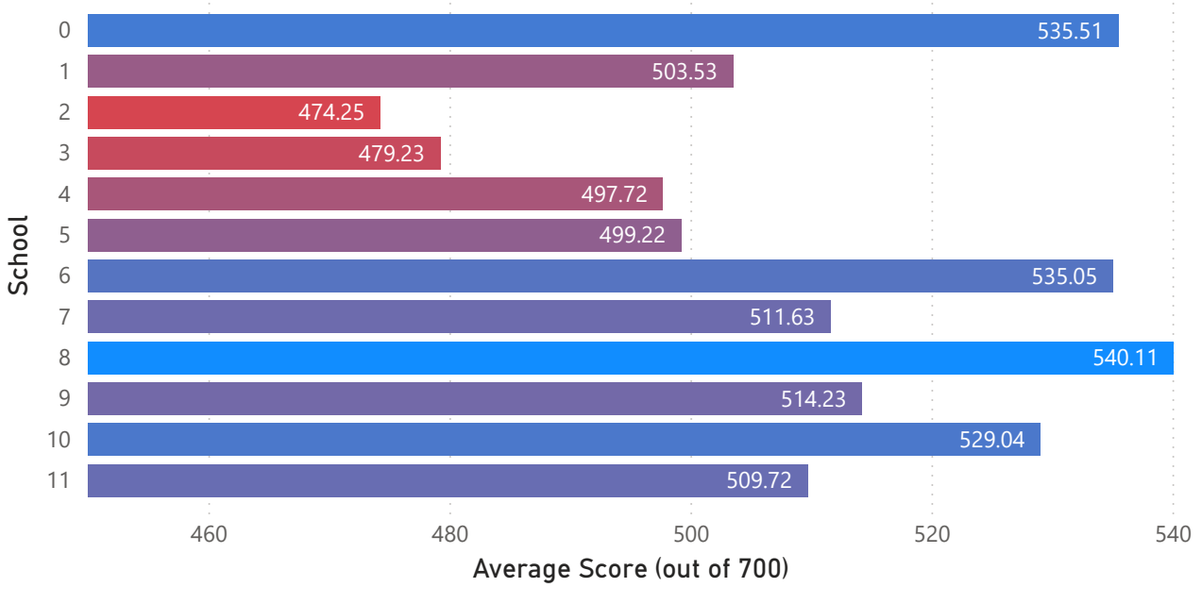
NAPLAN average by year



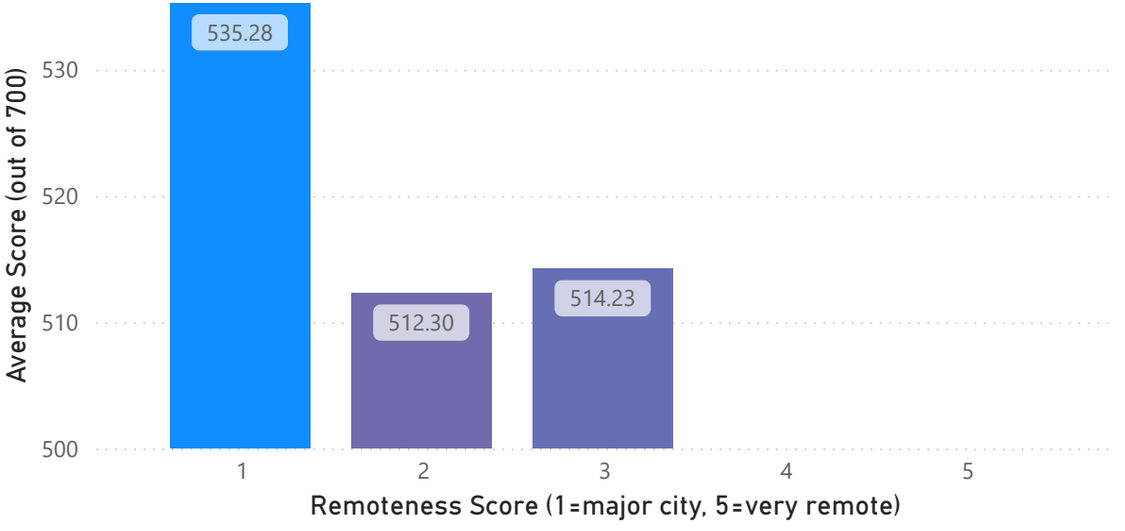
NAPLAN Assessment results by gender



NAPLAN Assessment: Average results by school



NAPLAN Assessment results by geography



Educational Performance Analytics: Key Findings

Data Insights

Performance Decline Across All Metrics

- General downward trend in test scores across all assessment types over time
- Decline most pronounced in remote regions
- School #2 consistently underperforming across all test types

Demographic & Geographic Disparities

- Younger year groups in remote schools face greater performance challenges
- Students identifying as "Other" show lower average scores, particularly in remote locations
- Reading scores declining specifically in most remote schools (not urban schools)

Recommended Actions

Urgent Investigation Required

- Determine root causes: Has access to quality educational resources declined?
- Assess teacher availability and quality in remote regions
- Conduct surveys and interviews with teachers, parents, and students

Targeted Resource Allocation

- Direct additional funding to underperforming schools, especially School #2
- Prioritize remote regions for teacher recruitment and retention programs
- Increase infrastructure investment in most remote schools
- Implement early intervention programs for at-risk student demographics

Reflection: Value & Considerations

Solution Value

- **Data-Driven Decision Making** - Enables school administrators and policymakers to make evidence-based decisions with measurable impact on student outcomes
- **Targeted Interventions** - Dimensional analysis (slicing, dicing, drilling down) identifies specific problem areas requiring attention
- **Stakeholder Transparency** - Visual storytelling facilitates mutual understanding and alignment on priorities

Key Considerations

- **Data Privacy** - Sensitive student data (gender, performance, attendance) requires strict anonymization and handling protocols
- **Data Completeness** - Quantitative data should be supplemented with qualitative insights from teachers and students for fuller context

Skills Developed

- Data analytics and visualization using Python, pandas, and Power BI
- Storytelling with data for non-technical stakeholders
- Ethical awareness in data usage - balancing opportunities with risks

Technologies: Python (pandas) | Power BI | DAX | Data Visualization