

AN EXTENDED CASE STUDY: THE 2020 ATARS & WHAT THEY REVEAL

With a special focus on James Ruse Agricultural High School Carlingford

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ACS

Associated Christian Schools

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INTRODUCTION PASTOR RON WOOLLEY JANUARY 2021

This case study looks outside of Queensland, especially to NSW, where more longitudinal ATAR data is available. It continues to explore academic themes raised in previous papers published in [ACS eBooks](#), and ultimately seeks to provoke further discussion on alumni outcomes of Australian Christian schooling.

Alumni outcomes were the focus of the Cardus Education Survey Australia 2019–2020, which essentially concluded 'across all sectors within Australian education, Millennial graduates contribute to the common good by promoting flourishing and sustaining civic life in various ways'. Within this context of 'the common good,' [ACS](#) is looking closely at sectoral differences to see what Christian schooling may further learn from other sectors.

[ACS](#) has initiated a second research project, emergent out of the CESA findings and drawing on that data, to

"Conduct research to help the public understand the following question/problem: What differences are revealed in the CES Australia findings when we engage in a detailed state-based analysis of the CES Australia data sets?"

The purpose of this project is to seek to identify, analyse and investigate a detailed state by state breakdown of the Cardus Education Survey (CES) Australia Christian school data sets, paying particular attention to the geographical, socio-cultural, metropolitan/regional, and demographic profiles and dimensions that are evident within each Australian state and territory. As the CES Canada report of 2018 revealed "one of the main problems with existing (CES) data is... regional differences in the impact of independent schools on students' lives have not been carefully considered". The Alberta, Ontario and British Columbia bulletins compiled by Cardus subsequently provided an informative, detailed, contextualised and province specific analysis and overview of the Canadian CES data.¹

Similarly, it is anticipated that a rigorous, contextualised and state specific analysis of the Australian CES data sets will also reveal unique and significant state based insights and findings that will greatly assist educational leaders and policy makers (at both state and federal levels) to consider ways to improve and promote equity and access; school and community engagement; employment and training, university enrolments, family cohesion and church commitments across every state and territory in Australia.

This extended case study may contribute some background for ACS to better understand any state differences in data.

Interestingly, in validation of conducting this kind of research into alumni outcomes, this paper concludes with comments from NSW Education Minister Sarah Mitchell and St Andrew's Cathedral School Headmaster John Collier about the value of looking at alumni outcomes.

¹ Green, B., Sikkema, D., Sikkink, D. (2018). Cardus Education Survey 2018: British Columbia Bulletin. Hamilton, Canada: Cardus; Green, B., Sikkema, D., Sikkink, D. (2018). Cardus Education Survey 2018: Ontario Bulletin.

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Release of the 2020 NSW HSC & ATAR Data

NSW HSC 'First in Course' merit² lists for 2020 were published 17.12.2020 and provide interesting data on top students' performance in every subject offered in that state. Sydney Morning Herald commentary³ on the list provided further interesting data. This was followed by a SMH article⁴ published 18.12.2020 which included fascinating interactive tables ranking 'Top Schools,' 'Top Private Schools,' 'Top Comprehensive Public Schools,' and a map showing geographical locations for what they called 'Top Ranked NSW Schools' though with a focus on Greater Sydney. Further SMH articles of interest include 'Indonesian school tops private school performance in HSC maths'⁵ published 22.12.2020 and "'Nice and hard': Experts review the updated selective schools test"⁶ published 27.12.2020. Each of these articles are accessible via the hyperlinks provided in the footnotes.

An interesting further source of rankings is that published by Matrix Education.⁷

How the NSW HSC mark is calculated.⁸

The HSC mark is a 50:50 combination of a student's examination mark and school-based assessment mark for each course.

ASSESSMENT MARK

School-based assessment tasks measure performance in a wider range of course outcomes than can be tested in an external examination. Students are required to complete a number of assessment tasks for their courses. This may include tests, written or oral assignments, practical activities, fieldwork and projects. Schools submit an HSC assessment mark for every student in most courses. NESA puts the marks through a process of moderation to allow a fair comparison of marks in each course across different schools.

EXAMINATION MARK

The examination mark for each course shows the student's performance in the HSC examination for that course, which was set and marked by NESA.⁹ The examination consists of a written paper and, for some courses, speaking and listening examinations, practical examinations, or major works that are submitted for external marking. Each student's achievement is assessed and reported against set standards of performance.

A UNIQUE PART OF THE STANDARDS APPROACH

There is a special procedure called 'judging'. Judging means a student's raw exam marks can be matched to the standards and the reporting scale used by NESA. It means a student is rewarded for their performance with the mark they deserve, no matter how many other people performed at a similar, higher, or lower level.

PERFORMANCE BAND

Student performance in each HSC course is measured against defined standards. HSC marks for each course are divided into bands and each band aligns with a description of a typical performance by a student within that mark range. The performance bands and descriptions give meaning to the HSC mark. For a 2-unit course, Band 6 indicates the highest level of performance and the minimum standard expected is 50.

Band 6 = 90 – 100 marks

Band 5 = 80 – 89 marks

Band 4 = 70 – 79 marks

Band 3 = 60 – 69 marks

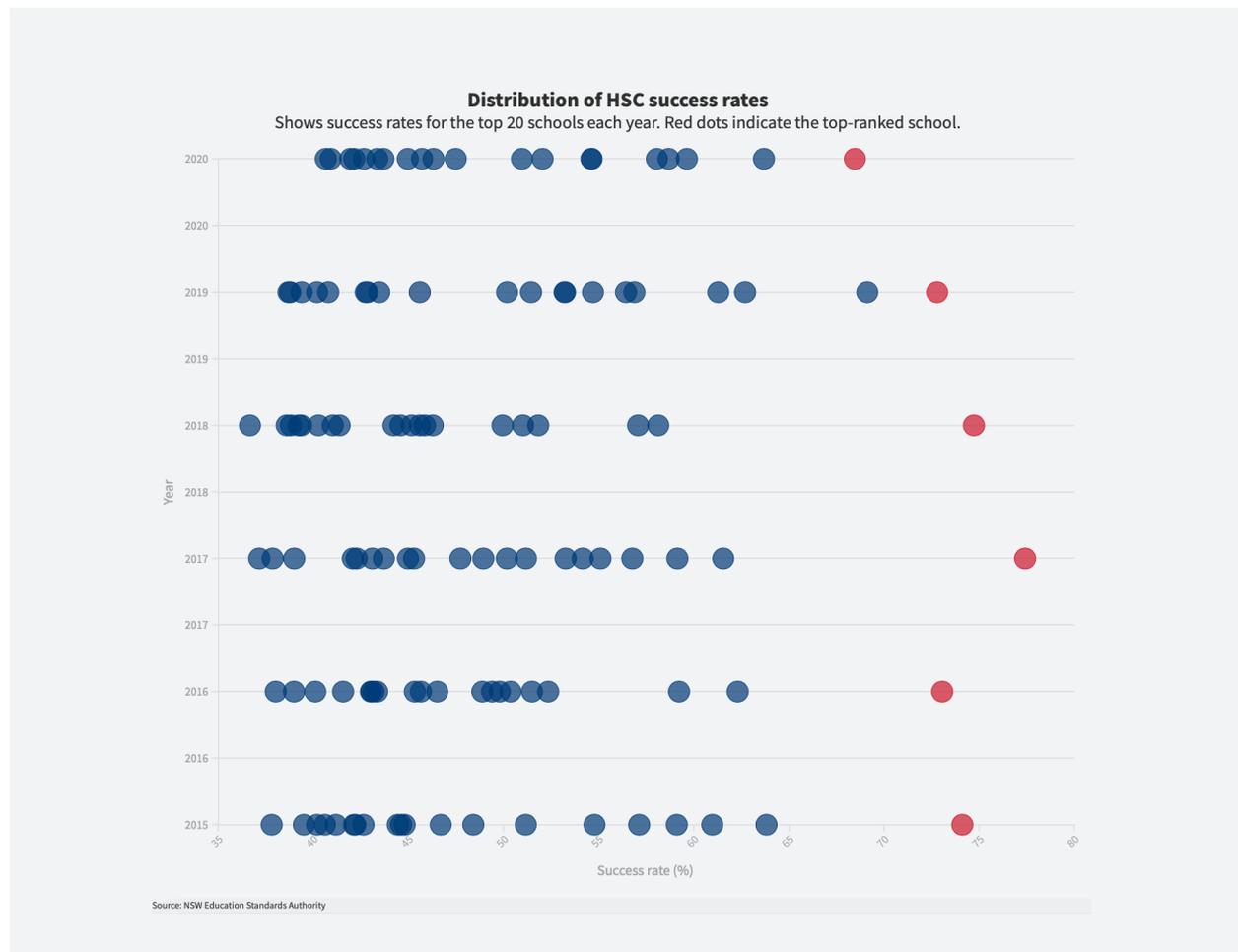
Band 2 = 50 – 59 marks

Band 1 = 0 – 49 marks

Each band is aligned to what a student at that level of performance typically knows, understands and can do. The 'average' performance in most courses is usually a mark in the mid-70s (Band 4). Band 1 indicates that a student has not met enough of the course outcomes for a report to be made. Band 1 includes marks ranging from 0 to 49. For an Extension course, the bands are E4 (highest level of performance) to E1.

'Other schools catching up: Why James Ruse's HSC lead has shrunk'¹⁰ (27.12.2020) looked at "success rates" - the proportion of high scores (the total number of Band 6 results from the school to total HSC entries (the total number of HSC courses sat from the school)).

This school (**red dot** below) is the special focus of this paper.



² <https://educationstandards.nsw.edu.au/wps/portal/nesa/11-12/hsc/results-certificates/merit-lists/first-in-course>

³ <https://www.smh.com.au/national/nsw/i-love-how-it-challenges-me-the-students-who-came-first-in-every-hsc-subject-20201217-p56o8p.html>

⁴ <https://www.smh.com.au/national/nsw/james-ruse-tops-hsc-for-historic-25th-consecutive-year-as-public-schools-dominate-top-10-20201218-p56olu.html>

⁵ <https://www.smh.com.au/national/nsw/indonesian-school-tops-private-school-performance-in-hsc-maths-20201216-p56nz2.html>

⁶ <https://www.smh.com.au/national/nsw/nice-and-hard-experts-review-the-new-selective-schools-test-20201223-p56ptw.html>

⁷ <https://www.matrix.edu.au/high-school-rankings/2020-high-school-rankings/>

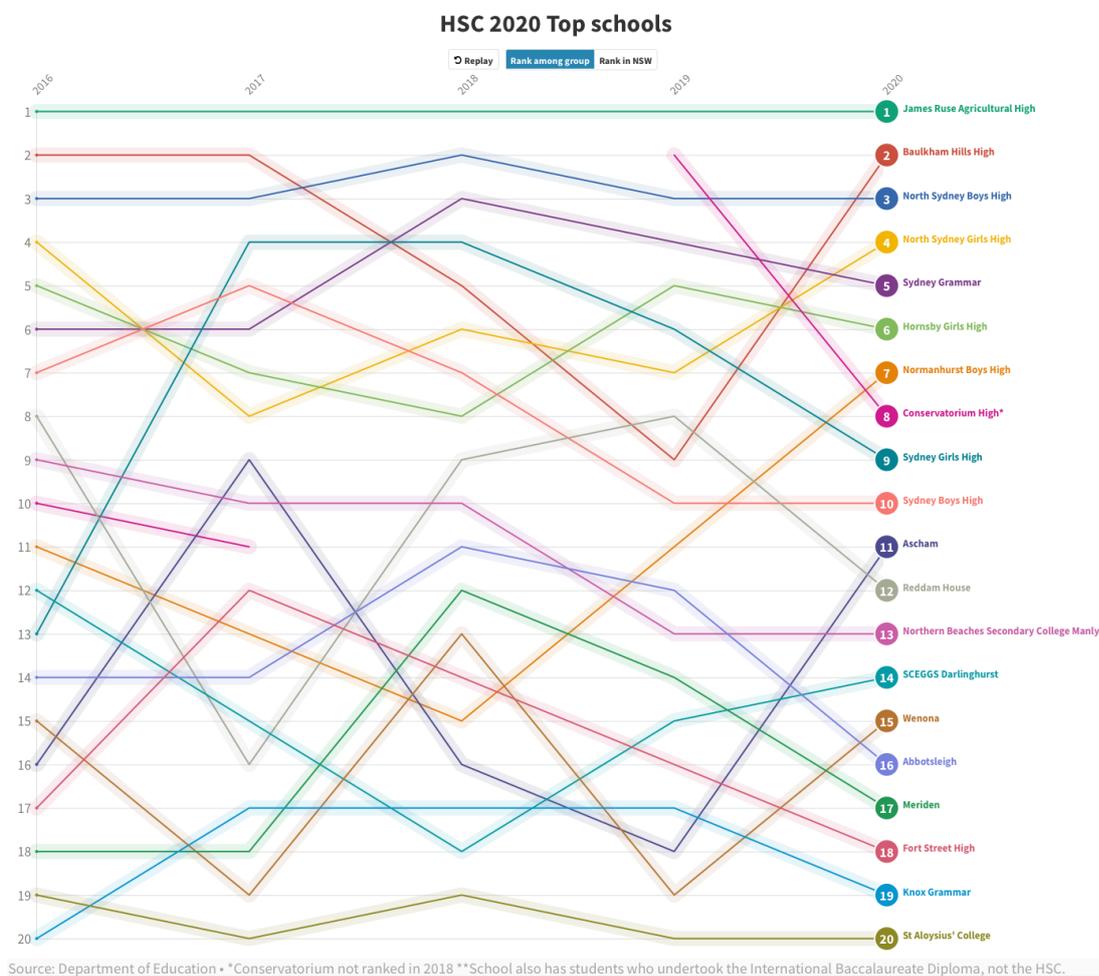
⁸ <https://educationstandards.nsw.edu.au/wps/portal/nesa/11-12/hsc/results-certificates/understanding-results>

⁹ <https://www.educationstandards.nsw.edu.au/wps/portal/nesa/home>

¹⁰ <https://www.smh.com.au/national/other-schools-catching-up-why-james-ruse-s-hsc-lead-has-shrunk-20201217-p56oi6.html>

Some general remarks

- The SMH interactive tables show¹¹ 'Top 20' longitudinal rankings 2016–2020, and while there is a bit of ranking jostling from year-to-year, the overwhelming feature of these 'Top 20' school lists show is the remarkable consistency in the schools populating the lists. **In other words, strong academic performance is a deeply entrenched characteristic in top-performing schools.**

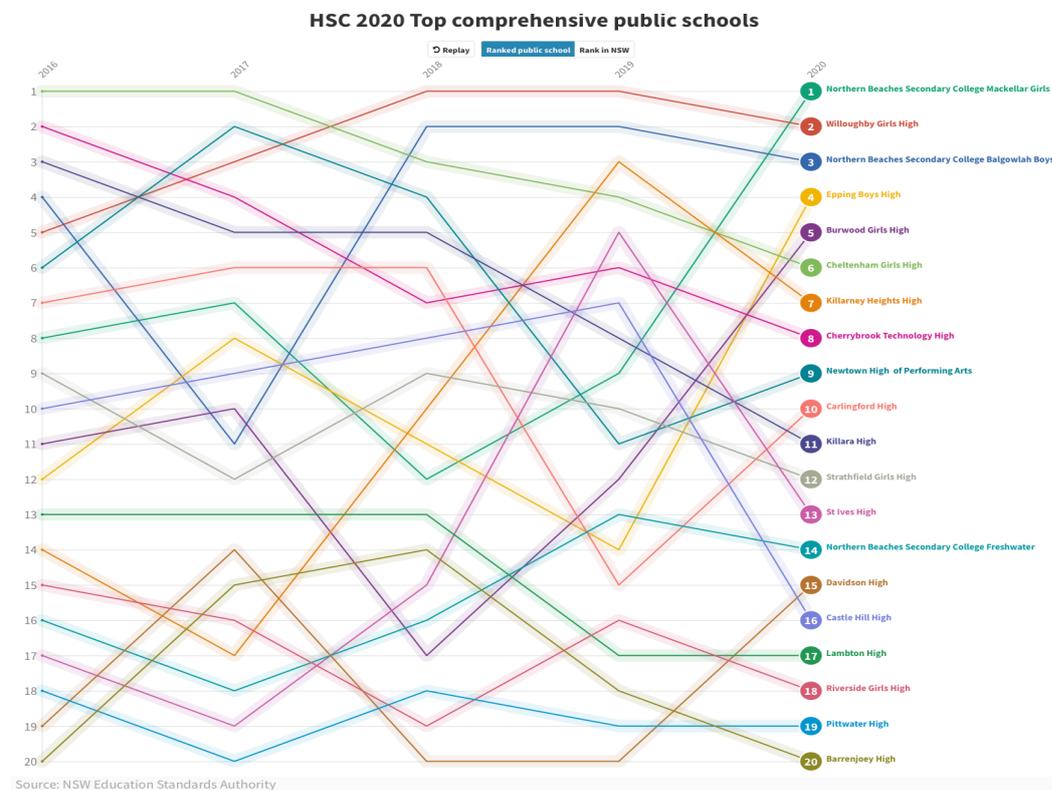


2. **James Ruse Agricultural High School** (located at Carlingford in Sydney's northwest), **consistently the top-listed school**, is an example of one category (among several) of NSW Selective High Schools.¹² This represents a particular characteristic of NSW public schooling (note variation of terminology: *public schools* in NSW; *state schools* in Victoria and Queensland), and interestingly includes single gender and boarding schools, **characteristics absent from Queensland state schools.**

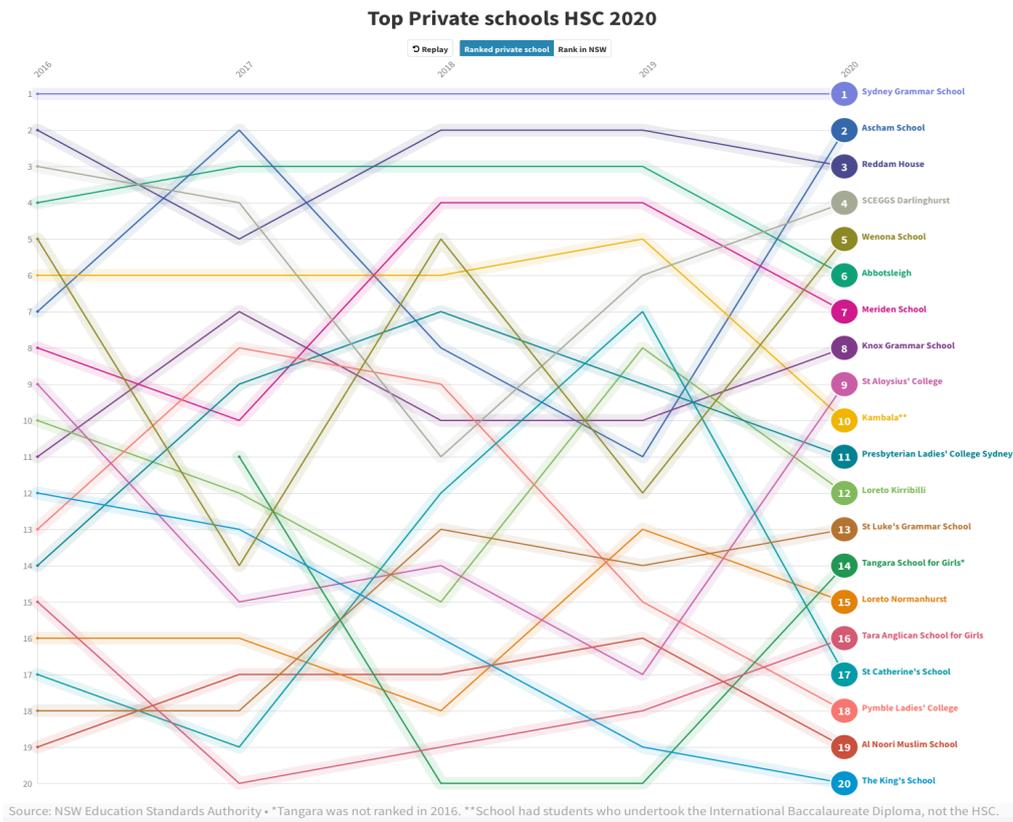
3. **These differences reflect a different history of schooling for each state**, and the varying political decisions shaping post-colonial schooling. The NSW list of school types includes

- Fully selective high schools - coeducational
- Fully selective high schools - male
- Fully selective high schools - female
- Partially selective high schools
- Agricultural high school - day places only coeducational
- Agricultural high school - boarder places only coeducational
- Agricultural high school - boarder and day places male only
- Agricultural high school - boarder and day places coeducational
- Virtual selective high school (rural area students only)

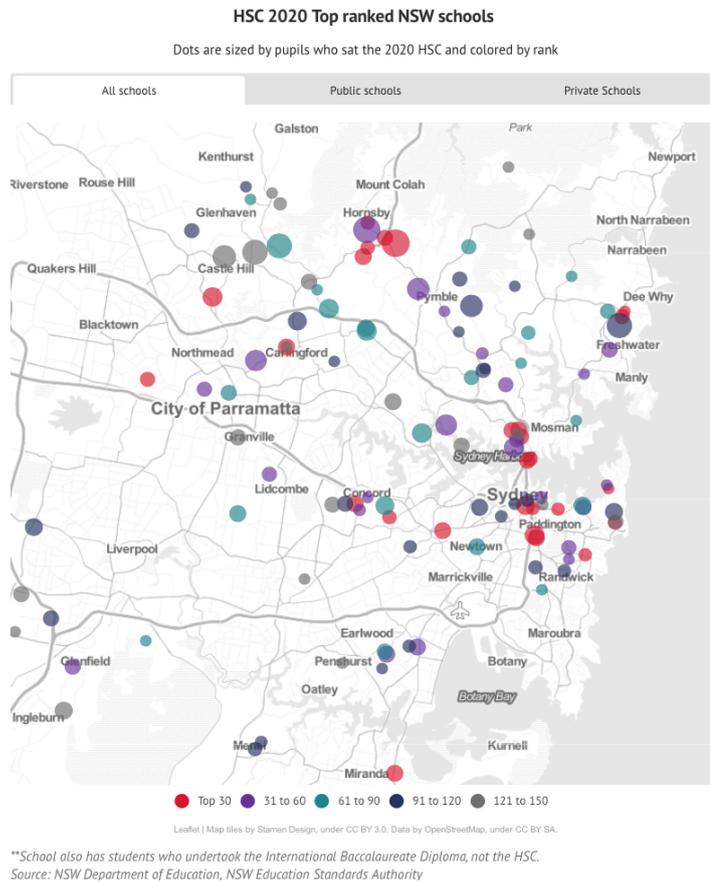
4. The list of 'top comprehensive public schools,' includes only **one school from outside the Greater Sydney area** (Lambton HS (at ranking #17) is located in suburban Newcastle



- 5. There are no schools in the list of 'top private schools' located outside the Greater Sydney area.



- 6. The map for 'top ranked NSW schools' confirms the dominance of Sydney schools in well-to-do urban/suburban locations

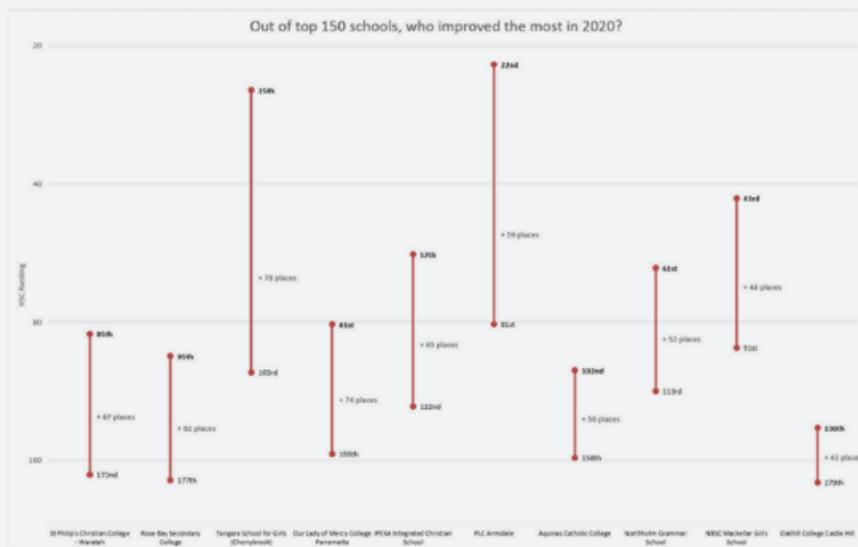


7. **Matrix Education's** difficult-to-read list of **ten most improved schools in 2020** which follows included St Phillip's Christian School **Waratah (in suburban Newcastle)**. **Schools listed from left/right in the graph following are:**

- St Phillips Christian College Waratah
- Rose Bay Secondary College
- Tangara School for Girls (Cherrybrook)
- Our Lady of Mercy College (Parramatta)
- IPEKA Integrated Christian School (Jakarta, Indonesia)
- PLC Armidale
- Aquinas Catholic College (Menai)
- Northholm Grammar School (Arcadia)
- Northern Beaches Secondary College Mackellar Girls School (Manly Vale)
- Oakhill College (Castle Hill)

Most improved schools in 2020

The graph below shows a selection of the most improved schools in the 2020 high school rankings



8. Christian schools listed among Matrix Educations 'Top 150 schools by Success Rate in 2020' include,

- #57 IPEKA Integrated Christian School (Jakarta, Indonesia)
- #73 Oxford Falls Grammar School (Oxford Falls)
- #85 St Phillips Christian School Waratah (Newcastle)
- #107 St George Christian School (Hurstville)
- #118 Inaburra School (Menai)
- #134 Covenant Christian School (French's Forest)
- #137 St Phillips Christian College (Port Stephens)
- #142 Northern Beaches Christian School (Terrey Hills)
- #143 William Carey Christian School (Hoxton Park)

One Christian school alumnus was listed in the "First in Course" list, from Pacific Hills Christian School (Dural) – Engineering Studies

9. Christian schools listed among Matrix Educations 'Top 150 schools by Success Rate in 2020' include,

- Redeemer Baptist School (North Parramatta) – Business Services Examination
- Mount Annan Christian College (Campbelltown) – Design & Technology
- Pacific Hills Christian School (Dural) – Engineering Studies
- St Phillip's Christian College (Port Stephens) – English Advanced
- Coffs Harbour Christian Community School (Coffs Harbour) – Indonesian Beginners
- Oxford Falls Grammar School (Oxford Falls) – Industrial Technology
- IPEKA Integrated Christian School (Jakarta, Indonesia) – 2 students – Mathematics Advanced
- Tyndale Christian School (Blacktown) – Mathematics Extension 1
- Shire Christian School (Sutherland) – Science Extension

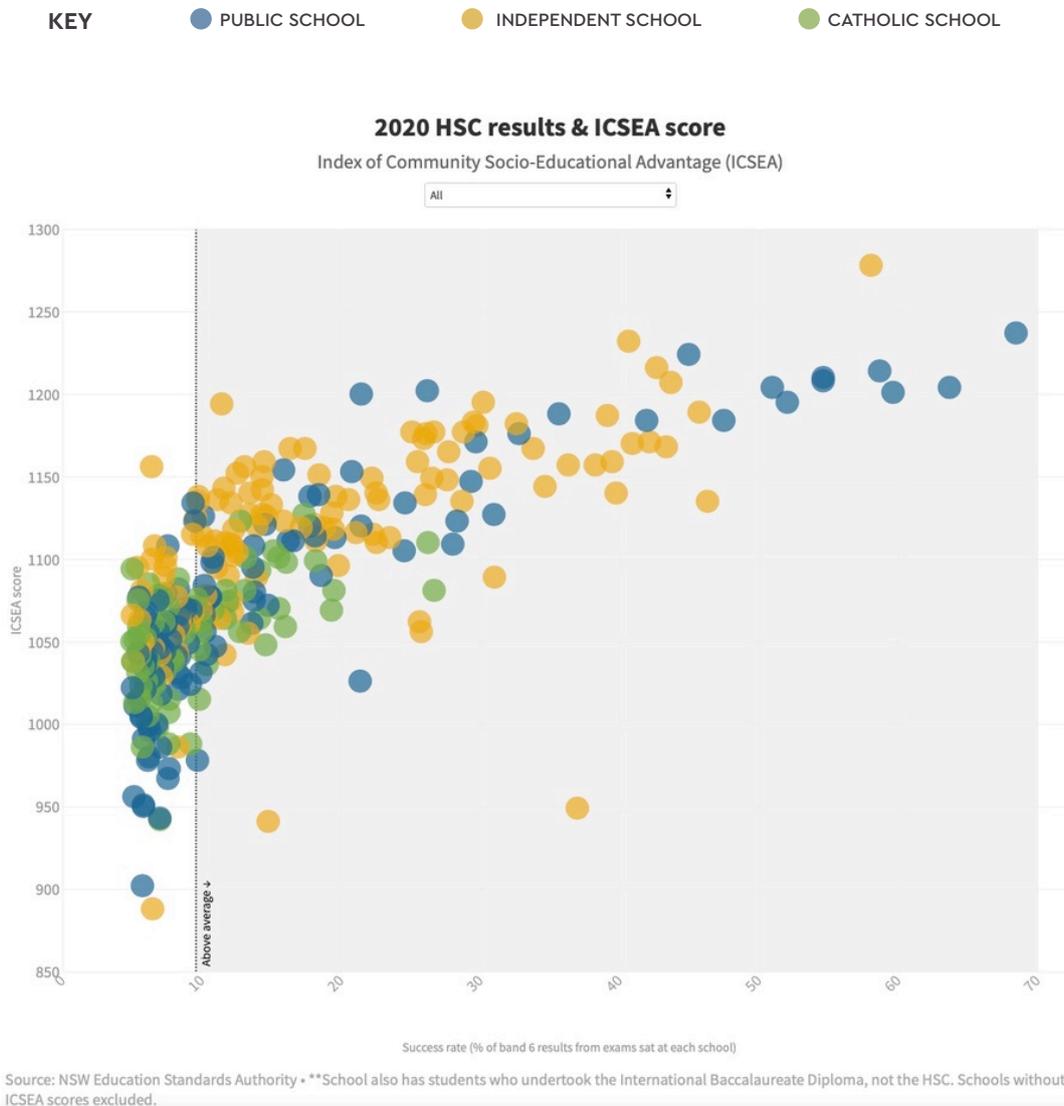
10. First in Course Merit Lists

Looking at **sectoral** differences, and the 'First in Course' list of 126 awards,

- 48 went to students from **public schools/TAFEs**
- 32 went to students from **specialist language schools**
- 7 went to students from systemic Catholic Schools
- 39 went to students from **independent schools (including independent Catholic schools)**
- 7 **James Ruse Agricultural High School students** received a top ATAR of 99.95

11. Looking for links: Success rates and Index of Community Socio-Education Advantage

In an article¹³ published 20.12.2020 the SMH also examined the link between 2020 HSC success rate (% of band 6 results from exams at each school) and schools' Index of Community Socio-Educational Advantage



The graph is fascinating. Looking at schools furthest to the right (ie highest success rate):

- Top public school: James Ruse Agricultural HS (success rate 68.47%; ICSEA in the top quintile (1237).
- Top independent school: Sydney Grammar School (success rate 58.06%; ICSEA in the top quintile (1278)
- Top Catholic school: Parramatta Marist High School (success rate 26.69%); ICSEA in the second highest quintile (1081).
- The clear link between ICSEA and success rate is further established by looking for schools with a lower ICSEA (below 1000, the Australian average) and a high success rate (>10%). There are two, Tangara School for Girls (success rate 36.97% and ICSEA 949) and St George Christian School (success rate 14.78% and ICSEA 941)

In an article *Public schools shine in Sydney's north*¹⁴ published 3.01.2021 the SMH continued to look at the strong results that came from public schools 'in advantaged areas, but outperformed public schools in other parts of Sydney with equally advantaged families'. Other factors identified were: 'high expectations of teachers and students. I have really conscientious, knowledgeable, dedicated teachers.' (Mackellar GHS principal) and 'a way of teaching across the school that's really explicit teaching, with an underlying focus on their literacy and numeracy right from year seven, so by the time they get to year 12, they can write fantastic essays' (same principal commenting on nearby Balgowlah BHS); a relaxed environment; teachers back the students to do well.'

¹¹ <https://www.smh.com.au/national/nsw/james-ruse-tops-hsc-for-historic-25th-consecutive-year-as-public-schools-dominate-top-10-20201218-p56olu.html>

¹² <https://education.nsw.gov.au/public-schools/selective-high-schools-and-opportunity-classes/year-7/what-are-selective-high-schools/list-of-selective-high-schools>

¹³ <https://www.smh.com.au/national/nsw/the-schools-that-punch-above-their-weight-in-the-hsc-20201219-p56oy2.html?btis>

¹⁴ <https://www.smh.com.au/national/public-schools-shine-in-sydney-s-north-20201222-p56plq.html?btis>

Special Focus on James Ruse Agricultural High School Carlingford^{15 16}

SUMMARY

- Colloquially 'Ruse,' its location is the northwest Sydney suburb of Carlingford
- Co-educational, academically selective, and a specialist secondary day school
- Established in 1959 replacing previous agricultural schools on the same site
- One of four New South Wales Government agricultural high schools
- Known for being the highest academically ranked high school in Australia
- Especially noted for academic excellence, ranking first out of all New South Wales high schools in 2020 for the 30th consecutive year since 1991, as well as first in the national government NAPLAN tests across Australia since their establishment.
- Initially a boys-only schools, it began to enrol girls in 1977
- Enrolment of 835 students in 2019 in Year 7 through to Year 12
- Admission to James Ruse in Year 7 is only through the Selective High Schools Test,¹⁷ open to all Year 6 NSW students
- A small number of students from other high schools are accepted in year 9, 10 and 11, through application made directly to the school
- Consistently, 2014–2019, 97% of the student population came from a language background other than English (LBOTE);
- The 7 James Ruse Agricultural High School students who received a top ATAR of 99.95 were all of Asian background
- ICSEA (Index of Community Socio-Educational Advantage) in 2019 was 1237, which is in the 99th percentile; 15% student in upper middle quartile and 85% in top quartile
- Consistent gender imbalance, 2014–2019 (in 2019: 460 boys 375 girls)
- Noted for strong participation in extracurricular and competitive activities the school has a high level of participation in volunteering and fundraising activities. Many students have received awards for outstanding participation in community service

In a follow-up to the NSW HSC data release, the Sydney Morning Herald published an article on James Ruse Agricultural High School's many years at the top of the HSC¹⁵

As a selective school, it has its pick of the state's brightest students and its success, many argue, is a self-fulfilling prophecy. "There's more to it than that," says principal Rachel Powell, who has led the school for two years. Teachers must nurture not just the students' cerebral talents, but also their emotional and social development. "One of the things we're trying to do is to encourage students to get their personal best," she says. "There's a big wellbeing program in the school to support students."

An alumnus Justin Wolfers, a world-renowned economist at the University of Michigan, and a graduate of the class of 1990, cherishes his memories of James Ruse, and still keeps in touch with his economics teacher.

"It was a wonderful experience, and I'll only ever speak well of it," he said. "Teens are brutal to each other, socially brutal. There was less of that brutality. We were sweet, kind – not always or everywhere, we did all the dumb things kids do – but there was less of the social dog eat dog and more acceptance."

It could be stressful sometimes, admits Jack Yu, a yo-yo champion, biochemical engineering student and graduate from the class of 2018.

But it was not a hothouse, and alongside the competition there was strong camaraderie. "For me, James Ruse was a place where a lot of people with similar goals – mainly academic, obviously – could be together in a pretty tight environment," he said. "Our cohort is not that big, compared with other schools. "That just made me appreciate that I could make some very close connections with a lot of people in my grade."

Dr Enjeti describes it as a team of equals.

"It's quite a humbling experience," she says. "You're with people of the same calibre. There's very little difference between the top guy at James Ruse and the bottom guy. "It makes you realise you're one amongst many. You generally find that James Ruse kids are quite down to earth because of that. You might get one mark more and you're at the top, or one mark less and you're down the bottom."

"We had a huge cohort that went into medicine," says Dr Enjeti. "It was almost like transplanting the James Ruse class into the medical school at the University of NSW." Mr Fung was one of those who went to medical school, until winning a piano competition launched him into the classical music stratosphere. "We were with generally very bright kids, and we rubbed off on each other and helped each other," he says. "That may not have happened in another school. It's what made James Ruse special. "I joke with my partner that if we have kids, I wonder if we should bring them back to Australia. It was such a warm environment in my memory. I loved my friends. I learned almost as much from them as I did from the faculty."

The NSW Department of Education is only beginning to keep information about where public-school students end up after they graduate, but anecdotal evidence suggests James Ruse has staffed many a hospital and specialist suite.



Star maths teacher Eddie Woo is an alumnus.

¹⁵ https://en.wikipedia.org/wiki/James_Ruse_Agricultural_High_School

¹⁶ <https://www.myschool.edu.au/school/41811/profile/2015>

¹⁷ <https://www.smh.com.au/national/nsw/nice-and-hard-experts-review-the-new-selective-schools-test-20201223-p56ptw.html>

¹⁸ <https://www.smh.com.au/national/nsw/25-years-at-the-top-of-the-hsc-what-makes-james-ruse-special-20201218-p56oms.html>

What characteristics of James Ruse AHS appear evident that could apply elsewhere?

ACADEMIC SELECTIVITY

The success of James Ruse AHS students suggests academic selectivity is the major factor in students' academic success.

In Queensland, the only academically selective state high school is Brisbane SHS and the three strategically located Queensland Academies at Toowoong (Science Mathematics and Technology), Kelvin Grove (Creative Industries) and Heath Sciences (Southport, Gold Coast), use the IB curriculum.

SUPPORTIVE WELL-BEING PROGRAMS

Alongside the strong academic program at JRAHS, strong EQ well-being programs support top-achieving students' social and emotional development

STRONG COHORT-BONDING

Described as 'a team of equals'. This feature is a modern, perhaps a more egalitarian version of 'old school tie' and demonstrates the collective value of the cohort to alumni outcomes

AN EGALITARIAN CULTURE

AT JRAHS All bright, all equal, little difference academically between top and bottom, yet characterised by the help students provide each other. This is an extraordinary achievement in itself, and critical to avoiding the pitfalls of clustering talent/giftedness.

ETHNICITY (FAMILY BACKGROUND) MATTERS

The 7 James Ruse Agricultural High School students who received a top 2020 ATAR of 99.95 were all of Asian background.

Ethnicity is clearly a factor (consistently 97% LBOTE). So is the families' socio-educational advantage (2019 ICSEA 1237). Generally, the highest ICSEA in Queensland is that of St Joseph's College Gregory Terrace (2019 ICSEA 1170).

ALUMNI TRACKING

There exists an emerging list of notable alumni.

A focus on alumni outcomes

For several years Queensland has collected and published data in "Next Step" annual reports, but this only indicates alumni destinations in the first year after finishing school. Participation is voluntary.

In an article¹⁹ published in the SMH on 20.12.202 it was noted the NSW government will begin collecting data on where students go up to five years after they finish school.

"This measure reflects the broader value of education and its overall goal which is to equip students for a fulfilling life after school," NSW Education Ms Mitchell said. "I believe this will help us acknowledge more than just academic achievements, as we will have better information on those who take up meaningful training and employment opportunities post school." Ms Mitchell said it was too early to say whether this data would be shared publicly.

St Andrew's Cathedral School Headmaster John Collier said the only robust way to judge schools' academic performance was the tertiary entrance rank and post-school destinations, or how students fare after they leave school.

Adding to this, the Courier Mail 30.12.2020 published an article 'Brisbane private schools behind most Queensland CEOs,' commenting 'an audit of Brisbane's top executives reveals some interesting trends of where they were educated'. Gathering information on alumni outcomes may become far more important as governments seek validation of public money spent on school education.

The Cardus Education Survey Australia report and findings on alumni outcomes is thus timely, and further ACS research will delve into this significant body of reputable research data.

FOR FURTHER DISCUSSION:

From the Case Study can we answer the question, 'is it possible to achieve an egalitarian meritocracy in an Australian school'?

The notion of egalitarian meritocracy was raised by Rupert Murdoch in an address to the Frank Lowy Institute in 2013. The application of this ideal to Christian schooling has been developed further by ACS in a number of papers, for example, see

- ACS eBook 1: Section 2: Paper 1: *An egalitarian meritocracy: could this be a quintessentially Australian achievement of Christian schooling?*
- ACS eBook 1: Section 2: Paper 4: *Meritocracy or mediocrity: what's it to be?*

This ideal would appear to address issues commonly raised that academic selectivity, or a focus on high academic achievements, results in a pressure-cooker school environment, such as is frequently reported in some Asian countries.

Given the case study supports the known strong link between success and socio-educational advantage, how might a school judge its own success, looking at results data in the light of its own ICSEA score?

This challenge to Christian schooling was developed further by ACS in a paper,

- ACS eBook 2: Section 4: *Evidence, a key in school improvement: Is there evidence of consistency of academic outcomes?*

Does the Case Study tend to support Janes Davison Hunter's theory regarding cultural change, that it tends to proceed from the centre of society and from the top down?

Hunter's theory notes the call to make the world a better place is inherent in the Christian belief and practice, but efforts to change the world by Christians have so often failed or gone tragically awry. From this he developed thoughts of a different paradigm. Hunter's propositions were examined in an ACS Case Study,

- ACS eBook 2: Section 4: *Evidence, a key in school improvement: Is there evidence of consistency of academic outcomes?*

From the case study, schools with leading results appear to be characterised by

- *ethnicity and family background*
- *socio-educational advantage*
- *geographical location i.e. in areas replete with high-performing schools*
- *high expectations of students*
- *students backed by supportive teachers*
- *strong supportive other-than-academic programs i.e. social and emotional well-being*

For those who only believe in equality of outcomes, these features are challenging because they are not universal.

¹ <https://www.smh.com.au/national/focus-on-hsc-band-six-results-creating-a-perverse-incentive-experts-say-20201219-p56owq.html?btis>

