

Submission to: Valuing Australia's Teachers Parliamentary Inquiry into the Status of the Teaching Profession

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20 December 2018

Dear Inquiry Committee,

I hereby make a submission to address your first term of reference.

1. Increasing the attractiveness of the profession for teachers and principals, including workplace conditions, and career and leadership structures.

Maintaining and strengthening teacher professional standards is central to the attractiveness of the teaching profession. The maintenance of standards and competitive recruitment has been shown in research to be key to maintaining professional esteem, in teaching and in other professions.

I provide here a brief synopsis of data relating to dramatic changes in intakes into teacher education programs, in the hope that this will aid you in your remit to provide evidence –based advice to government and strengthen transparency measures.

My contribution here draws on the most recent publically available data related to teacher education cohorts. I provide some transparency on the nature of changes evident in the AITSL Initial Teacher Education (ITE) data. Whilst this data is reported annually, there has been no in-depth interrogation of it.

Teacher Education has been continually challenged by difficulty in attracting high calibre students to the profession, so much so that many ask “what’s new?” but I can assure the inquiry that the depth and magnitude of changes in the cohorts entering ITE in Australia over the last decade is unprecedented.

The picture the AITSL data paints is deeply concerning. I am aware that there has already been much discussion and many policy initiatives that aim to address/redress issues of professional standards; however, for reasons that I cannot lay out in detail here, I am not confident that this issue has been effectively dealt with. Further transparency and accountability measures are needed.

I believe we cannot feel professional standards are secured, and due esteem accredited to the profession, until an authority, like AITSL, requires reporting on the academic background (in detail, including participation and attainment in KLAS) of all entrants to teacher education in Australia. Under current arrangements 36% of students nationally and more than 80% enter with no recorded ATAR; and nationally 26% enter with an ATAR below the 50th %tile. Furthermore, I also conclude that completion of senior secondary studies in mathematics (and/or numeracy) should be a minimum requirement entry to ITE. ITE students’ background in science, consistent with nationally declining trends in Physics and chemistry, is also of concern. Both the esteem of the profession and the future of Australian education depends upon attention to these issues.

I sincerely hope my graphical synopsis here is of use to your discussions, I would be very happy to provide further detail and/or appear in front of the inquiry should that be required.

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Trends in Entrance to Initial Teacher Education.

SUMMARY

1. Attracting high ability students to ITE is a perennial challenge, but **the extent of this challenge is now unprecedented**. Decadal trends show alarming shifts in ITE admissions and declines in mathematics and science preparation for ITE.
2. In pursuit of the 40% participation target **Australian HE degree admissions** over the last decade show a **doubling of those in low ATAR brackets** (below 40thtile). Furthermore approximately 1 in 3 recent school leavers with ATARs available, are now admitted to degrees without their ATAR reported to the Commonwealth. **Students are also less prepared for university study**, with increases in those with no mathematics for their HSCs; and low and declining participation and declining attainment (in PISA at 15years) in science and mathematics.
3. These **dynamics are amplified among those entering ITE** which attracts and admits students with very low levels of academic attainment, including ATARs of less than 30. In Commonwealth data we see more than half of recent school leaver ITE entrants have no ATAR recorded (36%) or an ATAR below the 50thtile (26%).
4. **Among ITE admissions school participation and attainment in mathematics and science is declining**. Over the last decade in NSW, for example, there was a trebling of those entering ITE without HSC mathematics, a halving of intermediate and advanced mathematics and growth among those undertaking only elementary maths.
5. These trends present a **transparency and accountability issue**. Current arrangements produce a **vicious cycle in which diminishing academic standards, especially in mathematics and science, feed back into schools**. We need full, frank and fearless reporting on all those entering teaching degrees; with minimum standards in an articulated long term plan to meet the international benchmark for ITE entrants (the top 30% of their age cohort) and requirements for adequate preparation in KLAS, including mathematics and science.
6. The data examining similar trends in 2017 and 2018 is no longer available through the AITSL Teacher Data reports. Whilst there have been **many initiatives to address this issue** since 2015, there has been **no data reporting to confirm their effectiveness**.
7. Whilst it is reasonable that **ITE programs admit students on the basis of measures other than ATAR** and School Certificate records, **it is recommended that student performance on ATAR and subject performance in English and Mathematics should be submitted to the relevant state and Commonwealth authorities for monitoring of institutional standards**.

TRENDS IN UNIVERSITY ADMISSIONS TO INITIAL TEACHER EDUCATION (ITE)

ITE is populated with increasing numbers of students from lower attainment levels, from a graduating high school cohort that is increasingly less prepared for university by secondary school mathematics and science course participation and showing lower levels of performance at 15 years in PISA assessments.

1. Reduced transparency on academic attainment at entry to ITE

The number of ITE students entering degrees without their ATAR reported to the Commonwealth Government has increased dramatically, from 2,014 in 2006 to 2,848 in 2015. This group is the largest category of admission to ITE.

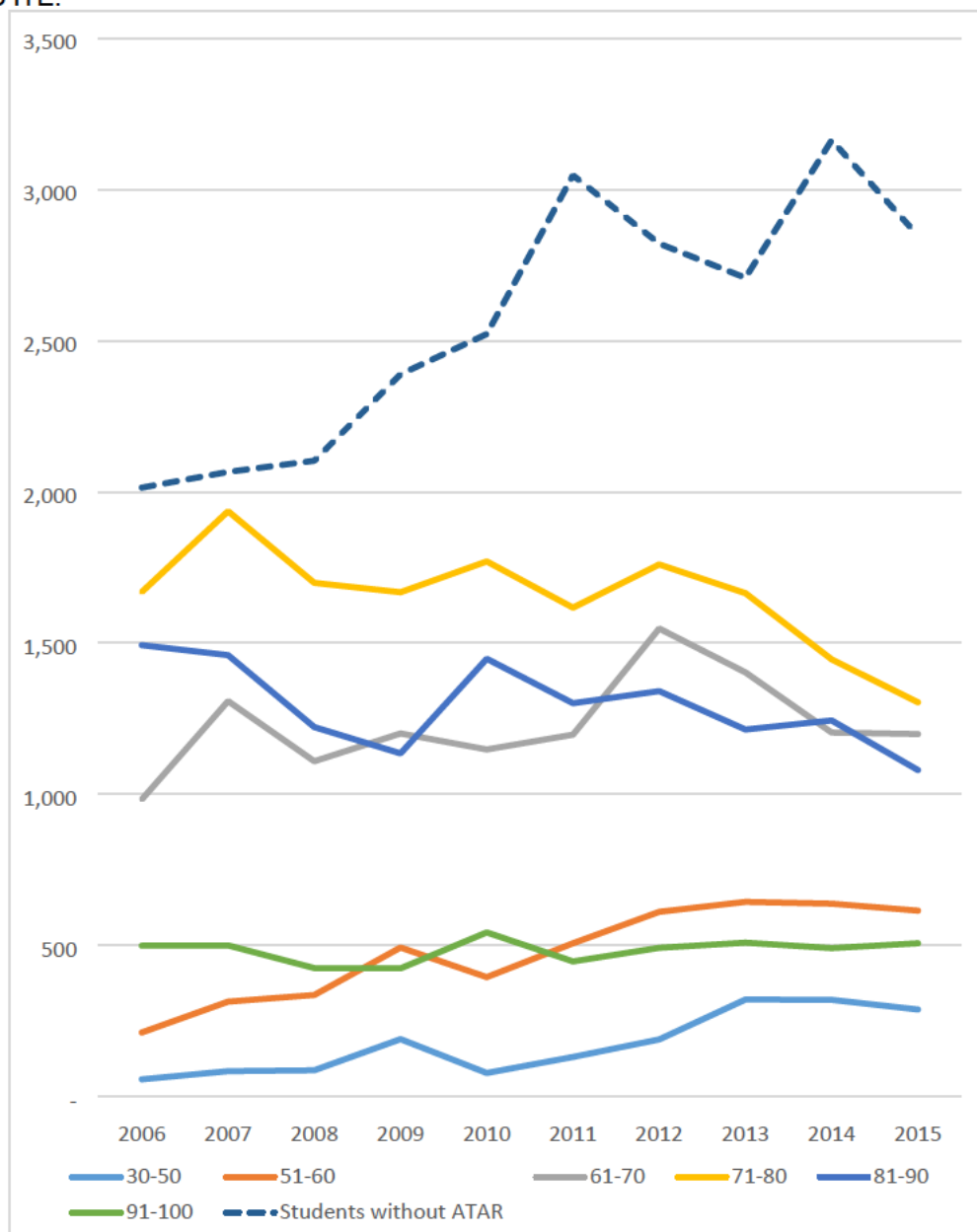


Figure 1; ATAR status for domestic undergraduate students who were admitted on the basis of their secondary education, initial teacher education, 2006 – 2015: Source: AITSL ITE data

1. More low ability entrants in ITE

Although the Commonwealth data on ITE offers and admissions does not provide a complete picture of the academic background of students entering university (as outlined above the largest growth has been among those entering with no-ATAR), it nevertheless shows increased proportions of students from lower ATAR brackets and decreases in students with higher ATAR attainment. In ITE this shift is highly evident, see Figure 6.

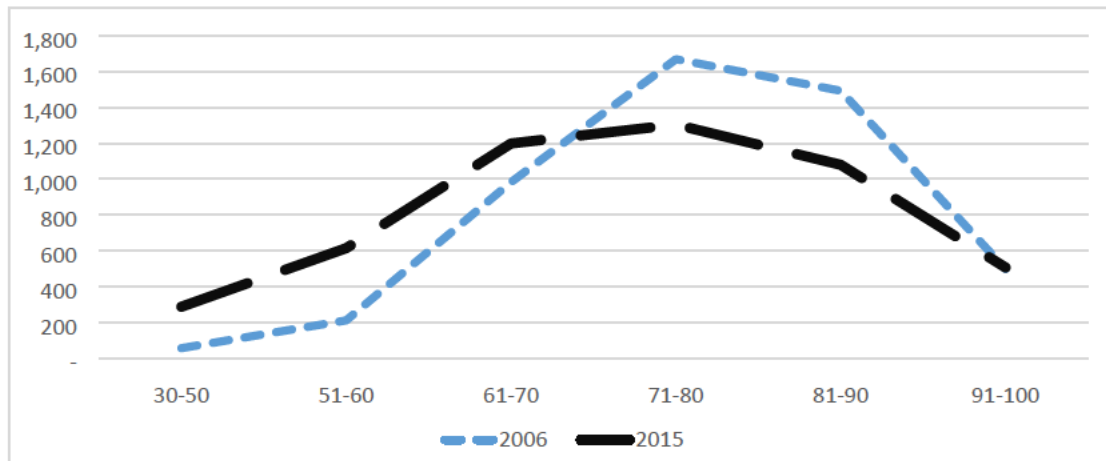


Figure 2: ITE Admissions with ATAR 2006 to 2015. Source: AITSL ITE Data

Can I remind the reader here that the ATAR is NOT a percentile rank, however percentile equivalents are available for each state. In NSW in 2015 an ATAR of 69 to 69.95 is equivalent to the 50th percentile. The recognised international benchmark for entry to ITE reported by Ingvarson, Elliott, Kleinhenz and McKenzie (2006) is for ITE entrants to be within the top 30% of their age cohort.

Currently Australia is far from meeting the international benchmark for academic attainment of those in ITE. Data here show that in 2015 more than a quarter of students entering ITE are from below the ATAR 50th percentile and more than a third have entered without a reported ATAR. The estimates of shifts in relation to ATAR percentiles are evident below:

	2006	2015
% no ATAR	29%	36%
% below 50 th %tile	18%	26%
% above 50 th %tile	52%	37%
Total admissions	6927	7841

Figures 7 and 8, based on the AITSL ITE data, show the trends in detail over the decade. These bar graph have a common scale. There is a slight decline in the number of entrants with High ATAR attainment, despite growth in overall ITE cohorts. There is also evident growth in those from below the ATAR 50th percentile, this is most evident in the lower ATAR brackets. The growth in numbers of students admitted to ITE without a recorded ATAR is a dominant feature in Figure 8.

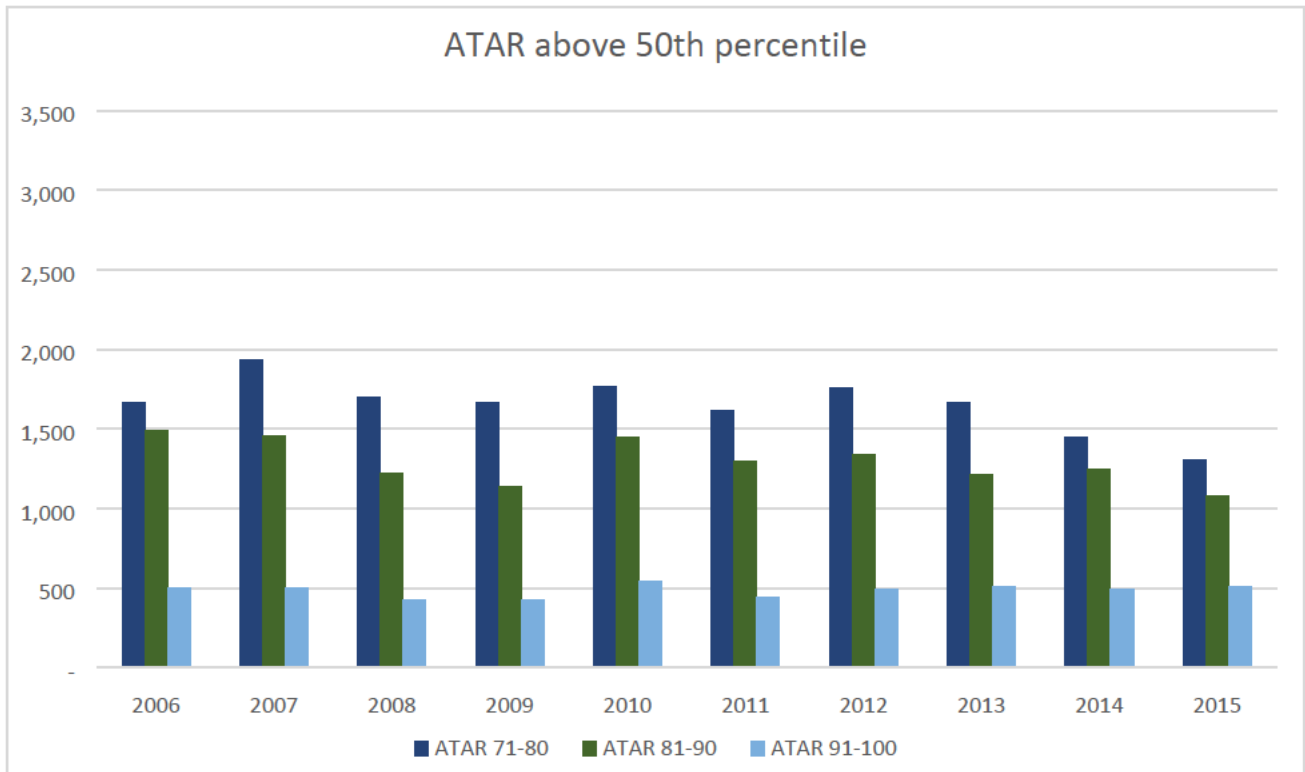


Figure 3; ITE Admission above ATAR 50th percentile (approx ATAR 70). source AITSL ITE data

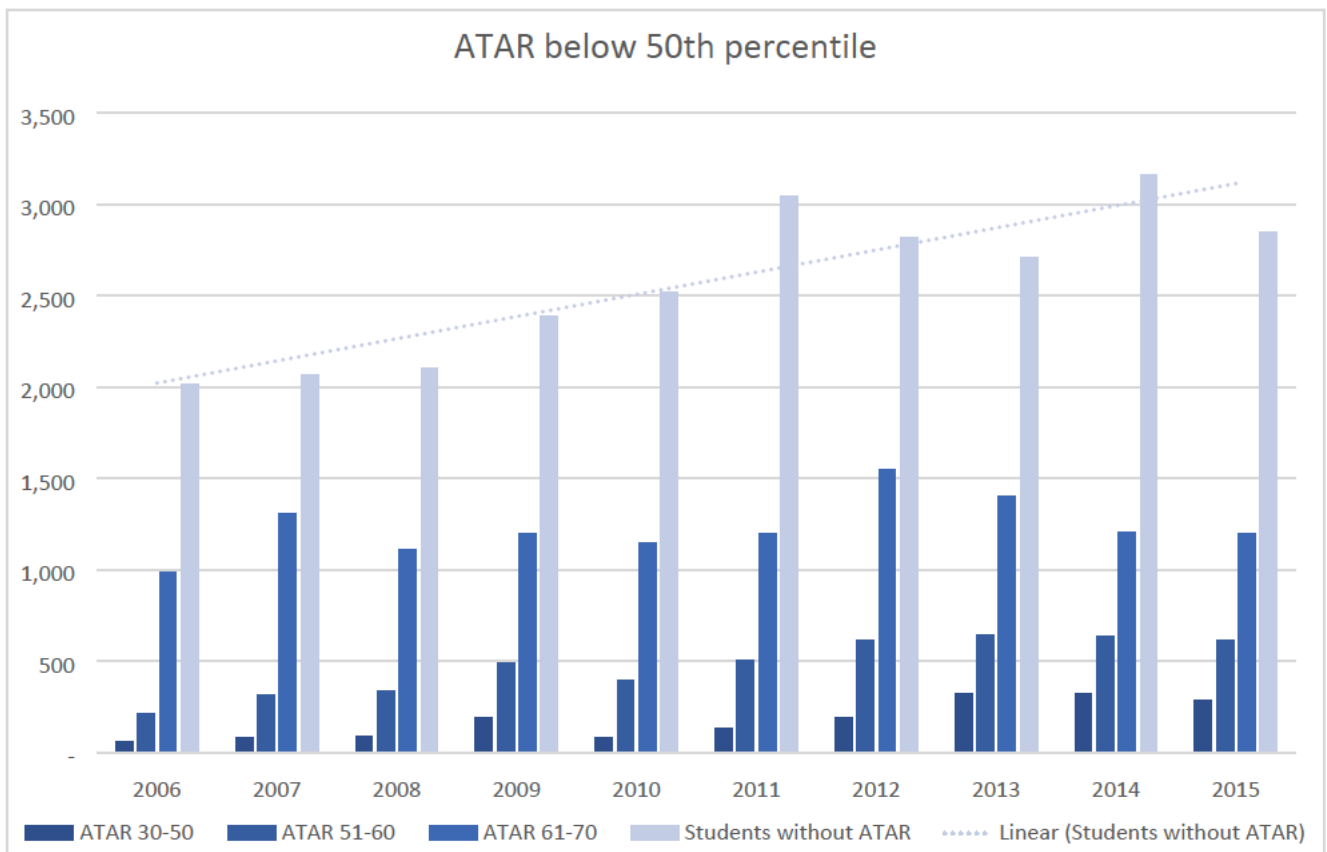


Figure 4: ITE Admissions below ATAR 50th percentile (approx ATAR 70) and trendline for students without ATAR. Source AITSL ITE data

These trends, although clearly escalating in the last decade, particularly since the removal of university admission quotas in 2011, have been highlighted in the past and this issue has suffered from a “the boy who cried wolf” syndrome. Earlier analyses, by Leigh and Ryan (2008), highlighted the growing difficulty attracting high academic attainment groups to profession, see Figure 9. Note that here the data is not on IT students but on cohorts of new teachers. In this analysis there was little disparity between data on those entering and those exiting ITE. Recent AITSL report on graduation rates suggests that this is still the case, with 90-92% of students admitted to ITE degrees completing between 2006 and 2015.

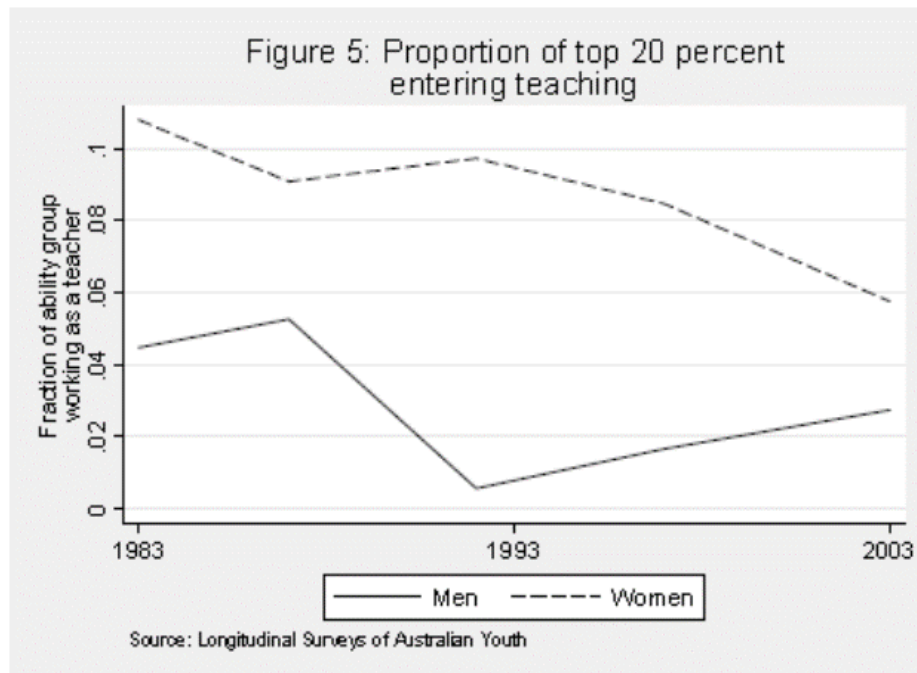


Figure 5: Fraction of top 20% ability group working as teachers. Source: Leigh & Ryan, 2006

Earlier analyses, from 2006 House of Representatives report for example, employ strong language to suggest there has been “substantial concern at the prospect that teacher quality may have fallen over recent decades”. Thus description of recent trends may be dismissed as more “business as usual” and have been dismissed in some quarters, on the basis that they rely only on reporting university offers and admissions.

Many may argue, quite rightly, that graduate quality is of primary concern. However, despite attracting the highest proportion of low academic attainment entrants, ITE degree graduation “success rates”, when compared to those across HE, are exceptionally high, see Figure 10. The higher levels of success evident in ITE programs are not explained by higher ratings on student surveys where reported levels of skills development, learner engagement and teaching quality were similar to the average for all other degree programs. Furthermore these ratings are unchanging, and success rating show only a slight decline, over the timeframe reported by AITSL, even though shifts in ATAR attainment are highly evident over the same period. Employment rates for ITE graduates, see Figure 11, are also strong and show little relationship with ATAR at entry to ITE. This data is ambiguous and may be interpreted in two contrasting ways: 1) ATAR is not a good or relevant predictor of completion in ITE; or 2) ITE is not a good discriminator, or sorting mechanism, for academic ability for which ATAR is an established proxy.

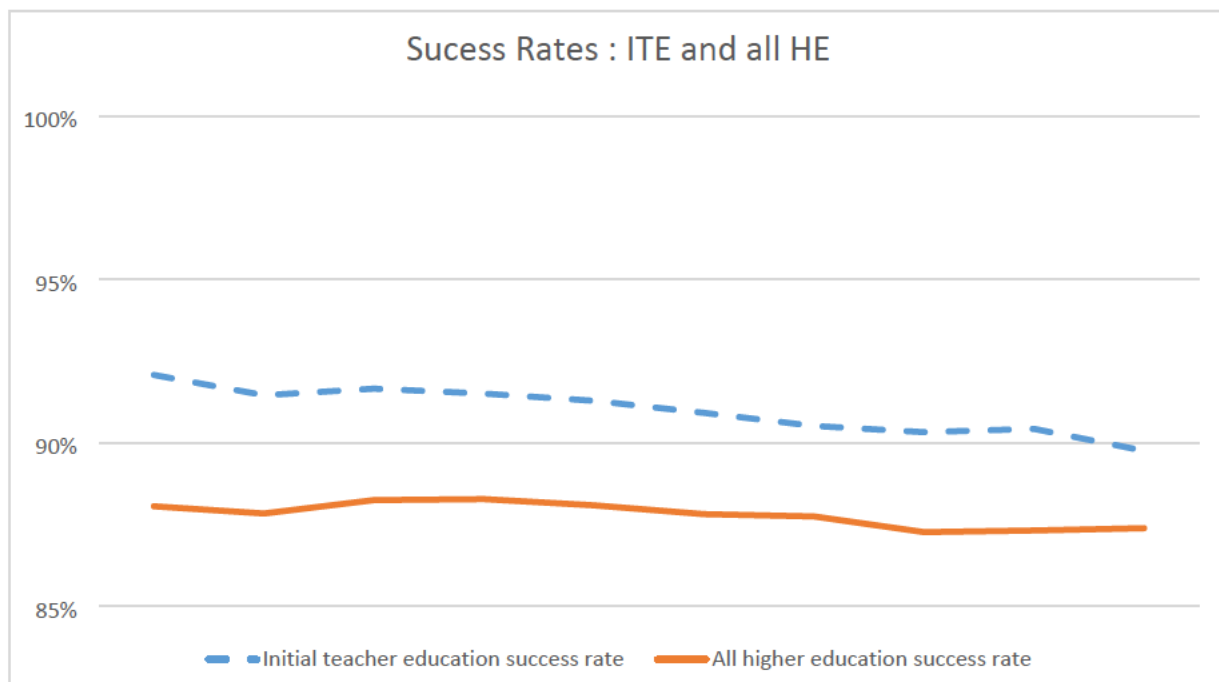


Figure 6: Success Rates: ITE and all HE. Source: AITSL ITE data report

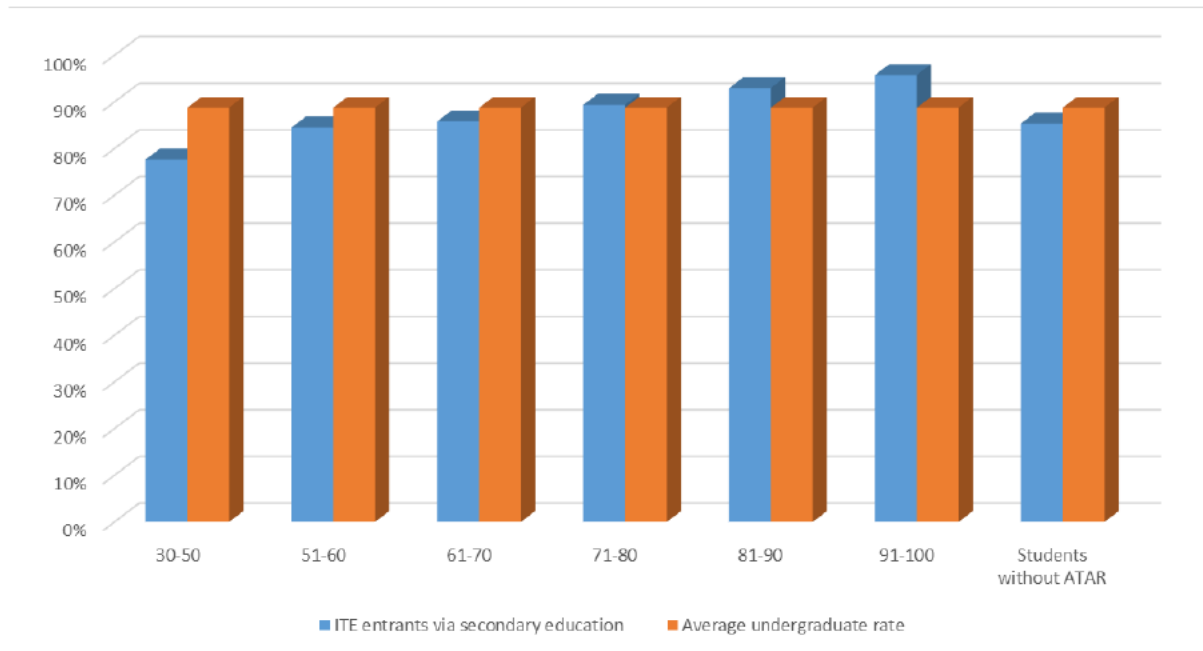


Figure 7: Success rates by ATAR, undergraduate students who entered via a secondary education pathway, initial teacher education, 2015. Source AITSL ITE data report

2. Reduced preparation for mathematics and science

Trends in ITE ATARs appear concurrent with changes in participation, level of engagement and attainment in science and mathematics. Although there is no national data available on mathematics and science study background for ITE cohorts, state level analysis for NSW has been reported (Wilson & Mack, 2014), see Figure 12.

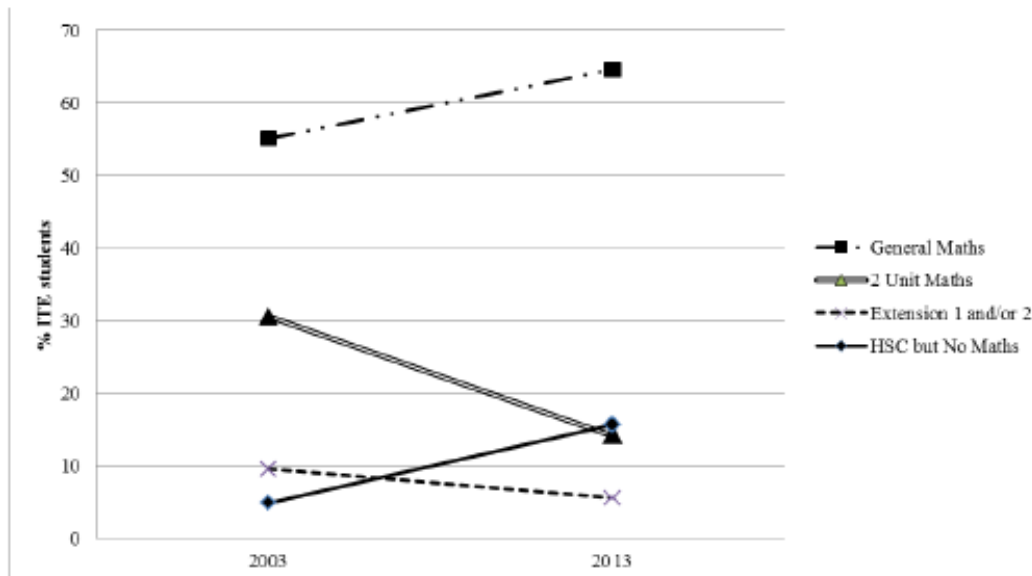


Figure 8: NSW ITE participation in senior secondary mathematics and science, 2003 and 2013.

The finding that these trends are observed among prospective teachers is deeply concerning. In fact, among students with offers to study ITE there was a halving of the proportions studying intermediate and advanced maths – trends not seen in other cohorts. The increasingly low levels of mathematical study amongst prospective teachers have the potential to create an internal cycle of diminishing maths and science in schools; as the teachers who are currently exiting are replaced by teachers whose knowledge in maths is lower. Such a cycle can lead to a society with an insufficient knowledge base in maths and science. This knowledge base forms the foundations for technological and economic development and is required to maintain the current standard of living. Levels of participation and attainment in mathematics and science education among teachers must be lifted if Australia is to generate strong national capacity in STEM and compete with international economies whose benchmarks in education already surpass our current standards.

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