NSW GOVERNMENT

2023 Premier's Reserve Bank of Australia Economics Scholarship

Raising the Interest Rate

Analysing Best Practice Teaching in NSW to Increase Achievement and Enrolments in HSC Economics

Gavin Brennan
Alpha Omega Senior College

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The Premier's Teacher Scholarships program – an initiative of the NSW Department of Premier and Cabinet and administered by the NSW Department of Education – provides funding for study tours up to five weeks to explore best practice in recipients' chosen subject areas. The program aims to deliver outcomes for scholarship recipients, students, teacher colleagues and school communities. This report on the focus area was completed following the study tour activities.

Executive Summary

This study used HSC data to identify the schools in NSW that are achieving the best results in HSC Economics, relative to similar schools and their students' performance in other HSC subjects. Based on this data, I visited ten of the top-performing schools in HSC Economics to interview their Economics teacher(s) and observe them in the classroom.

Teaching and learning was remarkably consistent across these high-performing schools. In particular, eight elements were evident across the majority of schools in the study:

Teacher Traits

1. Demonstrated passion about economics
2. Knowledge of content, trends and statistics

Teaching Strategies

3. Orienting and daily review
4. Explicit instruction
5. Literacy strategies
6. Exam-style application
7. One central learning resource

Student Traits

8. Strong student work-ethic

This report summarises these elements and draws on them to recommend ways in which it might be possible to increase achievement, student confidence and enrolments in HSC Economics. These recommendations include improving the professional development opportunities available to HSC Economics teachers and the teaching resources available for the HSC Economics course.

This report also summarises other findings from the study, including possible reasons for the low enrolment rate for HSC Economics and likely factors contributing to the achievement gap in HSC Economics between advantaged and less advantaged schools.

Introduction

Economics enrolments in NSW have fallen notably in recent decades. This decline has been most pronounced among comprehensive, public and regional schools. Since 1991, economics enrolments in comprehensive schools have declined 3.5 times as fast as in selective schools, and government schools are around half as likely to offer Higher School Certificate (HSC) economics as non-government schools (Dwyer, 2017).

Enrolments are falling most in regional and lower socio-economic status (SES) areas. The share of economics students from regional areas has more than halved since 1990. And for every economics student from the lowest income quartile in NSW, there are now more than four from the highest quartile (Dwyer, 2022).

The are a number of reasons for this decline and disparity.

An extensive survey conducted by the RBA concluded that the decline in enrolments is due to a number of reasons, such as not knowing much about the subject and it being a risk to study. One prominent reason is that students from these schools and backgrounds have a ‘confidence gap’ and are less likely to believe they “could do well in Economics” (Tan, 2022).

This concern is not purely psychological – students from these schools and backgrounds actually do perform worse. In the 2021 HSC, only 9% of students that achieved 90 or above came from comprehensive government schools (NESA, 2022) – far less than the proportion of students from comprehensive government schools studying the course.

In summary, many students do not pick economics because they doubt they can do well at it. A key reason for these doubts is that they have very few examples of peers succeeding in the course.

Focus of Study

Objective of the Study

If part of the reason for the decline in economics enrolments is due to low student confidence in less advantaged schools, part of the solution could be to improve teaching practice to boost student confidence and achievement. To help improve economics teaching practices, this study identified the economics teachers in NSW who are having the biggest impact on their students' achievement and researched what it is they are doing that is working so well. What worked well was remarkably consistent across the high-performing teachers and schools.

This report sets out the common strategies that high-impact economics teachers use, and the views of those teachers on how best to enable more teachers to have a similar impact on their students in order to raise student achievement and attract more enrolments. It also notes some of the other reasons that seemed to contribute to the achievement gap between advantaged and less advantaged schools. These findings have implications for schools, professional teachers' associations, education authorities, and the Reserve Bank of Australia's (RBA's) education team.

Methodology

The research had two components:

1. Using data to identify schools that have the most significant impact on students' achievement in HSC Economics; and
2. Conducting a site visit to investigate how those schools are having such an impact on student achievement in HSC Economics.

School Identification Methodology

The research project analysed more than 75,000 HSC results over a four-year period (2019-2022) to identify schools that were high-performing in HSC Economics.

The dataset provided by the NSW Education Standards Authority (NESA) included information on around 20,000 students, anonymised so that individual students and schools could not be identified. The data included:

- The student's result in the Economics HSC exam;
- The year the student sat the exam;
- The school the student attended, and the school that taught them Economics;
- The socioeconomic status of the school's location;
- The general location of the school (urban, regional, remote); and
- The student's HSC results in selected other subjects (English, Mathematics, Physics, Chemistry).

The data was then cleaned, such as by compiling the results of individual students in each subject they completed and by removing duplicates where students had sat the HSC for the same subject twice.

To enable comparison between students' results in different subjects, each subject was given a

‘weighting factor’ that reflected its difficulty relative to HSC Economics. This weighting factor was based on the relative performance of all students who did both the given HSC subject and HSC Economics. For example, students who did Standard English generally performed worse in HSC Economics than the average while those who did Extension 2 Mathematics generally performed better. As such, Standard English was given a weighting factor of 0.897 while Extension 2 Mathematics was given a weighing factor of 1.103. This meant that a result of 80 in Economics was equivalent to a result of 89 in Standard English but a 73 in Extension 2 Mathematics.

Schools were then ranked according to these different criteria:

- Their median and average marks in Economics;
- Their median and average marks in Economics relative to the average performance of their school sector, SES status and location (metropolitan vs regional);
- The median and average performance of students at that school relative to their average weighted results in other subjects.

Using each of the these metrics, I compiled a shortlist of high-performing schools. A cut-off median mark in HSC Economics for the school of around 70 was used to filter out schools that did not achieve a minimum level of understanding of economics (the median for the entire state is 75).

NESA then provided the names of the 15 anonymised schools on this shortlist.

Of those 15 schools, 10 invited me to conduct a site visit to investigate what they were doing that was working so well. These schools included:

- 3 government schools
- 4 Catholic schools
- 3 independent schools
- 2 schools located outside of Greater Sydney
- 3 girls’ schools
- 3 boys’ schools
- 4 co-educational schools
- 4 schools with an ICSEA rating of less than 1100 (ICSEA is an index of socio-educational advantage of a student cohort developed by ACARA, where 1000 is average and 1300 is considered very advantaged)

Site Visit Methodology

The site visit involved two components:

1. An interview with the lead Economics teacher at the school, based on a set of survey questions (see Appendix). The interviews were conducted conversationally, using survey questions as a framework for discussion. The survey questions were broken into seven categories:
   a) Profile of the teacher, school and students
   b) Lesson design
   c) Lesson sequencing
   d) Structure of the course
   e) Other teaching strategies
   f) Teaching resources
   g) Curriculum

2. A lesson observation of one or more HSC Economics lessons using a semi-structured lesson observation tool similar to those recommended for research by the Department of Education (2021).

In total, the study involved visits to 10 schools and discussions with 20 economics teachers.

Limitations of this methodology

It is important to note some limitations to the methodology used in this study.

Selection of schools: When selecting high-impact schools, the study attempted to control for the school's socio-economic advantage and student characteristics. However, this was based on the socio-economic status of the school's location (which may not reflect the advantage of the specific students that attended) and the students' performance in other subjects (which may be skewed if some schools also have outstanding teachers in those other subjects as well).

Survivorship bias: The study attempted to identify common strategies used by teachers who achieve outstanding results in economics. However, the study did not also include observations of a control group or teachers with lower student-achievement levels. Therefore, it is not known whether the strategies used by the high-impact teachers are also being used by other teachers too and therefore whether those strategies are definitely the reason for the difference in learning outcomes. Likewise, there may have been less visible differences that contributed to their outstanding learning outcomes that were not picked up on in the study due to the absence of a control group to compare to.

Hawthorne effect: High-impact teachers were interviewed and observed to identify what they do that works well. It is possible that teachers and their students behaved differently during this process, and that the results of the interviews and lesson observations are not entirely reflective of these teachers' normal practice.

Volunteer bias: Two-thirds of teachers identified as ‘high-achieving’ agreed to participate in the study. It is possible that the high-impact teachers who did not wish to participate in the study have different perspectives and teaching strategies that are not consistent with those who were willing to volunteer their time and to share their insights.

Perception bias: Ultimately, the results identified in this study have been collected by me conducting interviews and observing lessons. Therefore, it is possible that these results have been influenced by my subjective perception of what is important and notable when evaluating teacher practice.

Significant Learning

What High-Impact Economics Teaching Looks Like

There are many ways to teach effectively, and all teachers involved in this study had their own teaching style and had adapted to their own school context. Nevertheless, there were eight teaching strategies that were consistently used across many of the high-performing schools involved in this study:

The eight common elements of high-impact economics teaching and learning:

Teacher Traits	Demonstrated passion about economics
	Knowledge of content, trends and statistics
Teaching Strategies	Orienting and daily review
	Explicit instruction
	Literacy strategies
	Exam-style application
	One central learning resource
Student Traits	Strong student work-ethic

Crucially, most of these elements are skills that can be learnt or traits that can be developed. Here, this report sets out what each of these elements involve. In the subsequent section on implications, this report suggests how more teachers can be equipped with these skills and traits to boost student achievement in economics.

Importantly, there are many other evidence-based teaching strategies that may also be effective but were not consistently used by the teachers in the study. For example, practices to manage cognitive load (Rosenshine, 2012) or to embed formative assessment (Wiliam, 2011) were not commonly used by many of the participants (though nor were they disputed by them). Likewise, techniques such as cold calling (Lemov, 2010) and strategic questioning (Hattie, 2011) were only used by some participants. That doesn't mean these strategies aren't also useful – only that they aren't commonly adopted by the teachers achieving the best student outcomes in HSC Economics. Therefore, it is important that professional development continues to focus on these evidence-based teaching practices in general, but also now incorporates the eight elements identified in this study that seem to have particular benefit for the HSC Economics course.

Teacher Traits

Demonstrated passion about economics

Many teachers in the study emphasised that no matter how good the teaching strategies are, they will not work if the teacher is not enthusiastic. While all teachers in the study personally enjoyed studying and teaching economics, the economics course itself will not engage most students. It was clear that the high-performing teachers in the study are passionate about the relevance of what they are teaching, and that they communicate this passion and relevance to their students. As one teacher in the study described it, “I give a NIDA performance every class.” As a student at another school reported, “I like economics because it explains what is happening in the real world - and I only became interested in that because my teacher was so excited about it.”

Initially, teachers who are new to economics may not have this passion about the subject. Hence, new economics teachers might benefit from a mentor who is an experienced, passionate economics teacher. They may also need to make an active decision to engage more with economics in the news.

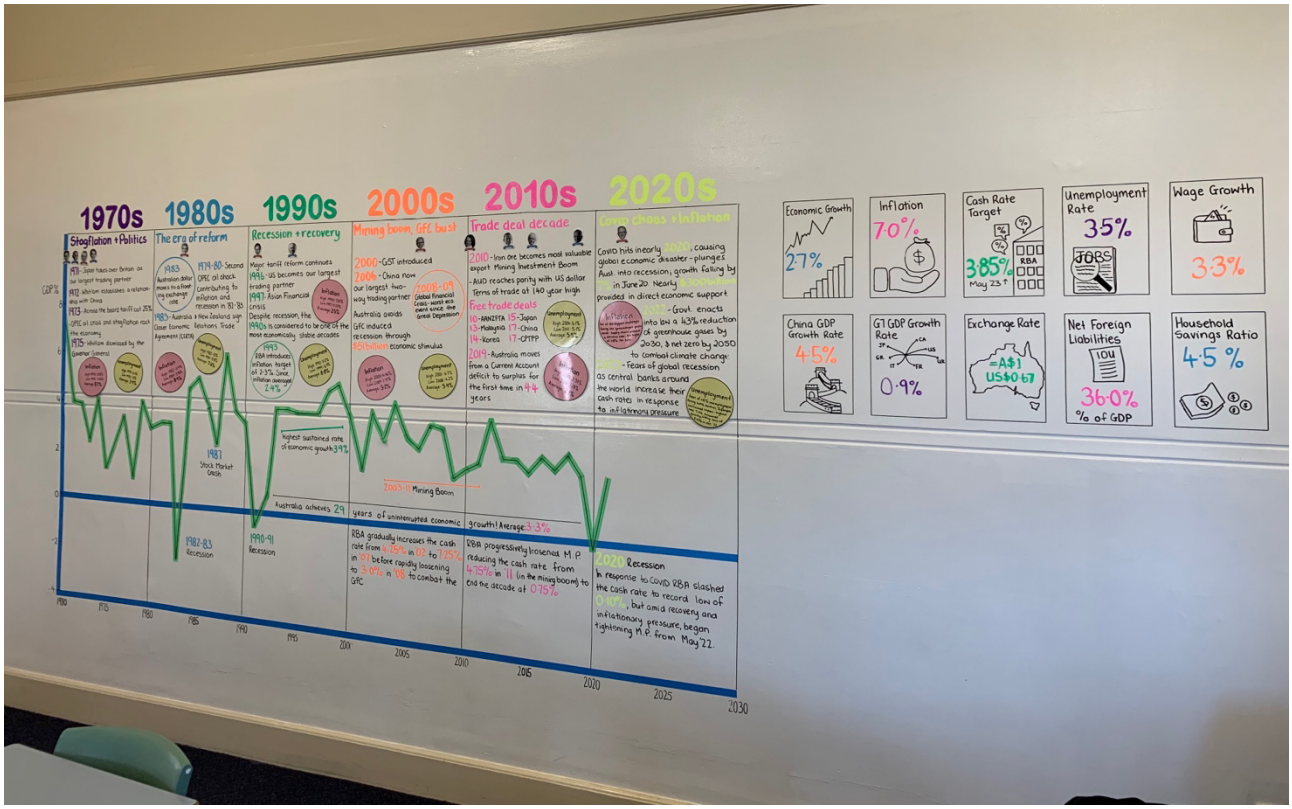

Figure 1: One passionate teacher’s classroom mural, which they regularly update with the latest trends and statistics (Photo by Gavin Brennan)

Knowledge of content, real-world trends and statistics

The expert teachers in the study consistently had excellent knowledge of economic concepts and current trends and statistics relating to the Australian economy. This deep knowledge of the content reduced cognitive load when teaching. Rather than concentrating on recalling content and trends, teachers could focus on fluent explicit instruction, demonstrating their passion about current trends, and adapting to their students’ needs.

While up-to-date content knowledge is important for all subjects, participants regularly emphasised that staying on top of content was a bigger challenge for economics than the other subjects they teach, such as geography, legal studies or business studies. Despite that, this difficulty is not taken into account when allocating teacher loads or when allocating a teacher to teach economics for the first time. Unsurprisingly then, 80% of the high-performing schools had teachers who had been teaching the course for more than ten years. For teachers new to economics, training should be heavily focused on learning course content and recent trends, and their teaching load should ideally be reduced to reflect the extra work required as well.

Teaching Strategies

Orienting and daily review

All of the teachers in the study consistently showed students where they were in the course at the start of every lesson. For a couple of participants, this involved creating learning intentions and success criteria for students to gauge their progress. For most though, it was done more simply by displaying the syllabus at the start of the lesson, recapping what they had already covered, and identifying what they would be learning next. In either case, all students were given a clear idea of where they were in the course, what they were expected to know already, and what they were trying to achieve in the upcoming lesson.

Teachers also used this process to ask students questions about previous learning, providing multiple exposures to content and reactivating schema to facilitate new learning.

Explicit instruction

Every teacher in the course believed that the most effective strategy for teaching economic concepts was for the teacher to directly explain the concepts to students and to engage students with questioning and discussion to check and consolidate that knowledge. No participating teachers used inquiry-based learning as a strategy except for rare occasions where they believed the content was relatively simple. Multiple participants noted that if they used more inquiry-based or project-based learning, they ‘would have to re-teach the content anyway’.

With regards to how these teachers became so good at explicit instruction, many teachers reported that the most effective strategy they had used to upskill themselves was to observe other expert economics teachers modelling how they teach particular concepts. These examples showed teachers how to explain that specific concept clearly, and also gave them a style that they could apply to other content too. Hence, future professional development courses could focus on these types of demonstration lessons.

Literacy strategies

Despite the reputation of economics as a maths-heavy subject, most teachers agreed that the maths component of the HSC Economics course is accessible for most students. By contrast, a consistent belief across all participating teachers was that high-achieving students in economics need a strong literacy base and that teachers should focus heavily on improving students’ writing.

Teachers believed that the level of detail in the HSC Economics course required students to read about lesson topics in more depth after class, by reading summaries provided by the teacher and/or chapters from a textbook. Likewise, teachers recognised that students need to be able to structure and explain these concepts and trends with precision, detail, and clarity. Therefore,

teachers appreciated that prior literacy skills were a strong determinant of performance in HSC Economics.

Teachers then deliberately built on these foundations with regular writing practice. At two very high-performing schools that participated in the study, economics students write an essay almost every week of the course throughout Year 11 and Year 12, with regular feedback. In almost every school in the study, a 'standard lesson' for the teacher would involve explicit instruction and discussion of concepts followed by application to HSC-style short response and/or essay questions. Teachers provided guidance and scaffolds for these responses that were appropriate for the literacy levels of their students.

Given this importance of literacy, professional development should be available that focuses on how to improve student writing in economics. However, students' initial literacy level varied dramatically across schools. Therefore, professional development providers should avoid a one-size-fits-all approach and should instead provide targeted sessions for schools with different literacy levels.

Exam-style application

Most participating schools had a focus on regularly applying course concepts to HSC-style questions as practice and revision. Many schools had printed booklets of questions for students to complete, both in class and at home. One school had designated one lesson per week to be used entirely for practice multiple choice and short response questions on content covered in the past month. Students often analysed marking criteria and model responses, and peer-marked the work of their classmates.

In addition, many teachers had intimate knowledge of the Economics HSC marking process. Of the ten schools in the study, six had teachers with HSC marking experience, two had teachers who were HSC senior markers, one had a teacher who had previously written the HSC exam, and one school contracted HSC senior markers to train their teachers and occasionally double-mark their assessments.

While regular exam-style application with HSC-aligned marking had the benefit of reducing anxiety about assessments and improving exam performance, teachers did not view this strategy as merely 'teaching to the test'. Rather, they viewed these questions as an effective way of consolidating student knowledge, isolating misunderstandings, and making visible to students what they are expected to be able to do. They also believed that the HSC is largely a fair way to assess students' understanding of economic concepts, and therefore did not see 'teaching to the test' as much of a problem.

Yet despite the wide support for this strategy, teachers struggled to include it in lessons as often as they would like to. In fact, most teachers relied on teaching content with extra depth in Year 11 in order to make more time for regular exam-style practice in lessons in Year 12. Some teachers even organised additional classes before school in order to make time for these practice questions.

Given this difficulty to fit in beneficial application activities, it seems appropriate that the NESA Curriculum Reforms are aiming to 'declutter' the syllabus to make more time for deep understanding of core concepts.

One central learning resource

The HSC Economics course is dense with concepts and real-world trends, and students can get easily lost or disorganised in the overlapping topics. To prevent this, many high-performing teachers provided their students with one organised resource for each section of the course (e.g.

‘globalisation’, ‘inflation’). For some teachers, this resource was a printed booklet, for others it was a set of slides that students have access to on their device. This resource commonly included written summaries of course concepts and trends that reduced the need for excessive copying and note-taking in class. It also usually integrated graphic organisers, learning activities and short response questions throughout. The resource helped to give students structure and reference material to maximise the efficiency of class-time and facilitate at-home revision.

Student Traits

Strong student work-ethic

While not a strategy, there was a clear correlation in the study between the quantity of work students are willing to do outside of the classroom and the results they achieve, as reported by their teachers. While all schools were achieving better results than schools similar to them, in absolute terms among the schools in the study, the schools that performed best had students with far higher levels of student effort, especially outside of the classroom.

One implication of this finding is that creating a class and school culture of independent practice and student responsibility will increase the effect of all other teaching strategies. How to do this will vary from school to school and student to student, but should be a priority.

Another implication is that teachers in contexts where students do less independent work could benefit from guidance on how to build more revision into class time instead. The high-performing teachers in those types of schools had adapted by making conscious decisions about what content to skip or only cover superficially in order to make time for frequent reinforcement of core concepts. However, they believed this was only possible because they knew from experience what is and isn’t a core concept and how content is most commonly assessed in the HSC. One teacher reported that because economics is largely taught at advantaged schools with higher levels of student engagement, professional development courses are also run by, and targeted at, teachers with those kinds of students as well. They believed that most professional development for economics teachers “isn’t suitable for schools like us.”

Possible reasons for the achievement gap

Based on the HSC data provided for this study, there is a correlation between the economic advantage of a school and the average performance of students in HSC Economics. By visiting schools from across the spectrum of economic advantage, I observed three clear factors that also seem to correlate with economic advantage and are likely to contribute to this disparity:

1. Literacy levels of the students

Teachers in the study strongly believed that reading and writing skills are a fundamental skill needed to perform well in HSC Economics – much more than mathematical ability. However, not all teachers believed their students had strong literacy skills.

There was a clear correlation among the schools in the study between the literacy levels as reported by the teachers and the socio-educational advantage of the school. By contrast, there was less of a relationship with mathematical ability or prior economic knowledge. This finding suggests that a significant reason that students from more advantaged schools usually perform

better in HSC Economics is that they have more sophisticated literacy skills that enable them to interpret and explain economic concepts at a deeper level.

2. Work-ethic of the students

As mentioned above, there was a significant disparity in the work-ethic of students at different schools in the study. The level of work that students undertook outside of the classroom correlated closely with the socio-educational advantage of the school (as measured by the school's ICSEA rating).

For example, at the most advantaged schools in the study, teachers noted that students completed around four hours of homework per week for Economics, frequently undertook additional revision, and even attended occasional revision classes before school and in the school holidays. By contrast, in the participating regional and low-SES schools, teachers reported that an average student might do up to one hour of homework per week with no additional revision. This means that the average student at the most advantaged schools in the study spent two to three times as much time learning and revising the course (both in and out of class) throughout the year than students at the least advantaged schools. The sheer amount of time students in different schools spend learning and practicing the content could go a long way to explaining the achievement gap between advantaged and disadvantaged schools.

3. Specialisation of the teacher in economics

Students in less advantaged schools are less likely to choose to study economics. For schools in the study, this trend meant that teachers in less advantaged schools only ever teach a maximum of one HSC Economics class per year, and some years there may not be a class at all. If there were two economics teachers at the school, they sometimes rotated who taught Year 12, meaning they gained even less experience teaching the course and spent less time developing their own teaching resources. It was difficult for them to stay up to date with current economic trends because they were teaching other subjects as well.

By contrast, at the most advantaged schools in the study, teachers had multiple HSC Economics classes every year. At one school, there were five teachers who taught no subject other than Economics. This narrow specialisation enabled them to have an intimate knowledge of economics concepts and current trends, and to continually refine how they structure and deliver the course.

Implications

There are three main implications from these findings for how organisations such as the RBA, education authorities and professional teachers' associations can improve economic achievement and enrolments:

1. Improve professional development and support for teachers
2. Improve the resources that are available for economics teachers to use
3. Address other factors that are affecting enrolments in economics

Improving Professional Development and Support for Economics Teachers

The common elements of high-impact teaching in this study are not inherent to the teacher. These skills and strategies can be taught. Appropriate training is vital to upskill more teachers to have a similar impact on their students.

All teachers in the study had previously gone through the process of growing from a new teacher into an expert economics teacher. Therefore, they had useful insights into what had helped them develop and what could have made that process more efficient. Further, the teachers in the study taught in very different school contexts. Many of them emphasised that the professional development opportunities that suit teachers in the advantaged schools that most commonly offer economics do not suit teachers in less advantaged schools. Therefore, the training available to economics teachers is not suitable for those teaching in the schools that the majority of students attend (average and below-average SES government schools). Unsurprisingly, that is where enrolments in economics have fallen most.

These findings suggest that there should be three layers of professional development and support for economics teachers. The recommendations below compile the most consistent and practical solutions proposed by participants, which I have organised according to the different types of teachers they apply to.

Three layers of professional development for economics teachers:

<table>
<tr><th>Improving Support for New Economics Teachers</th><th colspan="2">Ongoing Support for Experienced Teachers</th></tr>
<tr><td rowspan="2">Teachers that are new to economics need training in core content and demonstrations of how to do explicit instruction of that content.

Time-poor and inexperienced teachers should have access to centralised resources and lesson activities that are pre-made for them to ensure a minimum level of teaching quality.

Teachers who are new to economics would benefit significantly from a master class / mentoring program for teachers throughout their first year of teaching economics. This could involve fortnightly meetings to teach them the content, demonstrate how to teach it, provide relevant real-world examples to use in class, and explain current trends relating to it.</td><td>Teachers in Less Advantaged Schools

Current professional development opportunities are not appropriate for teachers in this context. New training opportunities are needed that focus on what works best in this context, such as:

1. Explaining challenging concepts from the course in a simple way
2. Making time in the course for in-class application and revision
3. Designing effective in-class revision and application activities
4. Scaffolding summary notes
5. Improving short response writing
6. Essay writing strategies for weak writers
7. Training in HSC marking (including mid-range responses)

These teachers often lacked access to HSC markers at their school or in their network. They also were less likely to have HSC marking experience, given that the HSC marking centre now uses fewer teachers to mark the same number of exams. Widening the pool of markers again would equip more teachers to know what standard they are aiming for their students to achieve.</td><td>Teachers in Advantaged Schools

These teachers need guidance on how to extend their students and to help them achieve excellent marks in the HSC. This can be done through professional development on:

1. Current trends in the Australian economy
2. Recent developments in economic theory (but capped at a level that is appropriate for HSC students and relevant to the HSC course)
3. HSC marking (with a focus on band 6 responses)</td></tr>
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Improving the resources that are available for economics teachers to use

Teachers provided consistent feedback about two ways to improve the resources available to economics teachers:

- Create comprehensive centralised resources for all economics teachers.
- Continue to improve the education resources on the RBA website.

Centralised resources

As discussed above, all but one of the participating schools provided students with physical and/or electronic booklets or slide packs with explanations, examples and questions to anchor class discussion and structure the course for students. The teachers believed that this central learning resource was crucial for organising lessons, orienting students in the course, providing background information, and anchoring students' revision.

However, many participants were concerned that less experienced teachers and those who are the only economics teacher at their school would not be able to quickly develop this kind of resource. The teachers in this study had developed their resources over many years, often in collaboration with other economics teachers at their school.

As such, there was strong support by most participants for a centralised version of this kind of resource to be made available for all teachers. This would most likely be the responsibility of the education authority in their jurisdiction, such as NESA in NSW. While participants said that they prefer to make their own resources or adapt those made by others, they believed that a centralised resource would provide a fallback for time-poor, out-of-field or new economics teachers. As one teacher said, "producing these booklets was years of work, and they still need updating every year." Even for experienced teachers, participants believed that centrally produced resources would provide a reference point for teachers to borrow from and to know whether they were teaching with an appropriate level of detail.

This approach would be consistent with the Productivity Commission's recommendation in its 5-Year Productivity Inquiry in 2023:

> "[State and Territory Governments should] make best practice teaching common practice [by]... increasing curriculum implementation support for teachers, by curating high-quality, evidence-based and government endorsed curriculum resources **(curriculum plans, whole-subject sequences, lesson plans and classroom tools), to be made available for teachers and school leaders from a single source**." – Recommendation 8.2 (Productivity Commission, 2023)

Teachers insisted that these resources need to be written by experienced teachers with engaging activities, include regularly updated statistics and appealing graphic design, and be fully customisable so that teachers could adapt it to suit their students and teaching style.

Recommendations:

Encourage NESA and other education authorities to produce centralised curriculum resources, such as programs, lesson sequences, lesson plans, slides/handouts and learning activities to establish a minimum level of teaching quality. These resources should:

- be produced by expert high-school economics teachers
- be customisable by teachers
- be regularly updated for current events, trends, policies and statistics

RBA education resources

Many participants provided feedback on the usefulness of the RBA's educational resources.

There was a consensus view that the most useful resources are ones that can be quickly picked up and used by teachers without the need for many adjustments. In particular, this means that resources need to be at a level of difficulty that is accessible for most students, and need to directly target content in the syllabus without unnecessary tangents that may use up time or needlessly increase students' cognitive load.

Most participants agreed that the chart pack, snapshots, snapshot comparison tool, inflation explorer and explainer articles are very useful for both teachers and students. Teachers suggested that these could be even more useful by mapping them on the RBA's website to the economics syllabus in each jurisdiction. This could be done with drop down menus for jurisdiction, year level and topic.

The participating teachers also provided feedback on the RBA's educational videos. For example, the RBA produces quarterly videos on current economic conditions. These videos are for numerous audiences. While the RBA has high-school students in mind when creating these videos, it is also catering for market economists, other expert audiences, and the general public. The surveyed teachers in this study generally believed that these videos were too formal and technical for the majority of HSC Economics students. Given the RBA's need for all communication on current economic conditions to be consistent with its published analysis of the economy for reasons of market sensitivity, this may constrain the RBA's ability to make significant changes to these videos. However to the extent possible, the RBA could consider if there are other ways to communicate similar content on current economic conditions via video for a student audience.

Many participating teachers in this study suggested that they themselves needed resources to keep up to date with trends in the Australian economy. This feedback is consistent with teachers surveyed by the RBA. Therefore, an additional economic update video product could be introduced for teachers that narrows the focus only to trends and data that relate directly to aspects of economics high school syllabuses.

During the COVID-19 pandemic, the RBA also quickly produced a range of 'explainer' videos to help teachers with the sudden shift to online learning. While useful in the pandemic, no teacher in the study continued to use these videos following the return to face-to-face learning. Teachers noted that for them to integrate videos into a lesson or homework task, the video needed to be engaging, accessible, and ideally made by a teacher who understands common misconceptions and how the concept is commonly assessed. Participants in the study referenced explainer videos by edtech platform Atomi and the Rule of Law Education Centre as examples of appropriate educational videos.

Recommendations:

The RBA should continue to improve the education resources on its website by:

- Mapping existing resources to the syllabus in each jurisdiction.
- Producing engaging and accessible videos aimed at students, potentially with the aid of teachers and animations.
- Consider ways to provide content on current macroeconomic conditions for teachers, such as through the release of a supplementary video that focuses specifically on trends that relate directly to Australian economics syllabuses.

Addressing Other Factors Affecting Enrolments

Enrolments in high-school economics have fallen dramatically. The above recommendations to improve how economics is taught could help to improve student outcomes and therefore address the preconception that economics is too difficult for most students.

However, as part of the study tour teachers also raised other significant reasons that affect students' decision to study or not study economics.

First, teachers had seen that economics enrolments fluctuated with the quality of how well economics was taught in the junior Commerce course. Second, students who considered Economics often chose to study Business Studies instead because they could achieve better marks and a similar ATAR with far less effort. Third, the Economics syllabus itself was overcrowded and at times unengaging, which contributed to a negative reputation for the subject.

Addressing these three issues may help to further boost enrolments.

1. Improve students' experience of economics in the Commerce course

As the RBA has noted, enrolments in economics have declined dramatically. There was a clear consensus among the participating teachers of what the key factors are that students consider when deciding whether to choose economics:

- Did they enjoy studying economics in the Year 9-10 Commerce course?
- How difficult is economics?
- Were the economics concepts in Year 9-10 Commerce taught in a way that made them feel they could succeed at it?
- Do they like the teacher?

Based on this, a key to improving enrolments in economics will involve ensuring that economic concepts in the Year 9-10 Commerce syllabus are taught well.

However, there is wide variability in students' experiences of economics in Year 9-10 Commerce. Many teachers in the study reported that at their school and the schools of people in their network, Commerce teachers were often teaching the subject out of field or did not have sufficient training in the economics concepts in the course. This issue was particularly acute in less advantaged schools, and the recent teacher shortages had further reduced these teachers' capacity to prepare for lessons. Many participating teachers believed that these issues affected students' enjoyment and achievement in the economics components of the Commerce course, and therefore affected

enrolments in senior Economics as well. Indeed, in the two lowest-SES schools in the study, only around 15% of students who studied Commerce went on to select Economics each year.

By contrast, in other schools a majority of students in the year selected Commerce and around half of those students then picked Economics. The schools with comparatively high enrolments in Economics attributed this popularity to the Commerce course being taught effectively, often with the following strengths:

- Taught by a trained economics teacher who understands the concepts being taught.
- Emphasis on connecting the economic concepts to current events and interesting real-life examples.
- Use of fun activities such as simulations and role-plays that illustrate the economics concepts being taught.

Upskilling Commerce teachers is therefore likely to be a powerful way to increase enrolments in senior Economics.

Recommendations:

Increase the availability of professional development sessions for Commerce teachers who are not trained in economics. This training should:

- directly teach teachers the economic content in the Commerce course
- demonstrate how to explicitly teach those concepts effectively
- provide engaging real-world examples of the concepts
- suggest games and simulations that can used in class to illustrate economic concepts in an engaging way (such as a trading game to illustrate the price mechanism, or a role-play of the circular flow model)

2. Address the perception of Economics relative to Business Studies

Teachers regularly also attributed the low enrolments in Economics to the perception that Business Studies is a much easier subject where higher marks can be achieved with less effort. Students therefore try to 'game' their ATAR by picking Business Studies over Economics. Many teachers in the study taught both Economics and Business Studies, and all of them reported that Economics is a far more rigorous and difficult subject that requires significantly more effort and work. Despite that, a student who achieved a mark of 90 in Economics rather than Business Studies would increase their ATAR by around 1 point, all else being equal. To students, this isn't worth it. As any economist would say, students are simply responding to this incentive.

Recommendation:

Encourage NESA to have a similar level of rigour in the new Economics and Business Studies syllabuses, and that any differences in difficulty should be more accurately reflected in the scaling of subjects.

3. Improve the HSC Economics syllabus to attract more students

While all the participants believed that the HSC Economics course is valuable and rewarding for students, most of them believed that particular aspects of the syllabus were off-putting to students. There were two main criticisms that teachers had of the current Economics syllabus: that there is too much content to cover, and that some content is 'boring' or 'irrelevant'.

Too Much Content to Cover

Teachers valued the rigour and breadth of the course. However, they noted that there was so much to teach the students that they struggled to differentiate for lower-ability students. Likewise, teachers in less advantaged schools found it difficult to get through the course while meeting the needs of their students. By contrast, schools with students that had strong literacy skills and exceptional work-ethic did not have issues teaching all concepts at a deep level.

The difficulty teachers in less advantaged settings have in teaching the full course and in making time for in-class practice is likely to be a contributing factor to the lower achievement in less advantaged schools. As discussed above, this achievement gap is a likely explanation for a large part of the enrolment gap as well. This can be addressed by reforming the syllabus – a process which is currently being conducted as part of the NSW Curriculum Reforms.

Importantly, most teachers in the study were very supportive of the breadth of the HSC Economics course. Rather than 'decluttering' the HSC Economics syllabus, teachers suggested that the Preliminary Economics syllabus should be improved instead. By removing superfluous content from the Preliminary syllabus, space would be opened up to include more foundational concepts for the HSC course instead. These could include free trade, inflation, and trends of the economic issues in the Australian economy. Shifting these foundational concepts into the Preliminary course would free up time in the HSC Economics course to focus on deepening students' understanding of them, applying the concepts to current events, and doing regular practice to encode that understanding into long-term memory.

Some Content is 'Boring' or 'Irrelevant'

The participating teachers were passionate about most parts of the HSC Economics syllabus. However, teachers identified particular sections of the course that students found unengaging, and believed that these sections contributed to fewer students selecting to study the course.

First, teachers identified particular sections of the Preliminary Economics course that were considered less interesting for students because they were abstract theories that were not then connected to real-world examples and trends. Teachers believed that these fundamental economic theories (such as the circular flow of income) are crucial, but should be introduced to students in relation to real-world events.

Second, teachers identified parts of the syllabus that were unengaging to students in their current design. In particular, there were differing views on how to amend the Financial Markets topic to improve its coherence and to potentially increase its usefulness to students who are interested in investment.

Third, teachers identified large parts of the first half of the HSC Economics course that require memorising rather than analytical thinking. Importantly, teachers recognised that remembering core content is an integral part of learning. However, they generally believed that the Global Economy topic in the HSC Economics course leans too far towards 'memorising and regurgitating' details about free trade and protection policies in the global economy. Teachers emphasised that questions for this topic are generally similar and predictable, and that students are encouraged to rote learn responses to them. Unsurprisingly, both teachers and students believed this was off-putting for most students, and believed it gave the HSC Economics course a bad reputation to younger students selecting their subjects as well. Teachers also argued that this part of the syllabus makes the HSC exam less fair because it rewards students for their ability to memorise rather than their understanding and application of economic concepts.

Interestingly, the consensus that global development is the least engaging part of the HSC Economics course contradicts previous RBA research into students' reasons for choosing to study economics that found globalisation is the second-most highly rated topic of interest in economics (Livermore & Major, 2020). Likewise, the most popular section of the economics syllabus among teachers and students was government macroeconomic policies to manage the economic issues. This also contradicts previous RBA research that ranked 'government' as the lowest of ten possible topics of interest in the economics course. This finding seems to underline the importance of the syllabus itself. Students want to learn about globalisation – but the structure of the current syllabus means that they don't enjoy it. Conversely, students are not initially enthusiastic about learning about the government, but are won over with a well-designed syllabus and passionate teaching.

Recommendations:

In order to improve the accessibility and appeal of HSC Economics, NESA's syllabus reforms could:

- Integrate real-world issues, trends and examples when introducing students to economics and teaching foundational concepts.
- Remove content from the Preliminary Economics syllabus that is not built on in the HSC course.
- Introduce foundational concepts for more parts of the HSC course in the Preliminary syllabus, to free up time in Year 12 to focus on deepening understanding and enabling mastery of course content.
- Re-frame parts of the HSC Economics course in some areas to reduce the focus on memorising facts and to allow more flexibility in how questions can be asked in the HSC exam, in order to discourage memorising essays and instead incentivise deep understanding.

As part of this study, I have also submitted a separate report to the NESA Curriculum Reform team summarising teachers' views on each part of the Preliminary and HSC Economics syllabus.

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Appendix: Semi-Structured Interview Questions

Below are the questions used for the semi-structured interview with teachers. As explained in the report, these questions were used as a reference point for the interview and the conversations did not always follow the survey questions methodically.

Profile of teacher, school and students

a) How many years have you been a teacher?
b) How many years have you taught HSC Economics?
c) How much experience do you have in HSC marking or exam development?
d) What training do you have in Economics teaching (either Economics Method at university or professional development courses)?
e) What proportion of your Economics cohorts previously study Year 9-10 Commerce?
f) What proportion of your Year 9-10 Commerce cohorts select Economics in Years 11-12?
g) What proportion of your HSC Economics cohort receive tutoring in Economics in Year 12?
h) To what extent do teachers at your school influence students whether to pick Economics in Year 11 and 12 based on their academic ability? (No influence / limited influence / moderate influence / significant influence). If so, how?
i) Based on their exposure to economics in junior years and through personal experience, how would you rate your students' awareness of economic terminology and concepts at the start of the Year 11 course? (Well below state average / below state average / at state average / above state average / well above state average)
j) How would you rate the general literacy level of your students at the start of Year 11? (Well below state average / below state average / at state average / above state average / well above state average?
k) How would you rate the mathematical proficiency of your students at the start of Year 11? (Well below state average / below state average / at state average / above state average / well above state average)
l) To what extent do you agree with this statement: The attitude of my economics students requires me to spend a lot of my time on classroom management. (strongly agree / agree / neither agree nor disagree / disagree / strongly disagree)
m) What are the main teaching and learning strategies you use to develop your students' knowledge and understanding of the HSC Economics course?
n) What do you think are the main reasons that your students achieve such strong results in HSC Economics?
o) What are the unique advantages and challenges you face teaching economics at your school in particular?
p) To what extent do your students engage with economics news in their personal lives and in the classroom?

Lesson Design

a) Consider your lessons in the HSC Economics course.

   What percentage of class time do you spend on:

   i) Explicit instruction (explaining concepts to the class)

   ii) Inquiry-based learning (students researching and driving their own learning)

   iii) Student-led practice (completing practice activities or questions on concepts that have already been taught)

   iv) Teacher-led revision (re-explaining concepts or leading activities on concepts that have already been taught)

   v) Other (please specify)

b) What are the main techniques you use when conducting explicit instruction?

c) What are the main techniques you use when conducting inquiry-based learning?

d) What are the main activities you set when conducting student-led practice?

e) What are the main techniques you use when conducting teacher-led practice?

f) Do you conduct formative assessment (assessing how well students know and understand the concepts being taught as you go)? If so, how?

g) Do you adjust your lessons based on the data you collect through formative assessment? If so, how?

h) On a scale of 1-5 (1 being not impactful on student learning, 5 being very impactful), how impactful do you find the following strategies? And where applicable, how do you implement them in the HSC Economics course?

   i) Learning intentions (e.g. by the end of this class, you should be able to…)

   ii) Graphic organisers (e.g. diagrams, flow-charts, cheat sheets)

   iii) Collaborative learning (i.e. group-work)

   iv) Worked examples (i.e. teacher completing an example question in front of the class)

   v) Retrieval practice (i.e. trying to recall information)

   vi) Multiple exposures (i.e. revisiting concepts periodically)

   vii) Questioning (i.e. class discussion with teacher-led questions)

   viii) Metacognitive practices (e.g. self-assessment, goal setting, study planning)

   ix) Differentiated teaching (i.e. adjustments for students at different levels)

   x) Feedback

   xi) Reading (e.g. textbook, news articles, websites)

   xii) Technology-based learning (e.g. videos, interactives, research tasks)

   xiii) Analysis of assessment data (e.g. quizzes, exams, HSC results)

   xiv) Homework

   xv) Summary notes

Lesson sequencing

a) Think of sections of the HSC Economics course, such as ‘fiscal policy’ or the ‘balance of payments’. What is your process for design a sequence of lessons for a section of the course?
b) Let’s discuss some examples of how you deliver parts of the course. In detail, describe how you teach each of the following sections of the HSC Economics course. This could include lesson sequencing, modes of delivery, formative assessment, student activities and other strategies:
    i) HSC Topic Four - Monetary policy
    ii) HSC Topic Three - Unemployment
    iii) HSC Topic One - Trading blocs, monetary unions and free trade agreements

Structure of the course

a) In what order do you teach the topics of the HSC Economics course?
b) To what extent do you ensure students have mastered previous content before moving on to more difficult concepts or new content?
c) What assessments do you set in the Preliminary and HSC Economics courses?
d) What textbook(s) and/or reference materials do your students use in the HSC Economics course?
e) How do you align the HSC Economics course with the Year 9-10 Commerce course and the Preliminary Economics course?
f) How do you prepare students during the year for the HSC exam?
g) How do you prepare students in the build-up to the HSC exam?

Teacher Training

a) Think about your Economics Teaching Method courses at university.
b) What are the most effective lessons or strategies you learnt in that course that you continue to apply?
c) What do you do or know now that you would like to have been taught as part of the Economics Method course?
d) What would you like to learn now in professional development that you were not taught as part of your Economics teaching method?
e) How have you changed your delivery of the HSC Economics course based on your experience of what does and doesn’t work, in terms of
    i) Content
    ii) Assessment
    iii) Mode(s) of delivery
    iv) Student application and practice
f) What do you think are the most important tips and strategies for teachers to know when delivering the HSC Economics course?

Teaching resources

a) How useful do you find each of these types of resources (1 being not at all useful, 5 being very useful)? And what are the best examples of each of these types of resources that you use?
   i) Written explainers
   ii) Video explainers
   iii) Graphic organisers (e.g. diagrams and flow-charts of key concepts)
   iv) Economic data (e.g. graphs, easy-to-access ABS data)
   v) Updates for teachers on recent economic trends and policy changes
   vi) Student-led practice activities
   vii) Newspaper articles or online articles and other sources from economic institutions (like the RBA or Treasury)

b) What teaching resources (question sets, videos, explainers, websites, data etc.) do you use when delivering the HSC Economics course? And how do you incorporate them into the course?

c) What types of published or online teaching resources for HSC Economics do you find least useful?

d) Have you found that you have needed to develop teaching resources yourself due to an absence of quality resources available elsewhere? If so, what resources have you developed?

e) Consider teaching resources for student-led practice activities. Rate the following in terms of how useful they would be to you when delivering the HSC Economics course (1 being not at all useful, 5 very useful):
   i) HSC-style multiple choice questions
   ii) HSC-style short response questions
   iii) True / false, cloze passage and multiple-choice questions to identify common misconceptions
   iv) Worksheets/interactives for categorisation and application of core concepts (e.g. Which type of unemployment is this? Would this lead to a change in demand or supply for the AUD?)
   v) Scaffolded research tasks
   vi) Hypothetical scenarios and role-plays for group discussion
   vii) Games that illustrate economic concepts
   viii) Other (please specify)

f) Which parts of the Preliminary and HSC course do you think there is a shortage of quality available resources for? What would you like to see produced?

   Preliminary Economics:

   i) Topic One:

   ii) Topic Two:

   iii) Topic Three:

   iv) Topic Four:

   v) Topic Five:

   vi) Topic Six:

   HSC Economics:

   vii) Topic One:

   viii) Topic Two:

   ix) Topic Three:

   x) Topic Four:

g) To what extent do you agree with this statement: The government should provide suggested lesson plans and teaching resources for all parts of the Economics syllabus so that teachers have the option to use, customise or disregard them depending on their preferences and circumstances. (strongly agree / agree / neither agree nor disagree / disagree / strongly disagree)

h) Justify your response to the previous question.

Curriculum

NESA is currently conducting the NSW Curriculum Reforms and is due to release a new Economics curriculum in 2025.

a) On a scale of 1-5 (1 being ineffective, 5 being highly effective), how effective do you think the current Preliminary and HSC Economics syllabus is for developing students' deep understanding of economic concepts and issues?

b) Justify your response to the previous question.

c) What are the main strengths and weaknesses of the current HSC Economics syllabus?

d) How do you think the Senior Economics curriculum should be changed as part of the NSW Curriculum Reforms?

e) Do you think the Economics syllabus should be changed to make the course more accessible or more rigorous? More theoretical or more worldly? More mathematical or more political/philosophical? If so, in what ways?

f) To what extent do you agree with this statement: The current NSW Economics syllabus has too much content for teachers to develop students' deep understanding of the concepts in the course. (strongly agree / agree / neither agree nor disagree / disagree / strongly disagree)

g) To what extent do you agree with this statement: The NSW Economics syllabus and HSC places too much value on knowledge of statistics real-world government policies? (strongly agree / agree / neither agree nor disagree / disagree / strongly disagree)

h) Which content would you remove from the Preliminary Economics course to give more time for deep learning?

i) Which content would you remove from the HSC Economics course to give more time for deep learning?

j) What concepts do you think should be added to the Senior Economics curriculum?

k) How do you think the new Economics curriculum can be designed and rolled out in a way that ensures it is implemented effectively by all economics teachers in all schools?