

Premier’s Reserve Bank of Australia Economics Scholarship

Future-proofing Economics: Issues, remedies and redemption

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# Introduction

*“Don’t mourn. Teach and organize.”*

(Apple, 2013, p. 25)

This paper explores the shifting culture of education and through that lens investigates the dynamic and complex interplay among individual, relational and contextual conditions for secondary enrolments in Higher School Certificate (HSC)economics. With fewer students choosing to study HSC economics there is an impact on university enrolments in economics and most concerning, it limits diversified social debate (Dwyer, 2018). This paper writes beyond the boundaries of this reality, reviewing regional and international case studies that address some of the concerning deficits in curriculum, pedagogy and assessment practices in economics. It also highlights wider initiatives that may challenge the prevailing dynamic around economics courses in NSW schools. It recommends interventions that support classrooms where students, especially girls want to learn economics and can successfully do so.

### Signposts in the Literature

Informing the discussion is a close study of the literature which highlights principal drivers impacting economics. Four leading factors emerge:

* a reliance on neoclassical economics (Fischer, et al., 2018)
* the absence of role models (Stevenson, 2018)
* students unaware of the influence of economics (Aprea, 2015)
* didactic pedagogy (Gwartney & Schug, 2011).

Each has contributed to the decline in economics as a popular selection for the HSC and its ability to attract a wide cross section of candidates, including females.

Causal links are well established in the literature between curriculum, pedagogy and the exogenous influences on education such as globalisation (Bottery, 2011; Dale, 2010), neoliberalism (Connell, 2013; Welch, 2015) and standards accountability (Tuinamuana, 2011). This is all taking place in the context of the growing disconnect between mass education and negotiating learner and contextual diversity (Kalantzis & Cope, 2009) and within it, economics is in a feedback loop of decline and diminishing importance in NSW high schools.

Offered to 77, 795 students in 2017 (NSW Standards Education Authority, NESA 2017) the NSW HSC holds the esteemed position of the most popular exit credential among the states and territories and with its reliance on external standardised tests for university admission, it is ‘high stakes’. Its high stakes status encourages competition among individuals, families and institutions (Polesel, Dulfer, & Turnbull, 2012). Less than seven% of students studied economics in last year’s HSC with nearly twice as many boys as girls matriculating. Exhaustive studies have investigated links between curriculum and high stakes testing regimes (Au, 2007; Polesel, Rice, & Dulfer, 2014) as well as coursework (Fogarty, 1997) and more specifically its impact on economics (Chidiac, 2001; Conroy, 2012). It follows then, students will enrol in areas where they will most likely succeed. The drift to competing subjects, such as business studies, has intensified (Dwyer, 2018).

Within the domain of economics, Watts & Walstad (2011, p. 203) identify three key influences on students’ learning in economics:

1. the amount of time students spend on economics in their classes
2. teachers’ knowledge and training in economics
3. the use of instructional materials with good economics content and pedagogical methods that students and teachers find interesting and accessible.

These key influences are supported by deliberate studies in USA schools where economists have long debated the merits of teaching economics in schools, specifically the problems of “unlearning” misinformed economic concepts. Central in the debate is the idea that “changing people’s minds is much harder than filling an empty container with knowledge” (Roberts & McCloskey, 2012, p. 298). This is an enduring concept in the literature discussing the relative merits of a school based economics education (McCloskey, 2000).

A gap has emerged in the research looking at links between curriculum design and pedagogy in economics classrooms on students’ perceptions of economics and their confidence in pursuing it for further study. Using Watts and Walstad’s (2011) crucial influences on student learning in economics as a starting point, this research broadens the study to consider if the stage that students begin to learn about economics and how economics is presented can influence students’ perception of economics and teachers’ pedagogy in an Australian context. Aprea’s (2015) work is conclusive in recognising that student perceptions or informal conceptions of economics are “indispensable for supporting sustainable and meaningful learning” (p. 12) and will influence subsequent learning. The research presented in this report aims to contribute by exploring economics curriculum design and delivery in different jurisdictions and the students’ and teachers’ respective perceptions of economics and how this may influence students’ decisions to choose to study economics in their senior years. It then moves beyond the classroom dynamic to the wider contexts of institutions and societies to examine case studies impacting economics in this dialectic.

# Focus of Study

Multiple case studies inform this research with numerous sources and techniques used in gathering data to support internal validity. A case study approach was favoured for its flexibility and “capability of uncovering causal paths and mechanisms and interaction effects” (Demetriou, 2017, p. 125). The methodology used for the comparative analysis was an intuitive inquiry (Anderson & Braud, 2011), a hermeneutical process drawing on small-scale descriptive, relational and causal studies.

The starting point was the localised case studies of five ACT and NSW schools in the Canberra-Goulburn Archdiocese that privileged student voice. Taking place in November 2017, it was designed to investigate notional correlations between economics curriculum and pedagogy, its impact on students’ perceptions of economics and their confidence in pursuing the discipline for further study. One hundred and forty eight students from Years 7-12 participated in the survey after a 20-25 minute class discussion about economics and its relevance and the conceptions around studying economics in senior years. The Google form allowed students flexibility and spontaneity in contributing their responses as it was anonymous and could be accessed at any time. The schools were selected to include a range of learning environments and contexts to strengthen the validity of the evidence. Table 1 provides a summary of features regarding curriculum, gender and the focus of pedagogy reflected in school documents and culture. Restrictions exist on generalising the findings however, as the sample size is limited.

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| --- | --- | --- |
| **Curriculum** | **Gender composition** | **Pedagogy focus** |
| NESA | Coeducational | Teacher led |
| NESA | Coeducational | Teacher led/ integrated |
| AC Economics and Business | Coeducational | Inquiry based learning |
| AC Economics and Business | Coeducational | Integrated |
| AC Economics and Business | Girls | Teacher led |

Table 1: School Characteristics

The survey results informed a study tour through the USA, UK and Singapore, investigating aspects of economics curriculum, pedagogy and assessment structures in schools and universities using semi-structured interviews and lesson observations. The study tour was extensive, connecting with students and teachers at conferences, schools and professional associations across three continents. The findings supported step four of the intuitive inquiry to reinterpret the preliminary lenses through engagement with the data. The significant aspects for this report are summarised in Table 2.

|  |  |  |  |
| --- | --- | --- | --- |
| **Critical case study** | **Stakeholder perspective** | **Initiative** | **Research focus** |
| Singapore | Students | *Communities of Practice* using “Visible Learning” | AfL |
| UK | Teachers | *Innovation Networks* utilising research grants | Supporting economics teachers |
| USA | Professional Associations | *Support Networks* “Undergraduate Women in Economics” | Supporting female participation in economics |

Table 2: Significant International Case Studies

In determining and defining the research questions, a firm research focus was established. Working from the problem of declining economics enrolments, the research object was to seek remedies and interventions. The case studies in the regional and international tours provided wide ranging possibilities but the research questions intricately connect individual case studies and inform a hermeneutical dialogue.

The parameters of the case study were defined by these research questions:

1. What frames good economics pedagogy?
2. How can economics teachers develop Assessment for Learning (AfL) that engages, informs and enhances the learning process for female students in senior economics?
3. How can organisations and government institutions support economics teachers’ knowledge and training?
4. What models of advocacy for women in economics are working?

The research questions informed the survey and interview questions and provided opening points in the dialogue with students, teachers, school leaders and individuals working in institutions promoting educational opportunities in economics. Findings are reported addressing respective research questions using significant case studies.

# Significant Learning

### What frames good economics pedagogy?

Pedagogy encompasses everything a teacher does to influence the learning of students in a class. Expert or high impact teachers create an optimal classroom climate for learning by identifying the most important ways to teach their subject. Good pedagogy is common across disciplines: using intellectually challenging and relevant content in a supportive classroom environment that is learner-focused and assessment-rich (Hattie, 2012). This is where students learn.

Figure 1 is a Wordle using students’ comments from the survey to describe economics. “Money” stands out. It is a narrow perception of economics that dominates students’ opinions and does not reflect how economics is being taught but moreso the media’s packaging of economics. Roughly half of the students who were surveyed had not been in an economics classroom. To unlearn misconceptions, students need to be in economics classrooms.

Figure 1: Survey Comments Wordle

Watts & Walstad (2011) claim “as the amount of classroom time spent teaching economics increases, students learn more” (p.203). Moreover, they cite the gains are more evident in economics than core subjects such as mathematics, English or science.

In 2015 ACT schools introduced the Australian Curriculum (AC) Economics and Business (ACARA, 2015) in Years 7-10. NESA has retreated from the national dialogue surrounding the AC Economics and Business syllabus (ACARA, 2015) where NSW students have limited access to learning about economic concepts. Students can elect to study a 100 or 200 hour course in commerce in Year 9 and 10 which may introduce some economic concepts, but it is more likely a learning experience aimed at being a taster, enticing students to consider economics as part of their HSC package. It does not reflect deep learning over an extended time.

Besides time, other key factors that frame good economics pedagogy are teachers’ knowledge and training and what pedagogical methods are engaging students to learn. Closer analysis of the survey results reveals that most students who have a positive perception of economics aligned with a specific pedagogical method and teachers. Students who were considering economics as a senior subject could be considered to have had a positive experience with economics. Forty four percent of these respondents had experienced teaching and learning that explored pluralist or integrated perspectives, such as a feminist or institutional viewpoint, (Fischer, et al., 2018) informed by the AC Economics and Business curriculum (ACARA, 2015). These students were also more likely to describe economics as ‘interesting, interested, enjoyable’ and females made up over 50% of this subgrouping. Teachers and coordinators using the AC Economics and Business curriculum (ACARA, 2015) in an integrated approach were economics graduates and had subject specific knowledge. The research supports the finding that well qualified teachers can engage students by using contemporary case studies while supporting them to construct their knowledge of concepts. As expert teachers they were adept at integrating the subject matter using inquiry-based learning and instructional teaching.

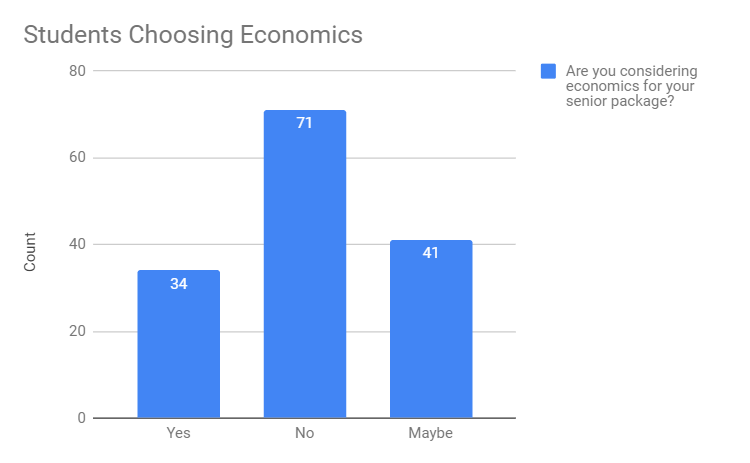


Figure 2: Students electing economics (NSW and ACT)

The following comment on successful economics programs was from a school leader and reflected other conversations with economics teachers in NSW, ACT and international schools,

*“This teacher had a strong grasp of the utility of economics beyond the classroom and it appeared this overarching emphasis was reflected in the design of the teaching and learning plan.”*

Students learn successfully in economics when they have the time and a knowledgeable teacher who uses interesting and accessible materials utilised in an integrated approach. This approach reflects the characteristics of an authentic and transformative pedagogical model (Kalantzis & Cope, 2009). The research results support the claim that these attributes clearly frame good economics pedagogy.

### How can economics teachers develop Assessment for Learning (AfL)?

“Assessment for learning (AfL) involves teachers using evidence about students' knowledge, understanding and skills to inform their teaching” (NESA, 2012). To improve learning using AfL, teachers need to make direct changes (Black & Wiliam, 1998) and this is the focus of the research into AfL: *How can economics teachers develop Assessment for Learning (AfL) that engages, informs and enhances the learning process for female students in senior economics?* The terms AfL and formative assessment are used interchangeably (William & Leahy, 2015).

Underpinning improvements in learning using AfL are three assumptions (Willis & Cowie, 2014):

1. learners know what they are learning
2. they know how well they are learning
3. they know how to improve their learning.

In supporting the discussion of AfL, Black and Wiliam (1998) also introduced the notion that “so‐called ability is a complex set of skills that can be learned” so that “all pupils can learn more effectively if one can clear away, … , the obstacles to learning” (p. 9). This is relevant for economics and particularly for girls as a ‘fixed mindset’ (Dweck, 2016) has settled around the subject. It is perceived as dry, elitist and difficult but using AfL strategies that privilege a ‘growth mindset’ (Dweck, 2016) this perception can be dispelled.

The Singapore case study revealed the explicit use of AfL strategies and offered some clear indications of how learning and informal conceptions in economics can benefit from using this approach. In Singapore I visited Hwa Chong and interviewed teachers there. Hwa Chong is a coeducational college with around 4000 enrolments, a thriving and successful economics faculty with teachers who emphasise an interactive approach that works from the premise that all students can achieve. No gender disparity in the student population is observable.

Teachers privilege critical thinking skills and use the tools of Visible Learning (Hattie, 2012). They share clear learning intentions and provide challenging success criteria. They use a range of learning strategies including collaborative games and scenarios as well as debates and thinking routines and provide targeted and specific feedback that move learners on. Teachers stress the importance of using feedback that encourages students to become autonomous learners who can self-regulate their own feedback. They use Hattie and Timperley’s (2007) model of feedback where teachers and students recognise *Where is the student going?, How are they going?* and *Where to next?* Central to their development of AfL strategies is the working of teachers together in a Professional Learning Community (PLC).

The economics faculty at Hwa Chong boasts healthy enrolments in economics and strong indicators of student engagement are apparent in lecture attendance numbers, online participation rates and extracurricular involvement of students in economics excursions and activities. The Hwa Chong’s Economics PLC drives quality AfL strategies which have improved learning and built resilient and authentic communities of practice.

### How can institutions support economics teachers?

False perceptions outside the classroom are discouraging students from pursuing a study in economics (Aprea, 2015). The focus question *“How can organisations and government institutions support economics teachers’ knowledge and training?”* led the study to explore examples where organisations and government institutions were supporting economics teachers and changing perceptions of economics in the wider community. The United Kingdom’s response to the Global Financial Crisis (GFC) sparked an inquiry into economic modelling and a renewed interest in alternative economic frameworks. The Economic and Social Research Council (ESRC, 2018) is the peak body for this inquiry and it offers substantial funding to research key economic and business issues.

Rebuilding Macroeconomics (NIESR, 2018), Rethinking Economics (2018) and Promoting Economic Pluralism (2018) have all benefitted from these funding initiatives. These organisations are broadening the dialogue around economics and creating a stronger awareness of how economic issues impact on everyday life. These organisations work through employer groups, student associations and university faculty members. They provide support for teachers and drive research into pluralist models exploring economics beyond curriculum restraints. Resources such as the “DIY Economics: New Toolkit to Boost Understanding of the Economy” (RSA Citizens' Economic Council, 2017) offer open source and accessible education materials that move away from neoclassical models and make students aware of the influence of economics in their daily life. The resources are not gender biased and being learner-centred, avoid didactic teaching. Rethinking Economics (2018) have released a report detailing what employers want from economics graduates and if the university cuuriculum is providing this (Yurko, 2018). Cultural change is critical and the diversity of the research comes from multiple perspectives repeated in multiple contexts from a broad cross section of society (Himmelweit, 2018).

The ESRC (2018) aims to “work to raise public awareness of social science and encourage involvement in research that will translate into benefits for society and individuals”. Its driving commitment has supported grass roots movements such as Rethinking Economics (2018) to enable “ordinary people to learn economics” (Chakrabortty, 2018). The UK government’s sustained commitment for supporting strategically important research collaborations moves beyond teachers and students and draws maximum benefits for economics education.

### What models are working?

In the regional and international case studies, the most striking model of advocacy for women in economics was the Undergraduate Women in Economics (UWE) program (The President and Fellows of Harvard College, 2018) in the United States. UWE funds undergraduate schools to use interventions that will attract more women to study economics. More than thirty schools across the USA are involved in implementing and evaluating a range of interventions to promote economics to women. The research asserts, “it appears that small interventions could have large effects” (Avilova & Goldin, 2018, p. 11).

UWE (2015) offer these three potential interventions:

1. *Better Information:* provide accurate information about the broader application of economics
2. *Mentoring and Role Models:* women are more sensitive about their grades than men and more likely to drop out. Creating supportive communities can help women overcome this crisis of confidence
3. *Content and Presentation Style:* on average, female undergraduates are less confident about their quantitative skills than men, even if they are equally able and prepared. Differentiating the subject matter using more evidence-based material helps overcome this.

These simple, uncomplicated and relatively inexpensive interventions allow organisations to contextualise for their own needs and offer launch points for addressing declining participation of women in economics.

### Discussion

In the survey students were invited to reflect on the relative importance of varying factors influencing subject selection in senior years at school where “1” represents little importance and “5” considers the influence extremely important. The averages for the 147 responses are available in Figure 3: Influences on Subject Selection.

Figure 3: Influences on Subject Selection

The leading influences for choosing a subject are *‘Personal interest’, ‘Interesting subject’* and *‘Career choices’* followed closely by *‘You enjoyed it in Years 7-10’*. Students will choose economics if they find it interesting, personally relevant and enjoyed studying it in the junior high school years. These are all subjective influences; however, the research findings offer some adaptive strategies to create learning environments in economics that are interesting and personally relevant. The limitation of the case study concerns the sampling which could be overcome with a more heterogeneous and larger sample but some clear recommendations for further research should address curriculum reform, communities of practice, innovation networks and interventions for women.

# Conclusion

Chaos and complexity theory have become part of the discourse around educational change. In education there are non-linear patterns of change and their unpredictability makes change difficult to quantify and evaluate. In formulating the following recommendations for further research, Hargreaves’ (2005) work provides insight. He suggests sustainable change comes from launching initiatives from different perspectives in multiple contexts. These recommendations work through policy and practice with teachers, school leaders, curriculum authorities and institutions, shown in Figure 4:

►Curriculum reform supported by ACARA and NESA;

►Developing communities of practice with teachers through a national hub;

►Implementing programs that support women in economics in undergraduate and senior school economics;

►Establishing an innovation network to explore economic modelling and education beyond pure and applied economics.

Figure 4: Recommendations for Further Research

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