The PISA Phenomenon: Analysis of its Ascendancy in Media, Policymaker and Academic Discourses in Education

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University of Sydney

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Statement of Authentication

This thesis is submitted to the University of Sydney in fulfilment of the requirement for the degree of Doctor of Philosophy. The work presented in this thesis is, to the best of my knowledge and belief, original except as acknowledged in the text. I hereby declare that I have not submitted this material, either in full or in part, for a degree at this or any other institution.

Signed:  Edward Rock Davis

Date: 28 February 2019
Abstract

Since its initiation in 2000, the OECD Programme for International Student Assessment known as PISA has generated considerable attention in the media and public discussions, becoming an important international educational phenomenon. Much of the initial research into PISA focused on the performance of successful nations, including Finland and certain Asian countries, and analysed why these nations outperformed other countries. Countries which participated in PISA also conducted research on their national results. Limited research has examined the discourses surrounding PISA and discourse has tended to be analysed only at the national level. Few studies have compared PISA related discourse internationally or from a longitudinal perspective.

This thesis used a range of methods to examine the discourses related to PISA over 15 years, at both an international comparative level, including Japan and South Korea with improving PISA performance and Finland and Australia with deteriorating PISA performance, and also at an Australian domestic level using both media discourse analyses and interview surveys of 30 education policymakers and academic researchers.

Media discourse analysis was used to consider orientations in educational discourse in three ways: first, by examining the role of PISA in cross-national policy attraction and borrowing; second, by considering international discourses of ‘competition’; and third, by analysis of the depth and orientation of PISA media discourse on Australian Indigenous PISA performance. To complement the media analysis, senior Australian education policymakers and academic researchers were interviewed on their perspectives on the impact of PISA on Australian educational policy and research from 2000 to 2015.

In relation to the international comparative discourse, the study showed a dominant discourse reflecting international attraction to Finnish educational culture which focuses on aspects of educational culture beyond what is measured in PISA. This discourse flourishes despite Finland’s strong but deteriorating performance in PISA. Analysis highlighted how some countries with improving performance (Japan and South Korea) had outward looking discourse with much cross-national attraction evident, while others with deteriorating performance (Australia and Finland) had a stronger inward, domestic focus. The competitive nature of PISA discourse led to analysis examining how this was reflected in different countries. Educational competitiveness and economic competitiveness are strong discourses in Japan and South Korea, while in Australia and Finland the focus is only on educational competitiveness, again reflecting the outward and inward looking trends.

In relation to Australia’s discourse on PISA, although the large gap between Indigenous and non-Indigenous performance is perhaps the most outstanding feature of Australia’s PISA data, the analysis showed bias with a continued lack of media reporting on this issue and commensurate dearth of research attention. Interview data highlighted mostly contrasting perspectives between Australian education
policymakers and academic researchers, although both suggested that the public and media discourses are largely superficial, with an unhelpful focus on rankings and unrealised aspirations toward Finland’s education and culture. Both groups reported PISA was highly influential in their work, but while academics reported PISA had directly impacted their research, policymakers reported PISA had not directly impacted policy. The lack of translation into policy in Australia is in contrast to research documenting PISA’s policy impact in other countries.

While constrained by a focus on media in English language newspapers and purposive sampling of experts, this study makes a contribution to our understanding of the way the media, policymaker and academic discourses have been impacted by PISA’s ascendancy, from both domestic and international standpoints. Future research is needed to further understand the inconsistent and paradoxical patterns in cross-national attraction between countries; the different national perspectives on education and how educational competition is positioned within them; and strategies to redress the noticeable neglect of Indigenous education in Australian education. Further research is also needed to strengthen understandings of policymakers’ and academics’ perspectives on how influential phenomenon like PISA contribute to the shaping of modern education. The extensive discourse surrounding PISA both reflects and attracts power and, as such, it deserves continued analysis, careful monitoring and both academic and public interrogation.
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Research articles

This thesis consists of five research articles as a body of research. The articles are supported with an introductory chapter and a concluding chapter.


Conference proceedings


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<td>American Psychological Association</td>
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<tr>
<td>ATAR</td>
<td>Australian Tertiary Admission Rank</td>
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<tr>
<td>CNA</td>
<td>Cross-national attraction</td>
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<tr>
<td>COAG</td>
<td>Council of Australian Governments</td>
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<tr>
<td>DET</td>
<td>Australian Government Department of Education and Training</td>
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<tr>
<td>GERM</td>
<td>Global Educational Reform Movement</td>
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<td>HREC</td>
<td>Human Research Ethics Committee, University of Sydney</td>
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<tr>
<td>JABS</td>
<td><em>Journal of Asia Business Studies</em></td>
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<tr>
<td>MCEETYA</td>
<td>Ministerial Council on Education, Employment, Training and Youth Affairs</td>
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<tr>
<td>NAPLAN</td>
<td>National Assessment Program – Literacy and Numeracy</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
</tr>
<tr>
<td>PCF</td>
<td>Participant Consent Form</td>
</tr>
<tr>
<td>PIRLS</td>
<td>Progress in International Reading Literacy Study</td>
</tr>
<tr>
<td>PIS</td>
<td>Participant Information Statement</td>
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<tr>
<td>PISA</td>
<td>Programme for International Student Assessment</td>
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<tr>
<td>RTP</td>
<td>Research Training Program</td>
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<tr>
<td>TIMSS</td>
<td>Trends in International Mathematics and Science Study</td>
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<tr>
<td>UK</td>
<td>United Kingdom</td>
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<tr>
<td>USA</td>
<td>United States of America</td>
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<td>WEF</td>
<td>World Economic Forum</td>
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List of Terms

The following terms and concepts are used in this thesis.

**ATAR:** The Australian entry score system, the Australian Tertiary Admissions Rank (ATAR), is used as the primary selection method for undergraduate places in Australian higher education institution programs. The ATAR is a measure of a student’s overall academic achievement in relation to that of other students. The ATAR provides a mechanism for a student to be compared with other students who have completed a different combination of subjects (Blyth, 2014). Higher educational institutions use this rank to help with undergraduate selection.

**Content analysis:** Content analysis is a research method used to determine the presence of specific words or concepts within texts. The analysis can use either inductive or deductive approaches, with both being performed in research in the thesis. An inductive approach allows research findings to emerge from the raw data, while a deductive approach identifies relevant terms and themes and then looks for them in the data.

**Cross-national attraction (CNA):** In comparative education, cross-national attraction involves one country’s observed attraction to individual or various features of educational policy in a foreign country. In this thesis cross-national attraction refers to the first stage of the policy borrowing cycle in Phillips and Ochs’ (2003) four-stage model of policy borrowing in education. This theoretical framework provides a unique examination of the stage of attraction within the PISA related media discourses of the four sample countries in this thesis.

**Factiva:** Factiva is a multidisciplinary full text database that allows researchers to electronically search for full text news and media transcripts from national and international media sources.

**Gonski Report:** The Gonski Report was an Australian Government Review of Funding for Schooling (Gonski et al., 2011). The report was the result of an attempt to establish a consistent set of principles and needs for the funding of Australian schools. The report identified several highly concerning trends in Australian students’ educational outcomes, and made a case for a radical restructuring of Australian school education funding and accountability across the federal framework (Keating & Klatt, 2013).

**Hell Chosun:** A satirical term describing the hellish societal conditions and inequality in South Korea.

**Indigenous Australians:** Include the Aboriginal and Torres Strait Islander peoples of Australia. In Australian schools, many Indigenous students experience poor
educational outcomes, with PISA data showing that on average these students were two and a half years behind non-Indigenous students.

**Interview survey strategy:** An interview survey strategy is a research method used in this thesis to explore the diversity of expert views on Australian educational policy and education research.

**Media bias:** Is defined as any form of preferential or unbalanced treatment by people in the mass media in the selection of events and stories that are reported and how they are covered (Lee, 2005, p. 45). Bias can occur in a number of ways including which stories are selected – *selection bias*, how much attention is given to a story – *coverage bias*, and how a story is reported – *statement bias*.

**NVivo:** NVivo is software that supports qualitative and mixed methods research by organising, analysing and finding insights into small or large volumes of unstructured data.

**Organisation for Economic Co-operation and Development (OECD):** The mission of the OECD is to promote policies that improve the economic and social well-being of people around the world, and provide a forum in which governments can work together to share experiences and seek solutions to common problems (OECD, 2018).

**Policy borrowing:** Policy borrowing is a selective, transnational process involving educational policy being borrowed from one educational system to another system.

**Programme for International Student Assessment (PISA):** PISA is a triennial international survey aimed at evaluating education systems worldwide by testing the skills and knowledge of 15-year-old students. Students are assessed in three major domains: scientific, mathematical, and reading literacy. The survey was first performed in 2000 with an emphasis on the domain of reading. In each cycle the domain in focus shifts, with reading in 2000 and 2009, mathematics in 2003 and 2012, and science in 2006 and 2015.

**Purposive sampling:** Purposive sampling is a non-probability sampling method where the researcher uses their own judgment when choosing individuals to participate in the study. It is often used when a diverse sample, or diverse opinion of experts, is necessary for the research.

**Semi-structured interview:** A semi-structured interview is a strategy where the researcher asks the interviewees a series of predetermined but open-ended questions, which have no fixed range of responses.

**Sentence-coding scheme:** A sentence-coding scheme was used to classify sentences within the newspaper articles that made positive, negative or neutral references to another country’s educational system.
**Socioeconomic status:** Socioeconomic status is a broad concept that refers to the social and economic position of an individual, or group of individuals, within society. A student’s socioeconomic background is based on information about the students’ home and background (OECD, 2016).

**Thematic analysis:** Thematic analysis is the process of identifying themes within qualitative data. This thesis uses research following Braun and Clarke’s (2006) six-step process for thematic analysis in social sciences: the researcher ‘familiarised’ themselves with the data; systematically coded the data to generate ‘general initial codes’; established ‘potential themes’ through the negotiation of similar and overlapping codes; reviewed the potential themes against the coded data; defined and named each theme to clearly outline the theme’s central concept; and lastly, reported the story the data tells across the themes.
Chapter 1: Introduction

Media scholars and the public are fascinated by issues associated with PISA. PISA is a triennial international survey that aims to evaluate education systems worldwide by testing the skills and knowledge of 15-year-old students nearing the end of their compulsory education (OECD, 2018). This thesis investigates media, policymaker and academic discourses related to PISA, at an international comparative level, and the Australian domestic level, using a number of different research methodologies. Examining each of the PISA related discourses from a critical perspective was important because the mainstream media’s role in reporting on PISA has been recognised in both academic and policy settings (Davis, Wilson & Dalton, 2018; Reid, 2017). For example, Figazzolo (2006) states that media “play an extremely significant role in policymaking: as such, they can shape and express public opinion and influence policymakers’ perception of the public will” (pp. 22–23). Importantly recent research has continued to identify the media’s powerful influence on the representation of PISA results (Baroutsis & Lingard, 2017; Waldow, Takayama & Sung, 2014; Yemini & Gordon, 2017) and the impact of PISA on education policy and policymaking processes (Adamson, Forestier, Morris & Han, 2017; Breakspear, 2014; Bulle, 2011; Grey & Morris, 2018).

However, despite an increase in PISA related research (Hopfenbeck et al., 2018) examining the media reporting on PISA and PISA’s impact on policy and academic discourses, only a small stream of research has provided a cross-national perspective to examine the PISA ascendancy across media, policymaker and academic discourses (Baird et al., 2016). Therefore this study conducted a structured inquiry with a mixed methods research design that provided different perspectives with which to understand the impact of PISA on these educational discourses from both a national and cross-national standpoint, and further interrogated the connections between them. The four sample countries were chosen as they have similar, above average, mean scores for each triennial survey, but show differing trends in PISA data: Japan and South Korea show improving scores and Australia and Finland show deteriorating scores based on the annualised change in each country’s early performance in the first full assessment of each knowledge domain in PISA (Davis, Wilson & Dalton, 2018, p. 4). Overall the study aims to provide understandings of the significant role media reporting on PISA has on educational policy and also differing perspectives from
Research questions

This thesis investigated discourses related to PISA between 2000 and 2015. In doing so the thesis addresses some of the gaps in the literature by focusing on each of the research questions which are then answered in five journal articles. These research questions are provided below.

Chapter 2: Another slice of PISA: an interrogation of cross-national attraction in Finland, Australia, Japan and South Korea

1. Within discourse that appears in the sample of newspaper articles, what findings and patterns can be identified that support (or not) an argument for educational cross-national attraction of one country towards the other three countries?
2. What findings and dimensions (‘positive’, ‘neutral’ or ‘negative’) are evident within all cross-national references in each sample country’s media discourse?
3. Within positive cross-national references, what are the various motivations evident that support an argument for cross-national attraction between countries?

Chapter 3: ‘Not so globalised’: contrasting media discourses on education and competitiveness in four countries

1. What is the media discourse on educational attainment surrounding PISA in Australia, Finland, Japan and South Korea?
2. How is competitiveness positioned within the discourse of educational attainment surrounding PISA?
3. What shifts in discourse on competitiveness are evident over time and in relation to declining or improving PISA scores?

Chapter 4: Media neglect of Indigenous performance in the Programme for International Student Assessment 2001–2015

1. What is the positioning of Indigenous education within Australia’s media discourse on PISA?
2. What theoretical insights can be used to help explain the findings related to the media attention given to Indigenous PISA performance?
Chapter 5: Education policymakers’ perspectives on Australian education challenges and PISA’s impact upon policy

1. How has the PISA reporting impacted on policy development in Australia?
2. What are the main challenges facing Australian education, and how PISA has impacted on these assessments?
3. What are the educational systems that were, and should have been, most influential in Australian education policy 2000–2015?
4. What are the personal responses of policymakers to a graphic of Australia’s declining PISA performance 2000–2015?

Chapter 6: Academics’ perspectives on PISA’s impact on Australian educational research and policy

1. How has PISA reporting impacted policy development and education research in Australia?
2. What are the main challenges facing Australian education, and how PISA has impacted these assessments?
3. What are the educational systems that were, and should have been, most influential in Australian education policy 2000–2015?
4. What are the personal responses to a graphic of Australia’s declining PISA performance 2000–2015?

Methodological discussion

The research presented in Chapters 2 and 3 used a mixed method design to conduct a content analysis of the media discourses surrounding PISA in four countries from 2001 to 2015. This research method was advantageous from a data retrieval perspective, as the media database Factiva provided easy access to readily available newspaper articles from both domestic and international media sources. Access to the rich data source enabled both time and cost-effective data collection. The method was beneficial in the coding phases of the research, as small errors when quantifying the manifest content could be easily rectified by simply recoding the necessary sections of the readily available newspaper texts. Finally, the use of both NVivo software and manual methods to code and identify relevant themes from the data helped to improve the overall reliability and validity of the results from the analysed media discourse.

The research presented in Chapter 4 used Braun and Clarke’s (2006) six-step
process for thematic analysis to explore media reporting of Indigenous students’ PISA results in two national and 11 metropolitan Australian newspapers. First, the thematic analysis provided a highly flexible and well-structured approach to effective inductive and deductive analysis of the 10 newspaper articles found. In particular, the method had an easy to follow framework, which was fundamental in exploring the discourse, working through the coding process and eventually identifying the key themes within the data set. Finally, committing to a rigorous thematic approach produced insightful results from the media discourse and contributed important answers to the two research questions.

The research presented in Chapters 5 and 6 used an interview survey strategy to gain the perspectives of Australian education policymakers and academic researchers on Australian education challenges and PISA’s impact on educational policy and research. The survey included both online and telephone interviews to suit busy participants and used a set of core questions, but also enabled a semi-structured approach, with probes being used to evoke further response when necessary.

The research demonstrated the value of using the interview survey strategy as a method to research the view of powerful individuals like academic researchers and education policymakers. Very often systems, such as the education system, assume cohesion between these education professionals and the decision makers, but this study maps out diversity in perspective. Although there was consensus on some issues, academic and policymaker perspectives contrast on many key points.

The advantages of using individual interviews were numerous. The method allowed for interviews to be conducted over the phone and by email response, which increased not only the convenience for the geographically dispersed and high profile participants (Oltmann, 2016), but helped assure higher levels of confidentiality and anonymity of the responses. This was an important assurance to give participants so that responses were less likely to be influenced by social desirability and professional desirability bias. The interview survey strategy was central to gaining responses that went beyond political and organisational rhetoric, and explored the experiences, perceptions and attitudes of the academic researchers and education policymakers. Phone interviews were chosen by 24 of the 30 time-poor participants. The email responses also gave six participants the opportunity to write their responses to the interview questions over a greater time span. While the participants were comfortable to respond by email and phone, the phone interviews proved to be more effective in gaining longer and more detailed responses from participants, which provided richer data to analyse and compare with other participant views. This research method
offered versatility, convenience and confidentiality that ultimately ensured the successful recruitment of 30 eligible participants, higher quality and in-depth response data, and remarkably frank answers to the interview questions.

**Significance of the research**

This research project is significant for a number of reasons. First, as noted above, the publication of PISA results has dominated media and public discussions around the world. When the 2000 results were released, German media illustrated a deep shock which contradicted the high international reputation it had held since the nineteenth century (Gruber, 2006, p. 196). Similarly, with the release of the 2012 scores, there was a media storm in England (Coughlan, 2013) and Spain (Mills, 2013) related to the country’s deteriorating rankings and results, while in East Asian countries such as Singapore (Sreedharan, 2013) and Shanghai (Brown, 2013) where rankings had improved, the media presented ‘feel good’ stories. More recently, many papers (Baird et al., 2016; Breakspear, 2012; Gillis, Polesel & Wu, 2016; Hopfenbeck et al., 2018) and books (Meyer & Benavot, 2013; Volante, 2017) have reviewed the PISA effect across the globe. Therefore the main significance of this research is that it addresses an important global educational phenomenon and its impact.

Second, while most studies have investigated PISA related discourses in individual countries, relatively few investigate the inherent differences between national contexts. Baird et al. (2016) were the first to note significant differences across countries. This study is one of the first to provide a longitudinal perspective to compare and contrast media discourses from four OECD countries with above average performance: Japan and South Korea with improving PISA performance, and Finland and Australia with deteriorating PISA performance. In conjunction with this international focus, the study’s domestic focus allowed for a much needed critical perspective on the depth and orientation of Australian media discourse on Indigenous PISA performance, which has clearly been neglected within the academic literature.

Third, the methodology used for this research strives for high levels of reliability and validity. Although in practical implementation of the approach there are a few minor caveats and limitations. The use of a novel mixed methods approach included secondary data analysis of print media (using both content and thematic analysis) and interview survey strategy. These contrasting approaches offset the limitations of each. The dual approach to media analysis, while limited to English language material, provides different perspectives and strong reliability on published
international discourse. The interviews provide more focused, but also thoughtful and comprehensive responses, to key questions around PISA in Australia.

Finally, this study addresses a significant policy issue that has had limited research, especially in an Australian context. The diversity of perspectives has the potential to help inform stakeholders involved in Australia’s educational policymaking processes of the main challenges facing Australian education, the systems that should be influential in education policy, and how data from PISA could best be used in future education policymaking processes.

As noted above, media, scholars and the public are fascinated by issues associated with PISA. However, due to the contemporary nature of the PISA phenomenon there are large gaps in the academic research. This study systematically examines and reviews the media, policymaker and academic discourses related to PISA and interrogates the connections between them.

**Ethical considerations**

There are ethical considerations for participants in the interviews. This research project was approved by the University of Sydney Human Research Ethics Committee (Appendix 2 Ethics approval statement). First, participants invited to join this project were sent an email that included both a Participant Information Statement for informed participation and consent (Appendix 3 Participant Information Statement) and a recruitment email, which provided an overview of the research project, the interview schedule and interview questions (Appendix 4 Recruitment email). Due to the highly demanding work schedule of the professional participants and to reduce complication, the Participant Consent Form was replaced with an alternative form of consent. By completing the seven short-response questions listed in the recruitment email and giving consent, either by return email (Appendix 5 Example of interview response answered by email) or in a recorded phone interview (Appendix 6 Example of interview response transcribed after phone interview), participants gave permission and consent for the information to be used as data for the research project. Second, confidentiality and anonymity of participants were ensured to protect their privacy. An interview pseudonym was assigned to each participant and data kept anonymous and secure. In reporting the interview findings, efforts were made to ensure that anonymity was maintained, thus details of the positions held by respondents, and their gender and age, were dealt with cautiously and in some cases omitted from the analysis to protect participants.
Limitations

Due to the diverse nature of the research, the limitations need to be considered according to the methods used for each of the individual research studies.

A limitation of the media analysis research in Chapters 2 and 3, which is based on comparative analyses, is related to the use of domestic English language newspapers instead of native language newspapers from Finland, Japan and South Korea. Another limitation is that the influence of corporate or political interests among media publishers was not taken into consideration. From the Australian media sample *The Daily Telegraph* and *The Herald Sun* are both mainstream newspapers owned by the News Corporation, which is considered to hold a more conservative political agenda in the press (McKnight, 2010). In Japan *The Japan News* publishes original and translated articles from *The Yomiuri Shimbun*, which is regarded as a right-wing newspaper (Nakano, 2016). *The Japan Times* however relies on original and translated articles from various Japanese news sources. In Korea *The Korea Herald* provides news that is translated and draws articles from international news agencies, while *The Korea Times* published articles from *The Hankook Ilbo*, which has been recognised as a neutral news outlet, somewhere between liberal and conservative bias (Moon & Shim, 2010). In Finland *The Finland Times* published original and translated articles from Finnish news sources, holding no clear political agenda. *The Helsinki Times* publishes original and translated articles from *The Helsingin Sanomat*, which usually represents more liberal values (Herkman, 2016).

The research on education policymaker and academic researchers’ views in Chapters 5 and 6 used purposive sampling to select potential participants for the interview stage of the research. Possible limitations of this sampling method include the lack of face-to-face contact with participants, the unknown unrepresentative nature of the sample, and the unknown generalisability of the various findings. A larger, probabilistic sample of respondents would provide validation of the study, however the difficulties of ensuring participation from busy experts, who often hold high profile, powerful positions, are well-recognised.

Journal article publications

This thesis presents a body of research, five journal article publications, that investigated PISA related discourse over 15 years, at both an international comparative level, including Japan and South Korea with improving PISA
performance and Finland and Australia with deteriorating performance, and also at an Australian domestic level, using both media discourse analyses and interviews of education policymakers and academic researchers. The study undertook a series of analyses of media and interview data that were published (or under review for publication) in a range of journals spanning international and comparative education; business studies (with an interest in educational competitiveness); Indigenous education and policy studies. Thus the thesis is somewhat interdisciplinary.

The first journal article presented in Chapter 2 analyses the educational media discourse surrounding the OECD PISA from a cross-national standpoint in four countries: Australia, Finland, Japan and South Korea. Following this journal article, Chapter 3 presents the second journal article that identified a second gap in the media literature related to contrasting discourses on education and competitiveness from the four countries. The article provides longitudinal perspectives to understand the contrasting societal values placed on education and how these relate to perspectives on competitiveness. This media evidence on national discourses can inform education policy orientations in the four countries examined.

While continuing the focus on media discourse, the third journal article in Chapter 4 builds on the previous publications in focusing on discourse framing Australian Indigenous performance in the PISA by investigating the attention it received in Australian academia and mainstream media between 2001-2015. The main driver behind this article is that there has been declining Australian PISA results, and very little academic, empirical attention on Indigenous performance in the PISA.

The fourth journal article presented in Chapter 5 maintains a national focus, exploring Australian education policymakers’ perspectives on Australian education challenges and PISA’s impact on policy. This article links to previous publications that had shown the PISA featured significantly in the media and public discourse and had direct and research-documented impact on policy across a multitude of countries. This study addresses a significant policy issue that has had limited research, especially in an Australian context.

Finally, the fifth journal article in Chapter 6 focuses on the perspectives of Australian academic researchers over the impact of PISA on Australian educational research and policy since PISA’s introduction in 2000. The previous publications showed that the PISA has featured prominently in the Australian media, however there has been no clear, direct focus on PISA in Australian academic literature. This article provides a focus on the academic perspectives, as well as comparisons with policymaker perspectives in Chapter 5.
Structure of thesis

The thesis has seven chapters. Chapter 1 is an introduction to the research topic and its overall significance, with explanations of ethical considerations, the structure of the thesis and potential limitations.

Chapters 2 to 6 are five research articles presented in sequential order of publication and can be read as standalone articles. The articles are presented in their published journal format, and hence the structure of each article varies and is dependent on the requirements of each of the journals.

Chapter 7 is a short conclusion, which highlights significant findings from the body of research, followed by a discussion of the advantages and disadvantages of the methods used, theoretical contributions, policy and media implications, and directions for future research.

The references for each of the five articles, and the thesis as a whole, are conveniently displayed in chronological order and APA format. The appendices include all relevant human ethics forms and examples of interview responses.
Chapter 2: Another slice of PISA:
An interrogation of educational cross-national attraction in Finland, Australia, Japan and South Korea

The article in this chapter has been published as:

A high quality, online version of the article is available at: https://www.tandfonline.com/doi/full/10.1080/03057925.2018.1510305.

Author contribution statement
I planned and wrote this article under supervision of Dr Rachel Wilson. Joint discussions with Dr Bronwen Dalton provided shared contributions. I completed the research design, planning, implementation and analysis independently.

Compare: A Journal of Comparative and International Education
The article in Chapter 3 is published in this scholarly journal because Compare publishes research that includes a comparative dimension, and seeks analyses of educational discourse, which was the focus of this article. The journal also has a high Journal Impact Factor of 1.828 and ranks 69/238 for education and educational research journals.
Another slice of PISA: an interrogation of educational cross-national attraction in Australia, Finland, Japan and South Korea

Edward Rock Davis, Rachel Wilson & Bronwen Dalton

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Another slice of PISA: an interrogation of educational cross-national attraction in Australia, Finland, Japan and South Korea

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Abstract

Cross-national attraction is the first stage in international policy borrowing and analysis of its indicators provides insight into shifts in educational policies. We analyse cross-national attraction within the media discourse on the OECD’s PISA in four countries: Australia, Finland, Japan and South Korea. Using the largest circulation English language newspapers in each of these countries (2001–2015), we analyse references to the other three countries, then expand the focus to tally all international references and map emerging patterns. Finland is the predominantly referenced country, with media attention that eclipses all other countries. The attraction to Finnish educational culture is focused on aspects beyond what is measured in PISA; and flourishes despite Finnish performance in PISA, which although strong is deteriorating. Although limited to English language media, this study finds complex, sometimes inconsistent and paradoxical, patterns of cross-national attraction that deserve further research.

Introduction

The paper analyses the media discourse reporting on PISA using content analysis and sentence-coding scheme. The PISA is an international assessment providing comparative data on the educational performance of 15-year-old students in reading, mathematics and science literacy every three years (OECD 2018). The PISA has prompted discussions on education in government and public spheres, primarily because it has become the ‘gold-standard instrument for evaluating the performance of education systems globally’ (Breakspear 2014, 4). As a consequence, PISA results from different countries are being compared to ascertain what makes certain education systems so successful (Chung 2010, 267). This PISA media discourse plays an integral and omnipresent role in shaping a country’s ‘context of attraction’ in which education policies are developed, and is an important element that has received little attention in the academic literature. To inform current educational debates on the influence of PISA, and international policy borrowing more generally, this study examines indicators of cross-national attraction evident in newspaper discourse on PISA in four countries:
Australia and Finland as countries with deteriorating PISA scores; and Japan and South Korea as countries with improving PISA scores. The improving and deteriorating scores are based on the annualised change in each country’s performance in the first full assessment of each knowledge domain in PISA; focusing on mathematics literacy in 2003 (see Figure 1), and both reading and science literacy in 2000 and 2006 (see Appendix 1 and 2).

Policy borrowing is a deliberate, purposive phenomenon in comparative educational inquiry that has been around for more than a century (Phillips 2009, 1061). In 1817 Marc-Antoine Jullien created a questionnaire to identify good educational practice and to aid its transfer to other educational systems (Phillips 1989, 267), and subsequently sparked an interest in educational policy borrowing that continues today.

Results of international student achievement tests have generated heated global debate, resulting in a renewed interest in education policy borrowing and processes. Using PISA results, many countries have begun to examine foreign education systems in order to improve their own and/or warn against change (Chung 2009, 33; Sellar, Thompson, and Rutkowski 2017). To further understand the dynamics and motivations behind this cross-national interest in education, this study addresses the following questions:

![Figure 1. Relationship between annualised change in performance and average PISA 2003 mathematics scores (OECD 2014, 58).](image-url)
Within discourse that appears in a sample of newspaper articles, what findings and patterns can be identified that support (or not) an argument for educational cross-national attraction of one country towards the other three countries? What findings and dimensions (‘positive’, ‘neutral’ or ‘negative’) are evident within all cross-national references in each sample country’s media discourse? Within positive cross-national references, what are the various motivations evident that support an argument for cross-national attraction between countries?

Policy borrowing and cross-national attraction

Comparative research into cross-national policy attraction has become a focus of scholarly literature in the past decade (see, for example, Ochs and Phillips 2002; Phillips 2006; Rappleye 2007; Shibata 2006; Steiner-Khamsi 2014). Various authors attribute this rise in prominence to the widely publicised PISA results in many countries (Takayama, Waldow, and Sung 2013, 309). For example, Martens and Niemann’s (2010) analysis of newspapers showed that between December 2001 and November 2008, PISA results featured in over 250 media articles in one German national high-quality daily newspaper (4).

The public and scholarly interest in the PISA results has shaped debate around education systems and focused attention on the systems in jurisdictions that rate highly such as Finland (Chung 2015; Reinikainen 2012), Shanghai (Sellar and Lingard 2013; Tan 2013) and Singapore (Deng and Gopinathan 2016). Despite this growing interest in comparative educational research, key questions remain such as ‘how and why attraction arises, how it enters educational reform discourses, and what effects it actually has on policy change’ (Rappleye 2012, 122).

Phillips (2004) examined the reasons for Britain’s cross-national attraction towards the German educational system during the nineteenth century, finding that Germany’s system served a ‘multiplicity of purposes’ in informing British government officials and scholars (Phillips 2004, 64). More recently Takayama, Waldow and Sung (2013) discourse analysis of media articles referring to ‘Finnish education’ in Australia, Germany and South Korea showed that Finnish education and its PISA success had been accentuated throughout each nation’s media discourse on educational policy. However this cross-national influence was likely to remain at a discourse level, and would not necessarily alter pre-existing communicative networks that govern how schools should be organised, administered and funded in those nations (320). Other theoretical perspectives have developed in the education policy borrowing literature concerning the process through which education systems identify practices from high performing education systems in order to achieve ‘world class’ schooling (Bulle 2011; Grek 2009; Ozga 2009; You and Morris 2016). These examples suggest the extremely diverse range of motivations for one country to seek inspiration from the educational system of another (Steiner-Khamsi 2014, 157).

This study adopts the first stage of cross-national attraction in Phillips and Ochs’ (2003) four-stage model of policy borrowing in education as a theoretical framework, and uses content analysis and a sentence-coding scheme to explore and reflect on the cross-national
references communicated throughout the media discourse. A large body of research has shown that the media undoubtedly plays a critical function in the policy-borrowing process, by informing and influencing educational policymakers, government politicians and public opinion (Blackmore and Thorpe 2003; Franklin 2004; Grey and Morris 2018; Levin 2004; Lingard 2016; Lingard and Rawolle 2004; McCombs 2004; Rawolle 2005; Rawolle and Lingard 2014; Stack 2006). As highlighted by Wallace (1993), the media play an exploitative role in the highly politicised educational policy process 'through the articulation of particular myths, and by bringing opposing myths into derision'. The articulation of myths is evident in reporting that exploits PISA grading to create public outcry and highlight the need for educational reform (Yemini and Gordon 2017, 264). This is argued most clearly by Rawolle (2010) who proposes:

The increasing use of media to stage or portray crises in education (for example, around international performance tests, such as PISA, or failing students) and to promote the need for specific policies (such as boys’ education, anti-bullying or ADHD) highlights the steering that media involvement can have on national policies and reform efforts.

The international media’s powerful role in both educational and policy settings cannot be ignored or denied. Between 2015 and 2017 there has been an increase in articles on PISA performance and its coverage within the media discourses internationally. Some articles have taken a comparative approach between cross-national media discourses, including England and Norway (Hopfenbeck and Gorgen 2017) and Australia, Germany and South Korea (Waldow, Takayama, and Sung 2014), while others have focused on an individual country’s media discourse, including Australia (Baroutsis and Lingard 2017), Spain (Gonzalez-Mayorga, Vidal, and Viera 2017), Greece (Tsakiris and Nikita 2017), the USA (Saraisky 2016) and Shanghai (Huang and Placier 2016).

This paper extends the existing research literature by comparing the PISA media discourses of four high-performing countries: two with deteriorating PISA performance scores (Australia and Finland) and two with improving PISA performance scores (Japan and South Korea). Second, the paper uses the first stage of cross-national attraction in Phillips and Ochs (2003) four-stage model of policy borrowing in education as a theoretical framework, providing a unique examination of the stage of attraction within the PISA related media discourses of these four countries.

**Methodology**

This study uses content analysis and a sentence-coding scheme (see Braun and Clarke 2006) to deconstruct the media discourse reporting on PISA in four sample countries. The four countries have similar mean scores above OECD averages for each triennial survey, but show differing trends in PISA data: Japan and South Korea show improving scores and Australia and Finland show deteriorating scores based on the annualised change in each country’s early performance in the first full assessment of each knowledge domain in PISA – reading literacy in 2000, mathematics literacy in 2003 and scientific literacy in 2006.

Drawing on articles from the two largest circulating English language newspapers of each sample country, we map the cross-national references made within the discourse between the four countries and provide a narrative account of each country’s perception of the other
countries’ education systems. We then expand the focus and tally the frequency of all individual references made towards other countries internationally in the newspaper samples. The references are evaluated in terms of their positive, neutral or negative stance, and mapped to illustrate patterns of positively referenced foreign education systems in the media discourse. While there has been a significant amount of research on cross-national policy attraction (Ochs and Phillips 2002; Phillips and Ochs 2003; Rappleye 2007; Steiner-Khamsi 2014), very few studies examine cross-national attraction from a PISA and media content analysis perspective.

We focus on the first stage of cross-national attraction (Figure 2) in Phillips and Ochs (2003) four-stage model of policy borrowing in education. This requires that the comparative analysis of each country’s educational newspaper discourse ‘does not appear to be a general and unfocused interest in education’ (329). This comparative analysis is achieved through exploring and analysing the specific processes, perceptions and motivations of attraction identified in each country’s sample discourse.

Stage 1 has two segments: ‘Impulses’ and ‘Externalising Potential’. Impulses are a stimulus or catalyst that spark off the foci of attraction that might eventually result in policy borrowing (Phillips 2004, 54). The foci of attraction represent ‘externalising potential’ – that is, ‘elements of the foreign system that are theoretically “borrowable”, with their “internalising” potential then depending on the contextual receptability of the “borrower” country’ (57). Impulses and

![Figure 2. Policy borrowing in education: composite processes (Phillips and Ochs 2003).](image-url)
externalising potential have a cyclical relationship that is comparable to the phases of policy borrowing as a whole. This means that the motivations for cross-national attraction can happen at any time (Ochs and Phillips 2002, 330).

Adding further to the complexity of this early stage, the six foci of attraction are also affected by the ever changing and complex interplay between the elements of context (see Appendix 3). These elements of context must be examined simultaneously with the foci of attraction, as they are also pieces of the cross-national puzzle that shape educational media discourse. We recognise that the listed elements of context are ‘not comprehensive, nor specific, but intended as a framework to assist qualitative cross-national comparison’ (Ochs and Phillips 2002, 16). We further recognise that within the policy-borrowing model, the stage of attraction does not take into account how various factors may interact and mutually influence one another (see Phillips 2015, 141; Rappleye 2007, 20–21; Steiner-Khamsi and Stolpe 2006, 200). Therefore the hidden motivations for attraction that lie outside the model are beyond the scope of this research: however they should be kept in mind, as scholarly research continues to show that cross-national attraction is not a straightforward and consensual phenomenon, often operating on many indirect and hidden levels. An ongoing examination of various sources can help understand the complexities of context, interpretation and the influence they have on cross-national attraction in education policy.

**Sampling and data collection**

The study sample consists of two countries that have improving scores in PISA and two countries with deteriorating scores based on the country’s performance in the first full assessment of each knowledge domain in PISA. To ensure comparability, the sample countries also had similar mean scores that were above OECD averages and data for each triennial survey. Below-average performers tend to show wide variation and are less relevant for comparison with the researchers’ home country, Australia. On the basis of these criteria the countries selected were Japan and South Korea, as countries with improving scores, and Australia and Finland, as countries with deteriorating scores.

Two newspapers were selected from each of the sample countries based on the following criteria: (1) English language; (2) largest print circulation; and (3) in non-English speaking countries, English translations of domestic news. Limiting the data to English language was necessary for direct comparability and because analysis in different languages, even with translation, is logistically difficult. We chose English language newspapers with the largest print circulation to provide optimal representation of the media discourse in each country. The two largest circulating English language newspapers in each country were based on the most recent print circulation statistics provided by each sample country’s national media auditing authority (see Appendix 4). The English language newspapers in Finland are stand-alone online publications, while the sample Australian, Japanese and South Korean newspapers publish both online and print versions of their serials. The influence of corporate and political interests among media publishing organisations is acknowledged; however, the study focused on the print media discourse most prevalently consumed in each country. The political orientations of the newspapers are secondary to this aim and are not considered in sampling or analysis. The sample countries and the newspapers meeting the criteria are shown in Table 1.
In Finland The Helsinki Times publishes original and translated articles from The Helsingin Sanomat, while The Finland Times publishes original and translated articles from Finnish news sources. In Japan The Japan News publishes original and translated articles from The Yomiuri Shimbun, as well as feature articles from their allied foreign newspapers. The Japan Times relies on original and translated articles from Japanese news sources. In Korea The Korea Herald provides news that is translated and draws articles from international news agencies, while The Korea Times publishes original and translated news articles from The Hankook Ilbo. As such, the English language newspapers are representative of the domestic media discourse in each country for two reasons: the newspapers feature original and translated articles that target both domestic and foreign readers; and the editorial staff includes domestic and international writers and editors.

Newspaper article data was retrieved using the media database Factiva, through keyword searches for ‘PISA’ in the selected newspapers for each sample country between 2001 and 2015.

**Table 1. Four sample countries and newspapers.**

<table>
<thead>
<tr>
<th>Country</th>
<th>PISA performance scores</th>
<th>Newspapers</th>
<th>Total articles*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Deteriorating</td>
<td>1. The Daily Telegraph</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. The Herald Sun</td>
<td></td>
</tr>
<tr>
<td>Finland</td>
<td>Deteriorating</td>
<td>1. Finland Times</td>
<td>58**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Helsinki Times</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>Improving</td>
<td>1. The Japan Times</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. The Japan News</td>
<td></td>
</tr>
<tr>
<td>South Korea</td>
<td>Improving</td>
<td>1. The Korea Times</td>
<td>107</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. The Korea Herald</td>
<td></td>
</tr>
</tbody>
</table>

*Variations in the number of articles are explained in Davis and Wilson In press.
**Finnish articles were only available in English for the period 2007 to 2015.

In Finland The Helsinki Times publishes original and translated articles from The Helsingin Sanomat, while The Finland Times publishes original and translated articles from Finnish news sources. In Japan The Japan News publishes original and translated articles from The Yomiuri Shimbun, as well as feature articles from their allied foreign newspapers. The Japan Times relies on original and translated articles from Japanese news sources. In Korea The Korea Herald provides news that is translated and draws articles from international news agencies, while The Korea Times publishes original and translated news articles from The Hankook Ilbo. As such, the English language newspapers are representative of the domestic media discourse in each country for two reasons: the newspapers feature original and translated articles that target both domestic and foreign readers; and the editorial staff includes domestic and international writers and editors.

Newspaper article data was retrieved using the media database Factiva, through keyword searches for ‘PISA’ in the selected newspapers for each sample country between 2001 and 2015.

**Content analysis**

Content analysis is a non-intrusive research method to analyse media data and interpret its meaning (Blair, Zimny-Schmitt, and Rudd 2017; Cui and Liu 2017; Kroon et al. 2018; Shoaf Foster and Parsons 2016) and represents a systematic and objective means of describing and quantifying specific phenomena (Downe-Wambolt 1992; Schreier 2012). This study uses content analysis to investigate and compare the various processes, perceptions and motivations for a cross-national attraction within the news media content of four sample countries between 2001 to 2015. First, references in the media of each country to the other three countries were analysed; and, second, the focus was expanded to tally and evaluate all international references in the entire sample. The findings are presented in Tables 2 and 3, and illustrated in Figures 3 and 4.

Content analysis, with a sentence-coding scheme, was used to analyse media discourse reporting on PISA in two ways. Firstly, the total number of cross-national references to individual countries within the newspaper articles was searched using the Word editing tab ‘find’. Specific reference to the country, its short form and stemmed words were included in cross-national reference search. This is extremely important as reference to countries, such as the United States of America, for example, could also be termed as the ‘U.S.A.’, ‘U.S.’ ‘America’ etc. The search list of all countries
and economies was limited to both OECD members and non-members who have participated in at least one PISA examination since 2000. Countries such as the People’s Republic of China, who have jurisdictions such as Shanghai or Hong Kong participating in PISA, were also searched for independently. Only references to foreign countries were counted and coded in this analysis. Self-references (i.e. references to the

Table 2. Total number of coded cross-national references for each sample country.

<table>
<thead>
<tr>
<th>Country</th>
<th>Australia</th>
<th>Finland</th>
<th>Japan</th>
<th>South Korea</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Finland</td>
<td>41</td>
<td>1. Singapore = 31</td>
<td>1. Finland = 164</td>
<td>1. USA = 144</td>
</tr>
<tr>
<td>Positive</td>
<td>27</td>
<td>11</td>
<td>68</td>
<td>14</td>
</tr>
<tr>
<td>Neutral</td>
<td>12</td>
<td>18</td>
<td>91</td>
<td>93</td>
</tr>
<tr>
<td>Negative</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>37</td>
</tr>
<tr>
<td>2. Singapore</td>
<td>26</td>
<td>2. South Korea = 21</td>
<td>2. USA = 96</td>
<td>2. Finland = 118</td>
</tr>
<tr>
<td>Positive</td>
<td>17</td>
<td>15</td>
<td>9</td>
<td>58</td>
</tr>
<tr>
<td>Neutral</td>
<td>6</td>
<td>1</td>
<td>59</td>
<td>58</td>
</tr>
<tr>
<td>Negative</td>
<td>3</td>
<td>5</td>
<td>28</td>
<td>2</td>
</tr>
<tr>
<td>Positive</td>
<td>12</td>
<td>9</td>
<td>22</td>
<td>29</td>
</tr>
<tr>
<td>Neutral</td>
<td>7</td>
<td>5</td>
<td>22</td>
<td>71</td>
</tr>
<tr>
<td>Negative</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Positive</td>
<td>16</td>
<td>3</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>Neutral</td>
<td>6</td>
<td>9</td>
<td>19</td>
<td>42</td>
</tr>
<tr>
<td>Negative</td>
<td>1</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>5. Hong Kong</td>
<td>21</td>
<td>5. Shanghai = 16</td>
<td>5. Hong Kong = 18</td>
<td>5. Australia = 66</td>
</tr>
<tr>
<td>Positive</td>
<td>16</td>
<td>8</td>
<td>13</td>
<td>20</td>
</tr>
<tr>
<td>Neutral</td>
<td>3</td>
<td>8</td>
<td>4</td>
<td>34</td>
</tr>
<tr>
<td>Negative</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Positive</td>
<td>5</td>
<td>4</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>Neutral</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>24</td>
</tr>
<tr>
<td>Negative</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 3. Positive references to Finnish education.

<table>
<thead>
<tr>
<th>Country</th>
<th>Media quotations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>1. ‘Finland consistently ranks first in the world in the Program for International Student Assessment undertaken by the OECD.’ (The Daily Telegraph, January 15, Clennell 2014)</td>
</tr>
<tr>
<td></td>
<td>2. ‘Unlike Finland, where all schools get about the same outcomes, Australia has winners and losers in school funding and results.’ (The Daily Telegraph, November 29, Parker 2012)</td>
</tr>
<tr>
<td></td>
<td>3. ‘Finnish teachers are better paid and more valued by their communities than Australian teachers.’ (Herald Sun, November 4, Clark 2008)</td>
</tr>
<tr>
<td>Japan</td>
<td>1. ‘Ever since students in Finland emerged as top performers in the PISA, many teachers and policymakers in Japan have turned to (Finland) … for insights into its educational culture.’ (The Japan Times, May 6, Otake 2013)</td>
</tr>
<tr>
<td></td>
<td>2. ‘The Finnish way aims at helping all students, including those in special needs classes, develop their scholastic abilities in small-group instruction, rather than focusing on pulling up a limited number of the brightest students.’ (The Japan News, February 14, Honma 2008)</td>
</tr>
<tr>
<td></td>
<td>3. ‘The PISA results show that Finland has fewer class hours than Japan, and is in the top group overall . . . we need to rethink Japan’s teaching methods, materials and class sizes.’ (The Japan Times, December 18, 2007)</td>
</tr>
<tr>
<td>South Korea</td>
<td>1. ‘The strength of Finnish education is that everyone gets to start from the same playing field . . . Teachers enjoy much autonomy to push each student forward.’ (The Korea Herald, November 24, Lee 2014)</td>
</tr>
<tr>
<td></td>
<td>2. ‘Korean students and Finnish students go neck to neck in terms of PISA rankings but our students seem to be at the bottom in terms of happiness and self-motivation.’ (The Korea Times, March 21, Yun 2012)</td>
</tr>
<tr>
<td></td>
<td>3. ‘Competition and comparison is too deeply rooted in our society. We think stimulation is the key to effective learning. We need to be free from this prejudice and listen to Finland’s example.’ (The Korea Times, March 21, Yun 2012)</td>
</tr>
</tbody>
</table>
Figure 3. Cross-national references in media between 2001 to 2015.

Figure 4. Sample countries and their cross-national attraction based on positive references in the media.
country of the articles’ origin) were not included. For example, if the Australian media made a positive reference to Australian teaching excellence, it was not included in the analysis count.

Secondly, a sentence-coding scheme was used to classify sentences within the articles that made either positive or negative or affectively neutral references to another country’s educational system. The entire sentence was the unit for this analysis, not a paragraph or whole article text (Braun and Clarke 2006). This process of coding each sentence into positive, negative or neutral allowed the careful interpretation of the text into valid, defined units of analysis. For example, a sentence that implies that a country has poor educational standards would be counted as a ‘negative reference’, whereas a mention of its excellent teacher training would be coded as a ‘positive reference’ and a reference to students participating in foreign language classes would be coded as a ‘neutral reference’. Each of the three categories was defined to ensure that each coding unit can be assigned to one and only one category. These defined, mutually exclusive, sentence categories are shown in Table 4.

<table>
<thead>
<tr>
<th>Category</th>
<th>Definition</th>
<th>Media example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>Marked by or indicating acceptance, approval, affirmation or superiority of a country, or its education system.</td>
<td>‘By motivating its teachers well, Finland has turned itself into a major educational power.’ (The Japan News, February 14, Honma 2008)</td>
</tr>
<tr>
<td>Neutral</td>
<td>Not engaged on either side; specifically not aligned with positive or negative outlook towards a country or its education system.</td>
<td>‘Historically, the Japanese colonial occupation and the devastating Korean War resulted in a relative equal distribution of income and fluid social mobility due to the breakdown of the existing social order in which education was a powerful tool for self-improvement.’ (The Korea Times, July 2, Kim 2010)</td>
</tr>
<tr>
<td>Negative</td>
<td>Marked by denial, refusal or inferiority of a country or its education system.</td>
<td>‘They [Finland] came close to No. 2 South Korea, even without employing the kind of sleepless nights and corporal punishment that would be unthinkable in the land of Father Christmas.’ (Helsinki Times, August 22, Zünd 2013)</td>
</tr>
</tbody>
</table>

Results

We present our findings in three sections. The first section reports on the cross-national references made between each of the four countries (Australia, Finland, Japan and South Korea). The second section reports on the top six countries that have been cross-nationally referenced in the selected media of each of the four sample countries. We also present a more detailed account of the discourse, examining the context of each reference, and by using the sentence-coding scheme to categorise ‘positive’, ‘neutral’ or ‘negative’ references. The third section reports on the positive cross-national references made in each of the four sample countries’ newspaper discourse, as indicators for cross-national attraction.

Four-country analysis

Figure 3 shows the total number of cross-national references made in each of the four sample countries’ discourse. Four bar graphs depict the total amount of cross-national references and are helpfully identified under each country’s national flag.
Australia, Japan and South Korea show an overwhelmingly high cross-national reference count towards Finland. Finland’s positive results in PISA have helped initiate a global fascination with its education system (Schriewer and Martinez 2004, 34; Steiner-Khamsi 2006, 666). Widespread media coverage has helped Finland’s rise in popularity and influenced what can be learnt from Finland to further replicate its educational success.

The Australian media frequently identifies two attractive elements of the Finnish educational system that Australia needs to focus on to improve: quality teacher education and equity in schooling. Finnish teachers must have a master’s degree, unlike Australian teachers, and the Finnish system provides high equity schooling without the divisions of public and private school education that exist in Australia.

The Japanese media makes extensive reference to Finland, more than the South Korean media does, and much more than the Australian media. These references to Finland have remained consistent throughout the discourse period. Although the Japanese media sometimes acknowledges that the Japanese system is held in high regard, both domestically and internationally, 10% of Finnish references are linked to commentary on how the Japanese education system could benefit from the adoption of various Finnish educational processes, strategies and guiding philosophies.

Similarly, in the South Korean media, 11% of Finnish references are linked to commentary on building links with Finland, to learn more about educational processes and strategies that will improve South Korea’s education system. The South Korean media acknowledges South Korea’s high performance in PISA but an equally dominant theme has been criticism of the South Korean education system for being overly competitive, quashing creativity, driving social inequality and creating a high degree of stress and mental health problems among students (Cho 2007; Jung and Cha 2014; Lee and Choi 2015; Moon 2016; Sohn 2009). Terms such as ‘education fever’ and more recently ‘hell chosun’ (a satirical term describing the hellish societal conditions in South Korea) are evidence of internal dissatisfaction, and are regularly discussed in the majority of articles in the South Korean sample.

Finnish discourse features a much lower number of cross-national references towards Australia, Japan and South Korea. The Finnish discourse emphasises other countries’, and Finland’s own, scientific and educational research. The media sees school-based research and professional development models as the best way to help frame and develop policies, practices and attitudes towards its education system. References to Australia are rare and generally limited to commenting on Australia’s decline in PISA results. References to Japan and South Korea acknowledge these countries’ strong PISA performance but also point out how the Japanese and Korean systems have created stressful conditions for their students, in contrast to the Finnish educational culture and guiding philosophy. The discourse shows that Finland is not attracted to a region or education system based on its PISA results, but is instead attracted to examples of professional development, educational research and sustainable education.

South Korea exhibits the greatest breadth of cross-national references towards Australia, Finland and Japan. Australia is well represented in the South Korean discourse, and references highlight the attraction for South Korean students to travel
and learn in Australia’s tertiary education system. In contrast, South Korean references to Japan are focused on various aspects of Japan’s education system, including teacher training programmes and investment in education and student performance. The high level of discursive comparison between Japan and South Korea, evident in both nations’ discourse, is largely attributed to the competitive and, at times, strained relationship between the two neighbouring countries (Dudden 2008; Glosserman and Snyder 2015). This competitive discourse is most evident in discussion of PISA rankings and results. The discourse also shows that the South Korean media is highly focused on reporting the numerical aspects of PISA results, which are considered a reliable proxy of educational success. Hence, the academic successes of Finland in PISA, along with its reputation for having a well-balanced education system, make it a highly referenced country. Paradoxically, there has been a documented decline in Finland’s attainments in PISA, but this is not acknowledged in any of the other sample countries.

Broader international analysis

Table 3 provides a full reference evaluation of the top six countries cross-nationally referenced in each of the sample countries’ selected media. Each column has a rank-ordered list of the cross-national references for each sample country. For each country listed there are details of their rank position on the tally, the total number of references dedicated to that country (e.g. for Australia: 1. Finland = 41) and the number of ‘positive’, ‘neutral’ and ‘negative’ evaluations.

The two Asian countries in the sample, Japan and South Korea, show high but neutral referencing of the USA, attributed to the significant cultural influence of the USA in both countries since the end of World War II (Ishii 2012; Lee 2002). This US influence has continued to pervade themes and agendas in contemporary Korean media (Jouhki 2008). Both countries’ media frequently mention the US as a ‘point of reference’ on various educational, economic and political issues. The US remains a well-recognised symbol of the West for Japan, and especially for competitive South Korea, to compare and measure up to (Shin, Lee, and Kim 2009). The English language newspapers from Japan and South Korea also cater to Western audiences, including American tourists and expatriates who hold an interest in reading about the USA.

Finland has the most widespread range of cross-national references. Finland’s media sample does not focus on the Asian region like the other three sample countries, and interestingly includes geographical neighbours Sweden and Canada in their ‘top six’ referenced countries. These two countries do not appear in any of the other sample countries’ ‘top six’. Although negative references are tied to Sweden’s poor PISA results, Finland’s Nordic neighbour is recognised for its attempts to support teachers’ professional development. References on Canada’s education system focus on how the country approaches science education differently, and how Canadians are improving their higher education attainment levels.
Cross-national attraction

Figure 4 provides a geographical representation of the total number of ‘positive’ cross-national references made in the selected media of each sample country. These are conceptualised as indicators of cross-national attraction. To ensure reliability, each individual reference to a country has been categorised within the sentence-coding scheme described earlier. Each country’s reference list has been limited to their top six positively referenced nations. The four pie charts on the map are a visual representation of the data, depicting the national flags of the three most positively referenced foreign education systems in the media discourse.

Even in the broader international context, Japan, South Korea and Australia have made Finland their most positively referenced country. The large majority of these positive references focus on Finland’s philosophy towards education, the positive influence of Finland’s educational policies on educational performance and recognition of Finland’s high PISA attainment scores (see Table 4). The difference between Japan, South Korea and Australia’s attraction to Finland is the internal and external motivations unique to each context. Australia’s media has expressed a large degree of internal dissatisfaction with its education system, and consequently an appreciation for externalising potentials within the Finnish system are evident throughout the discourse. As noted earlier attraction predominantly relates to teacher quality and equity in schooling. Using the theoretical framework, there is substantial evidence of Australian cross-national attraction towards Finland.

In comparison, the negative external evaluation surrounding Japan’s PISA results in the early 2000 and 2003 examinations could be the significant impetus for the positive references to Finland. Despite Japan’s improving PISA results since this early period of relatively negative external evaluation, the media’s attraction towards externalising potentials within Finland remains strong. The motivations for Japanese referencing towards Finland have changed over time: at first Japan was attracted to Finland as a successful educational performer; and then more recently as an educational culture. This provides strong argument for the existence of a Japanese cross-national attraction toward Finland, and is in line with the theoretical framework that acknowledges the dynamics of the attraction and the motivations.

The motivations in the South Korean discourse are based on the necessity for educational reforms due to internal dissatisfaction. The guiding philosophy in Finnish education is seen as an important step in giving students opportunities for individualised, independent and creative learning (Park 2013, 24). The emergence of this aspiration after 2011 is evident in the South Korean discourse, where there is a growing acknowledgment of the weaknesses in the South Korean system, and discussion of how this may impact the national economy. There is evidence of South Korean attraction toward Finnish educational culture, which integrates the Western pursuit of individualised and creative schooling, alongside high academic standards. It is notable that for a country like Korea, which is highly focussed on assessment results, their attraction to Finland is not focused on Finnish performance in PISA. The coding of discourse makes it clear that attraction is based upon aspects of Finnish educational culture, in particular their guiding philosophy, which, it could be argued is the antithesis of the culture promoted through PISA.
Finland’s positive references to other countries are more widely distributed than Japan, South Korea and Australia’s, and not focused on a particular region. The positive references to Canada, the USA and especially Sweden, could be influenced by their close geographical proximity to Finland, and do not necessarily indicate that Finland might hold a cross-national attraction towards any of these countries’ education systems. Despite a difference in educational culture, the large number of positive references to both South Korea and Singapore may be evidence of a growing appreciation of some of their educational policies and practices, which may later evolve into cross-national attraction.

Contextually, Finnish society and media continue to convey a great degree of trust and faith in the current educational policies and practices (Sahlberg 2011, 182), despite recent declines in PISA performance. The Finnish media’s growing acknowledgement of the rise of educational competitiveness among Asian nations, including Japan and South Korea, is presented as non-threatening and respectfully dismissed as an educational culture that, despite its successes, has unpalatable costs, which is an unacceptable trade-off. Similar media accounts may have been influenced by Western stereotypes and prejudices regarding Asian education systems (Steiner-Khamsi 2016, 385; Waldow 2016). The most recent Finnish articles discuss Finland’s educational decline and refer to possible explanatory factors including the impact of social disadvantage, a large and growing gender gap (with higher performing girls) and an influx of poorer performing immigrant students (see Reinikainen 2012, 13–14). These might represent a turn toward internal dissatisfaction, but on the whole there is not enough evidence to show a clear cross-national attraction within the Finnish discourse.

Discussion and conclusion

This investigation of the newspaper media in each of the four sample countries questioned the understanding of various processes, perceptions and motivations illustrated in the source media, and their role in creating the necessary conditions for cross-national attraction.

There were three clear findings. First, Australian, Japanese and South Korean discourse provides evidence of cross-national attraction towards Finland. Second, Finland’s discourse shows fewer cross-national attraction references towards the other sample countries, instead maintaining its focus at a domestic level. Third, South Korean discourse exhibits the greatest breadth of positive references to Australia, Finland and Japan.

These cross-national attraction dynamics show the motivations are complex and go beyond simple aspiration to the PISA standards displayed by these countries. The performance trends of the four nations mean the patterns of cross-national attraction seen in the discourse are illogical and difficult to rationalise. Countries with improving PISA scores (Japan, South Korea) are attracted to countries with evident, but not widely acknowledged, deteriorating scores (Australia, Finland). This is the first rational inconsistency identified in this study: the improving countries are attracted to the countries with deteriorating performance.

Two clear findings emerge from examining the cross-national references from a wider international scope. First, the two Asian countries, Japan and South Korea, show strong but neutral referencing of the USA. Second, Finland has the most widely
distributed range of cross-national references. Finland’s media sample does not focus on the Asian region (unlike the other three sample countries), and includes Sweden and Canada in their ‘top six’ referenced countries. These two countries do not appear in any other sample countries’ ‘top six’. Here again, cross-national references are complex and may be related to geography and cultural similarities as much as to educational policy and standards.

Finally, the positive references towards countries’ education systems, indicators of cross-national attraction, show significant features. Australia, Japan and South Korea have made Finland their most positively referred to country. Finland’s positive references are very widespread compared to discourse in other sample countries, and not focused on a particular region. Finnish cross-national interest can be characterised as gentle, considered and focused on research evidence (Sahlberg 2007). This contrasts with the interests of the other countries, particularly Australia and South Korea. South Korea is the country with the highest proportion of positive references to other nations. Despite demonstrated growth in educational standards, South Koreans continue to aspire to other nations’ education policies for their own improvement (Seth 2002; Sung 2011). This highlights a second rational inconsistency: the improving PISA countries are more outward looking than deteriorating PISA countries.

The inconsistencies deserve further exploration. They could be interpreted as providing a comforting reassurance that national and international discourse considers educational processes and outcomes well beyond the limits of what is explored and assessed by PISA. Thus, although PISA produces a much discussed international ranking, the measured PISA outcomes are perhaps not so highly valued in some nations (Martens and Niemann 2010, 2013). This would explain the inconsistencies where improving countries are attracted to high performing but deteriorating systems, and are more outward looking than the deteriorating systems. This issue could be informed by examining these dynamics in greater detail, across a much larger panel of countries. It may be that some countries do build their motivation for cross-national attraction, and policy borrowing, on the basis of PISA’s measured outcomes; others may not. What is beyond doubt is that, in the PISA era, careful examination of these dynamics is needed to understand policy formation, including policy borrowing (Phillips and Ochs 2003, 457–458; Ochs and Phillips 2002, 36).

The analysis of newspaper discourses support an argument for a strong cross-national attraction towards the Finnish education model, despite its recent deteriorating PISA scores. The implications of this continued attraction towards the Finnish education model are significant. The international media plays a critical role in influencing educational policy decisions and debate. Therefore, the popularisation of Finland in the international media means Finland will likely remain a cross-national focus in educational policy debates and decisions, despite other countries, such as Japan and South Korea, surpassing Finnish results in recent rounds of PISA.

The dominance of cross-national attraction toward Finland, when examined in light of annualised performance scores, also suggests a paradox. Although the media treats PISA data as legitimate, the improving and declining trends of countries that others are attracted to, like Finland, are not scrutinised in the media and do not appear to influence cross-national attraction. This enables a paradox, where improving countries
may aspire to countries with deteriorating performance. While there may be many legitimate reasons for this attraction, they are not related to trends in PISA scores. Attraction to Finnish educational culture is focused on aspects beyond what is measured in PISA and flourishes despite Finnish performance in PISA, which although strong is deteriorating.

This may be due to a lag effect, where media is slow to acknowledge trends over time and the high standards evident in early Finnish performance become almost mythical, setting up a cycle of adoration in each subsequent assessment. Alternatively the paradox may simply reflect how PISA fever has fed a frenzy of superficial, haphazard and perplexing discourse, within which Finland has celebrity status. The complexity in the externalising and internalising influences is difficult to map. This study has highlighted only some of the dynamics, and apparent contradictions, in this cross-national puzzle.

The Finnish obsession is fascinating, but also perplexing, as no one country has the universal recipe for educational success, because the social and cultural contexts of education systems are diverse and influential in policy success (Anderson-Levitt 2003; Steiner-Khamsi 2004; Schriewer 2012; Tan 2015). Given this well-established consensus in the literature, we might expect that each country would demonstrate cross-national attraction to a range of different countries. Yet even this logic can be challenged; for it is evident that Finland, the almost universally acclaimed pinnacle of educational success, has a largely domestic focus and does not show convincing evidence of any cross-national attraction. Whether this is the result of their position of primacy in terms of educational culture, or a recipe for educational success is, as yet, unclear.

What is clear is that the sometimes inconsistent and paradoxical patterns of cross-national attraction deserve further research. Although this study has been constrained by a necessary focus on media in English language, its findings raise many questions. The continued focus on PISA means that more research of this kind is needed. The policy borrowing dynamics spurred by PISA need to be understood and educational leaders in policy and practice should be cognisant of them as they set national education agendas.

Disclosure statement

No potential conflict of interest was reported by the authors.

References


Appendix

Appendix 1. Relationship between annualised change in performance and average PISA 2000 reading scores (OECD 2014, 186).
Appendix 2. Relationship between annualised change in performance and average PISA 2006 science scores (OECD 2014, 228).

Appendix 4. Largest circulation rankings according to sample countries’ media audit.

<table>
<thead>
<tr>
<th>Country</th>
<th>Media auditing service</th>
<th>Year of audit</th>
<th>Circulation rankings</th>
<th>News type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Audited Media Association of Australia</td>
<td>2015</td>
<td>1. The Herald Sun 2. The Daily Telegraph</td>
<td>Domestic news</td>
</tr>
<tr>
<td>Finland</td>
<td>Media Audit Finland</td>
<td>2014</td>
<td>1. Helsinki Times 2. Finland Times*</td>
<td>Original articles and English translations of domestic news</td>
</tr>
<tr>
<td>Japan</td>
<td>Japan Audit Bureau of Circulations</td>
<td>2014</td>
<td>1. The Japan Times 2. The Japan News</td>
<td>Original articles and English translations of domestic news</td>
</tr>
<tr>
<td>South Korea</td>
<td>Korea Audit Bureau of Circulations</td>
<td>2014</td>
<td>1. The Korea Herald 2. The Japan News</td>
<td>Original articles and English translations of domestic news</td>
</tr>
</tbody>
</table>

Note: *The Finland Times has not been updating news since late-2016.
Chapter 3: ‘Not so globalised’:
Contrasting media discourses on education and competitiveness in four countries

The article in this chapter has been published as:

A high quality, online version of the article is available at: [https://www.emeraldinsight.com/doi/full/10.1108/JABS-08-2016-0108](https://www.emeraldinsight.com/doi/full/10.1108/JABS-08-2016-0108).

**Author contribution statement**
I planned and wrote this article under supervision of Dr Rachel Wilson. Joint discussions provided shared contributions. I completed the research design, planning, implementation and analysis independently.

**Journal of Asia Business Studies**
The article in Chapter 2 is published in this scholarly journal because the *Journal of Asia Business Studies* publishes research that focuses on country specific as well as comparative research in Asia, which was a focus of this article. The journal also has a high 2018 CiteScore 1.06.
“Not so globalised”: contrasting media discourses on education and competitiveness in four countries

Edward Rock Davis and Rachel Wilson

Abstract
Purpose – This paper aims to analyse contrasting discourses on education and competitiveness from four countries to show the different national values that are a key driver in economic development.

Design/methodology/approach – The paper uses content analysis to compare and contrast the newspaper discourse surrounding the OECD Program for International Student Assessment (PISA) in four countries with above OECD average performance: Japan and South Korea (improving performance) and Australia and Finland (declining performance). PISA has attracted much government and public attention because it reflects education and the economic value of that education.

Findings – There are key contrasts in the discourses of the four countries. Despite shifts to globalised perspectives on education, strong national and cultural differences remain. Educational competitiveness and economic competitiveness are strong discourses in Japan and South Korea, while in Australia and Finland, the focus is on educational competitiveness. The media in Finland has few references to economic competitiveness and it does not feature in Australia. The discourse themes on PISA from 2001 to 2015 are presented with trends in educational attainment and shifting national perspectives on education.

Research limitations/implications – Analysis is limited to the top two circulation newspapers in English language in each country over 2001 to 2015. These newspapers in Finland, Japan and South Korea include translated content from local language papers.

Originality/value – The paper provides longitudinal perspectives to understand the contrasting societal values placed on education and how these relate to perspectives on competitiveness. This media evidence on national discourses can inform education policy orientations in the four countries examined.

Keywords PISA, Education, Competitiveness, Japan, South Korea, Australia, Finland

Paper type Research paper

Introduction

Education has long been acknowledged as a key economic driver as industrialisation was driven by growth in mass, public schooling (Lall, 1992). Education and economy represent two sides of the one coin in the production of human and social capital. Educational outcomes from schooling play a key role in building human capital (skills, knowledge, understanding) and also in forging social cohesion (Gradstein and Justman, 2000). Less is understood about the relationship between education and countries’ competitiveness (Baumann and Winzar, 2016). In the modern globalised world the role of competitiveness, both economic and educational, is amplified, yet the role of education in competitiveness has only recently become the focus of empirical research (Baumann and Winzar, 2016; Sum and Jessop, 2013).
The recent trend to empirically examine the relationship between educational and economic outcomes, including competitiveness, has evolved in tandem with the OECD’s Program of International Student Assessment, PISA, which acknowledges that education is central to economics and provides an opportunity to explore this relationship (Hanushek and Wößmann, 2012). Data from the triennial educational assessments provide rank order among participating countries, and the position of countries in educational competitiveness became a “hot topic” in mass media and the focus for heated national and international debates. Thus, public discourse around the educational outcomes of PISA has developed parallel research examining the relationship between education and economy. This paper explores and compares that discourse in four countries.

The overall aim of PISA is to measure how well 15 year olds are prepared for meeting the challenges they will face in their lives after schooling (OECD, 2016). Measurement of students’ preparedness in reading, mathematics and science provides countries with internationally comparable indicators that give insights into their nations’ future stability and competitiveness both educationally and economically. However, much of the scholarly research has taken a cross-sectional approach with comparative examination of relative attainments (Shin et al., 2009; Sprietsma, 2010). It is only more recently, with five or more assessment points to reflect on, that a comparative approach to countries with improving and declining trends in PISA results has become possible. This paper presents an analysis of PISA, by undertaking a longitudinal comparative analysis of two countries with improving scores (Japan and South Korea) and two countries with declining scores (Australia and Finland) and examining the media discourse surrounding PISA in relation to educational and economic competitiveness in each of the four countries.

The study has three purposes. First, it considers educational achievement, specifically in reading, science and mathematics, in relation to each country’s competitiveness. Second, it investigates and compares the media discourse on education and competitiveness in each country. Third, it provides a longitudinal perspective to better understand how education “drives” competitiveness by mapping discourse alongside upward or downward trends in education results. Given that different school policies, priorities and cultural values have resulted in divergent educational achievements around the world, this study offers an innovative perspective on the relationship between educational achievement and competitiveness. This study explores the relationship between education and competitiveness and contributes to the well-established literature on the association between education and economic performance (Faruq and Taylor, 2011; Hanushek, 2013; Hanushek and Wößmann, 2007, 2015; Wolf, 2004). There are three research questions:

RQ1. What is the media discourse on educational attainment surrounding PISA in Australia, Finland, Japan and South Korea?

RQ2. How is competitiveness positioned within the discourse of educational attainment surrounding PISA?

RQ3. What shifts in discourse on competitiveness are evident over time and in relation to improving or declining educational PISA scores?

The paper also discusses how findings reflect the broader cultural position of education in the four countries.

Literature review

To position analysis within the burgeoning literature on PISA, economics and education, the relationship between competitiveness and education is examined; how this understanding may be reflected in public discourse; and the methods available for examining that discourse. Over the past 40 years, international assessment has generated a mass of literature exploring and contrasting educational approaches in countries across the globe.
(Kamens and McNeely, 2010). Data from four countries are reviewed, but it is not feasible to provide a country-by-country guide to educational background and policy. Rather the analysis emphasises a comparative focus on similar and contrasting elements and how these are related to national policies.

Competitiveness and education

The effect that education has on a country’s economic performance has long been an area of investigation (Barro and Lee, 1993; Glaeser, 1994). Overall, studies recognise the important contribution of primary and secondary school education in ensuring economic competitiveness. Expenditure on primary school education contributes significantly to economic growth and an increase in enrolment rates within secondary education playing a key role (Keller, 2006). Recently, analysis from Hanushek and Wößmann (2015) found that based on measures of cognitive skills, “human capital is seen as the dominant prerequisite of economic growth” (p. 17) and demonstrated how educational scores, including PISA, can be used to explain GDP. Hanushek and Wößmann (2015) modelled how raising educational standards to minimum benchmarks would impact GDP in 77 countries. Other studies have also modelled that economic rates of return on investment in early childhood education are stronger than for later schooling (Heckman and Masterov, 2007). Despite these findings, the role played by the detailed mechanisms and processes of education in a country’s economy remains unclear. While educational economics research focuses on educational outputs and education research has insights into processes, these two elements are rarely examined together. This gap in the literature is particularly perplexing given that competitiveness has had a strong influence in shaping educational policies and reforms (Ball, 2013).

The link between education outcomes and economic competitiveness was studied by Baumann and Hamin (2011) who found that culture has a positive mediating effect on academic performance and that competitiveness explains 36 per cent of variance in academic performance at university. Later, Baumann and Winzar (2016) correlated the World Economic Forum’s Global competitiveness Index data with PISA educational outcomes for 15 year olds and found that educational attainment explained 54 per cent of the variance in national competitiveness.

Competitiveness also plays an important role within educational systems. The level of competition in schooling has been shown to have varying effects across individual students, educational systems and cultures (King et al., 2012; Stapel and Koomen, 2005; Watkins, 2010). Many Asian societies such as China, Japan, Singapore and South Korea have been shown to have highly competitive education systems compared to their Western counterparts (Dawson, 2010; Lam et al., 2004). Students are required to study very hard, including private tutoring beyond the formal school hours, to make it into their country’s top tertiary institutions. This tutoring, known in the literature as shadow education, is argued to be a direct result of the pressures of globalisation, as school systems also become more competitive and in turn expand the demand for tutoring (Bray, 2009, 2013; Dawson, 2010; Lee, 2005). This literature shows that the link between education and competitiveness is complex (Sahlberg, 2006). It is clear that East Asian countries treat education as a vital component for economic performance and competitiveness in all stages from kindergarten through to higher education (Sum and Jessop, 2013). There are numerous factors including social tensions and drivers of competitive pressures which can alter or disrupt the influence of education on national competitiveness.

With the recent ascendancy of East Asian students in PISA results, it has become more important to understand the impact of education on a nation’s overall economic performance, including their level of competitiveness. Until recently, Finland was a world leader in academic performance, receiving attention and praise from countries and scholars around the world. Finland is considered a progressive education system where
teachers are respected and viewed as nation builders (Hargreaves and Fullan, 2012). Finland positioned itself as a symbol of equity (Saraisky, 2016) and was the preferred reference society for Asian nations including Japan and South Korea. The media in Japan has reported extensively on the Nordic phenomenon in their analysis of Japan’s education crisis (Steiner-Khamsi, 2014; Takayama, 2010). However, East Asian countries are now showing a steady growth in PISA scores, subsequently turning the world’s attention to East Asia.

While it is evident that academic publications still position Finland as the peak reference nation (Steiner-Khamsi, 2014), both educational and competitiveness data show declines in Finland’s performance. World Economic Forum Global Competitiveness data, in Table I, show that both Japan and South Korea have increased their economic competitiveness since 2003, which is in line with their improving PISA performance. In contrast, Australia and Finland both show a decrease in competitiveness since 2003, echoing their declining PISA performance.

PISA’s competitive ranking of countries for education is seen as highly problematic by many scholars. Many view this competition as a product, and also key driver, of neoliberal agendas and the push to competitive market-based education in Western democracies (Sellor and Lingard, 2013; Sjoberg, 2016; Takayama, 2008). Sahlberg (2011b) calls these shifts the Global Educational Reform Movement, or GERM, and argues that the positioning of education within economic and market based perspectives has been unproductive, indeed counterproductive, as it reduces educational systems to instrumental approaches.

Others also point out that competition within education systems, certainly at student level, has at least some negative consequences. For example, the use of competitive high-stakes assessments has a negative impact on learning, especially for lower-attaining students (Harlen and Deakin-Crick, 2002) Similarly, a meta-analysis of studies comparing cooperative versus competitive learning shows an advantage to the cooperative approach (Hattie, 2009). There are also critiques and cautions on the effects of school-to-school competition (Dijkgraaf et al., 2009; Hsieh and Urquiola, 2006). Belfield and Levin’s (2002) comprehensive review of evidence from the USA notes that some positive effects are evident, but “the effects of competition on educational outcomes appear to be substantively modest” (p. 297). More research is needed to understand the relationship competition has with student and school performance.

A strong association between education and economic competitiveness is evident. However, competitiveness within and between education systems must be approached with caution, as the research evidence base for a full evaluation does not yet exist. Research exploring the positioning of competitiveness within discourse on education is needed to elucidate how this concept is reflected in differing countries, as this is likely to reflect the societal values that are a key driver in nations’ educational and economic development.

The power of public discourse

The media has had a very influential role in all aspects related to PISA (Stack, 2006), but it is only recently that scholars have focussed on understanding the dynamic interplay between

<table>
<thead>
<tr>
<th>Table I</th>
<th>World economic forum global competitiveness data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Competitiveness</td>
</tr>
<tr>
<td>Australia</td>
<td>5.33</td>
</tr>
<tr>
<td>Finland</td>
<td>6.01</td>
</tr>
<tr>
<td>Japan</td>
<td>5.25</td>
</tr>
<tr>
<td>South Korea</td>
<td>5.07</td>
</tr>
<tr>
<td>Source: Baumann and Winzar (2016)</td>
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</table>
PISA, the media and education policy (Baroutsis and Lingard, 2017; Hopfenbeck and Görgen, 2017). Recent academic literature has predicated the powerful role of the media in influencing educational policy within PISA countries (Blackmore and Thorpe, 2003; Levin, 2004; Saraisky, 2016; Stack, 2006). The media has been influential in heightening public awareness by informing parents, government and professionals in education through increased reporting on countries’ educational performance in PISA.

However, literature exploring the power and influence of media on education has only recently emerged. For example, there is a small but growing body of research examining the role of the media in the policymaking process (Blackmore and Thorpe, 2003; Franklin, 2004; Levin, 2004; Lingard and Rawolle, 2004; Wallace, 2003). While Wiseman (2013) argues that the international media reporting of PISA results has played an influential role in informing the policymaking process of governments globally (p. 305).

Studying the powerful influence of mass media discourses on public and professional opinion helps understand the dynamics of educational reform. According to Luhmann (2000), the mass media does not just represent but actually produces our shared social reality. It follows that media discourses construct the past and also hopes and expectations for the future. The mass media chooses modes of presentation that resonate with underlying patterns of interpretation among their audience (Scheufele and Tewksbury, 2007). Thus, the study of media discourses is an insightful way of examining the underlying patterns of interpretation and shared social perspectives in OECD countries. These perspectives are, in turn, important for understanding the widespread influence media discourse has on society, including on educational policymakers.

Media content analysis is a research approach that has been recently used in educational research. Studies on PISA include analyses on the media discourses of individual countries (Baroutsis and Lingard, 2017; Gonzalez-Mayorga et al., 2017; Saraisky, 2016; Stack, 2006) and others have compared media discourses internationally (Hopfenbeck and Görgen, 2017; Takayama et al., 2013). For example, Takayama et al. (2013) examined how the representation of “Finnish education” is taken up by the media in Australia, Germany and South Korea and found that “Finnish education has become a projection screen for competing conceptions of good education in the line of comparative education scholarship” (p. 307). Stack (2006) also found that the media agenda of specific newspapers in Canada played “a central role in determining the issues that are debated and ultimately how policymakers and the public interpret these issues” (p. 65). This literature supports the notion that media influences educational policy significantly; however, the breadth of research is small within comparative education scholarship, warranting further investigation.

Examining trends over time

Numerous studies have focussed on the comparative differences in PISA results (Andersen, 2010; Aydin et al., 2011) and attainment (Goldstein, 2004; Kim et al., 2009), but there is a gap in research on trends. A review of the literature shows a lack of longitudinal analysis of PISA. Goldstein (2004) highlighted the importance of future comparative studies of PISA becoming longitudinal:

> With only cross sectional data it is very difficult, if not impossible, to draw satisfactory inferences about the effects of different educational systems. Even following up a sample over a one year period would add enormously to the value of the study (p. 16).

Trend analysis of PISA data remains hotly debated within scholarly research. PISA employs an assessment design that changes the construct coverage from cycle to cycle. The domains of reading, mathematics and science rotate in prominence every three years so that one is the major domain while the other two are treated as minor domains. Some of the issues related to this design have already been raised in the literature...
Adams, 2009; von Davier, 2008) and some researchers have argued that there are limitations in using PISA data to measure change in comparative performance over time (Carstensen, 2013; Loveless, 2012; Thomson and Hillman, 2013; Urbach, 2013). These authors provide evidence of the importance of providing accurate trend data and how reporting trends based on national versus international estimates may affect results. Longitudinal trend studies are useful in ensuring superior validity and establishing causality (Johnson, 2001). With six rounds of PISA data now released, there are data for trend analysis. The changing focus for each round of PISA has an inherent effect on its validity (Adams, 2009; Goldstein, 2004; von Davier, 2008). Yet, despite these concerns over reliability and validity, for most countries the PISA trends in performance are unidirectional and consistent with other international and national assessments.

Methodology

The paper uses content analysis to compare and contrast the media discourse in reports on PISA which provides international comparative data on the educational performance of 15 year olds. PISA has attracted much government and public attention, primarily because, unlike other international educational assessments, it is focused on understanding both education and the economic value of that education. Therefore this study also examines educational and economic competitiveness data on the discourse on PISA in four countries with above OECD average performance: Japan and South Korea (who show improving performance since 2000); and Australia and Finland (who show declining performance).

Media content analysis

Content analysis can use either inductive or deductive approaches. This analysis uses both. An inductive approach allows research findings to emerge from the analysis of the raw data (Thomas, 2006, p. 239); this study outlines the broad discourse for each country by generating NVivo codes which draw on the language in the media articles to describe the emerging themes and discourses. By contrast, a deductive approach identifies relevant terms and themes and then looks for them in the data; this study conducts a word frequency search and analysis for the specific use of the term “competitiveness” (and stemmed terms).

Sample

The sample consists of four countries that have had improving and declining trends in PISA scores over a 15-year period (2001-2015). For comparability, the sample countries were also required to have similar mean scores that were above OECD averages for each triennial survey. Below average performers tend to show wide variation and are less relevant for comparison with the researchers’ home country, Australia. The countries selected are two improving countries, Japan and South Korea, and two declining countries, Australia and Finland.

Two newspapers were selected from each of the sample countries based on the following criteria: English language, largest circulation and newspapers in the non-English speaking countries include English translations of that country’s domestic news. Limiting the data to English language was necessary for direct comparability and because analysis in different languages was also logistically difficult. Newspapers meeting the English language criteria with the largest circulation were selected to provide optimal representation of each country’s media discourse. The influence of corporate and political interests among media publishers is acknowledged; however, the study focussed on the print media discourse most prevalent and consumed in each country. The political orientations of the newspapers...
are secondary to this aim and were not considered in sampling or analysis. The sample countries and the newspapers meeting the criteria are shown in Table II.

Analysis

Data were retrieved, using the media database Factiva, through keyword searches for “PISA” within the selected newspapers for each sample country between 2001 and 2015. NVivo software was used to perform two analyses, each with both surface and latent coding. The inductive analysis of the broad discourse first used a surface or manifest coding approach, which looked at the vocabulary by generating “word clouds” and word frequency tables for the most frequently used terms. To explore these further a latent, or semantic, deeper coding approach was used by examining and coding the issues and context for each occurrence of the key vocabulary used in each country. Second, a deductive analysis was conducted, searching for specific references to “competitiveness” (and stemmed words). This was followed by latent coding, which allowed greater insight into the discourse surrounding education and competitiveness in each country. Finally, examples of the latent content for each country were integrated by plotting them longitudinally against the country’s educational performance.

Results

Figure 1 presents word clouds and deeper, semantic analysis for each country is presented thereafter. This provides a broad overview of the discourse evident in each country and is followed by more specific analysis of the positioning of “competition” within each discourse. Selected quotes illustrate the shifts in discourse on competitiveness over time and are plotted in relation to each country’s improving or declining PISA scores.

PISA discourse

The results of the manifest coding are provided in Figure 1 which illustrates the key vocabulary in each country’s media. To provide contrast, the word clouds depict the ten most frequently used words within each country’s newspaper sample after removing the ten most commonly used words across all four countries. The top ten most common words removed include the sample country’s name, “OECD”, “PISA”, “country + ies”, “student”, “pupil”, “child”, “year”, “per + cent” and “also”. In the word clouds each word’s frequency is correlated with font size. The top four words and their percentage coverage in the data are listed below each country’s unique word cloud. Each of the ten words in each country’s word cloud were further interrogated by looking at the context of each occurrence of the word, in order to code and categorise the repeated use of the term. This deeper level of semantic analysis provided the broad themes evident in each country’s discourse.

Table II Sample countries and newspapers

<table>
<thead>
<tr>
<th>Country</th>
<th>PISA performance trend</th>
<th>Newspapers</th>
<th>Total articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Declining</td>
<td>The Daily Telegraph</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Herald Sun</td>
<td></td>
</tr>
<tr>
<td>Finland</td>
<td>Declining</td>
<td>Finland Times</td>
<td>58*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Helsinki Times</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>Improving</td>
<td>The Japan Times</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Japan News</td>
<td></td>
</tr>
<tr>
<td>South Korea</td>
<td>Improving</td>
<td>The Korea Times</td>
<td>107</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Korea Herald</td>
<td></td>
</tr>
</tbody>
</table>

Note: *Finnish articles were only available in English language for the period 2007 to 2015
The Australian word cloud suggests that the media discourse surrounding PISA is highly focussed on the “mathematics”, “science” and “literacy” scores and ranks. “Maths” is referred to the most since it is the subject area in which Australian students’ performance is weakest and declining the most (Thomson et al., 2013). “Report” is frequently mentioned in the discourse in relation to PISA, and to numerous government commissioned education reports. Media coverage of the Gonski report, which made recommendations for funding of education in Australia in 2011, was prolific (Daniels, 2011). The international Trends in Mathematics and Science Study (TIMSS) reports were also referenced, as these echo the PISA findings and show declines in mathematics literacy since 2003 (Thomson, 2009; Thomson et al., 2013). Interestingly, “states” and “ministers” are also commonly referred to within the discourse, as the media compares each Australian state’s PISA scores and links education ministers to the discussion on the large disparities between students in different states. The comparison between states is also frequently linked to the debate on the equity gap in Australian education (Gray and Beresford, 2008; McConney and Perry, 2010; Vickers, 2005). The word “world” is frequently used when comparing Australian students’ standings in a variety of educational contexts to other countries. Earlier references tended to boast about Australian students’ achievements, while the more recent international comparisons focus on the declining trend in Australian student performances.

The Finnish word cloud shows that the most frequent word used within the sample is “systems”. This pertains to discourse on foreign educational systems and the Finnish national education system and shows particular fascination with system level perspectives on issues in education (Kjaernsli and Lie, 2004). Interestingly, among the four countries, Finnish newspapers are unique in focussing on “science” and “research”, which are
commonly used in the same context, referring to both scientific and educational research undertaken internationally and nationally. This perhaps highlights the high value placed on empirical and evidence-based research in framing and developing Finnish policies, behaviours and attitudes towards education. “First”, “highly” and “world” are frequently used within the same article or context to inform readers that Finland’s education system is “highly” regarded, one of the best in the “world”, and first in many subject areas according to PISA. “Highly” is also used frequently to commed and comment on the importance of having highly trained teacher professionals, a foundational pillar in the Finnish education system (Darling-Hammond, 2009; Laukkanen, 2008; Sahlberg, 2011a; Välijärvi, 2003). The word “basic” is frequently used in reference to the Basic Education Act of 1999, which requires education providers to self-evaluate and submit themselves to external evaluation (Varjo et al., 2013). Overall, a substantial vocabulary within the Finish discourse is concerned with the high priority given to quality assurance and evaluation to ensure a comprehensive education system. The word “time” is used in a wide variety of contexts and meanings across the sample.

The Japanese word cloud clearly shows that the word “test” is frequently used and testing is a dominant theme in the Japanese discourse. “Test” and “survey” are often used interchangeably, mostly in reference to PISA and less so in reference to local or national assessments, even though these are a key feature of Japanese education (Fujita, 2009; Takayama, 2011). “Class” and “times” also have high use due to the sustained debate surrounding the introduction of the Ministry of Education’s 2002 yutori curricular policy, which reduced the amount of time students spend on curriculum content in class, thereby allowing greater autonomy over pedagogy and curriculum for schools and teachers (Tsuneysthi, 2004). The debate over the need for a yutori curricular strategy continued to be a key issue in education policy throughout the 2000s (Cummins, 2003; Gordon and LéTendre, 2010; Takayama, 2009). “First” is used frequently in the earlier years to refer to Finland’s rankings in the PISA examinations. Finland has been a preferred reference society, along with some of Japan’s neighbours, in the construction of the media narrative on Japan’s education debate (Takayama, 2010). “Highly” has various meanings, referring to “high stakes testing”, “high schools” and Japan’s “high results” in more recent PISA examinations. The words “academic” and “ability” are frequently used together on student academic achievement levels, sourced from published PISA data. These terms, and much of the discourse, are oriented around the monitoring and evaluation of the effectiveness of the reforms to Japanese education since the introduction of yutori in 2002. Finally, “Ministry” refers to the Ministry of Education and Ministry officials, who have played a crucial role in the creative rearticulation of the curriculum, and political contestations in Japanese education.

The South Korean word cloud shows the word “highly” is the most common word, used to refer to South Korea’s own high achievement in PISA rankings and mean scores. “Highly” is also used when discussing educational success, and the important role played by highly trained, qualified teachers, both nationally and internationally, in ensuring high student performance. It is well documented that high performing countries such as South Korea are heavily investing in teacher training and use effective quality assurance procedures to ensure desired outcomes (Darling-Hammond, 2009; Ingvarson et al., 2014; Wei et al., 2009). The South Korean education “system” and “foreign” education systems are commonly referred to as the media shows a strong desire to compare South Korea to other high performing educational systems (Lee, 2010). This strong international comparative discourse, examining educational performance against Finland, Japan and the USA, demonstrates South Korea’s legitimate educational ambitions as a nation and how their place in the world has changed from one of national survival to a “successfully liberated” and “in-charge” nation (Sorensen, 1994).

Interestingly, the South Korean discourse also shows a preoccupation with “economic” issues, including “foreign”, “globally” and “world”. The South Korean media is focused on
showing the vital place that education has in ensuring economic growth and being competitive globally to guarantee a substantial and equitable future for South Korea. “China” is also highly referenced following the release of 2009 PISA scores, in which Chinese sample territories are ranked first. Given the geopolitical relationship between the two countries, the media could be interpreting China’s educational performance as an emerging educational and economic threat to South Korea’s future (Kang, 2009).

**Competition discourse**

Table III summarises the results of the deductive coding examining the media articles for references to competitiveness. The table displays the percentage of references to either educational or economic competitiveness in each of the four countries. Next to each country’s name is the percentage of the sample that was dedicated to “competition”, including stemmed words. This number is relatively small, as it reflects the use of a single term among many articles, but it can be useful in comparing the relative prominence of “competition” discourse between countries. It includes a theme and quotation that best represents the discourse specific to educational or economic competitiveness in each country.

The two Asian countries have more extensive media discourse on economic competitiveness than Australia and Finland. South Korea shows the highest overall orientation to competitiveness and Japan has the next highest percentage of references but with a stronger discourse around economic competitiveness than educational competitiveness. The economic competitiveness within the discourse reflects the importance Asian cultures place on education’s role as a legitimate means of success and upward mobility, and building a

<table>
<thead>
<tr>
<th>Table III</th>
<th>Competitive discourse between 2001 and 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Improving</td>
</tr>
<tr>
<td>Economic</td>
<td>South Korea 1.50%</td>
</tr>
<tr>
<td></td>
<td>0.675 % (108 references)</td>
</tr>
<tr>
<td></td>
<td>DRIVES TECHNOLOGICAL INNOVATION</td>
</tr>
<tr>
<td></td>
<td>“There is a competition effect in which inflows of new capital and technology stimulate competition in the domestic market” (2009)</td>
</tr>
<tr>
<td>Educational</td>
<td>0.825 % (88 references)</td>
</tr>
<tr>
<td></td>
<td>NEGATIVE EFFECTS ON STUDENTS</td>
</tr>
<tr>
<td></td>
<td>“We hope there is a recognition that the competitive nature of your education system needs change … and the high stakes [tests] are what causes this unhappiness” (2015)</td>
</tr>
<tr>
<td>Economic</td>
<td>Japan 0.44%</td>
</tr>
<tr>
<td></td>
<td>0.33 % (23 references)</td>
</tr>
<tr>
<td></td>
<td>CENTRAL ROLE OF EDUCATION IN THE ECONOMY</td>
</tr>
<tr>
<td></td>
<td>“With the year-by-year weakening of the competitiveness of our economy, there are concerns about whether our education system is working for a country with few natural resources” (2010)</td>
</tr>
<tr>
<td>Educational</td>
<td>0.11 % (8 references)</td>
</tr>
<tr>
<td></td>
<td>ESCALATING INTERNATIONAL COMPETITION</td>
</tr>
<tr>
<td></td>
<td>“While Japan has shifted from the phase of heated education competition to a calmer, post-high-growth period, other East Asian nations’ interest in education has been escalating” (2011)</td>
</tr>
</tbody>
</table>
competitive economy to ensure a prosperous future. The economic competition themes in both Japan and South Korea relate to the utility of education in driving economic prosperity.

Unfortunately, there is less data to draw on for Finland, but the discourse still makes a proportionately strong reference to competition. The majority of this focuses on educational competition with Finland’s Nordic and European neighbours and also regular recognition of the competitive educational culture in Asian countries. Reference to economic competition occurs only twice, with reference to the EU. In contrast, Australia makes no clear reference to economic competitiveness, and focuses on internal, national and local competition between schools. Maths is a big issue in the Australian discourse, but is not tied to economic discourse.

The “competition discourse” in the South Korean newspapers is strong. The articles refer to the highly competitive nature of the South Korean education system and the both favourable and unfavourable role it plays by ensuring the nation’s competitiveness in the global market (Seth, 2012), but also threatening the general health and financial wellbeing of South Korean families (Bray, 2003; Lee and Larson, 2000). In contrast to other countries, a large number of South Korean articles focus on economics and not education; despite their reference to PISA, many articles are in the “business” sections of newspapers. There is continual ranking and comparison of South Korean students’ performance with their peers in China, Japan and the USA, as well as the educational high achiever Finland. Interestingly, articles that frequently use the term “competition” are about the dark side of South Korea’s academic obsession, which is labelled in the literature as “education fever” (Lee, 2006; Seth, 2002, 2012). It is well documented that South Korean students prepare for their highly competitive university admission tests (Lee, 2006) by paying for expensive private tutoring (Bray and Kwok, 2003; Kim and Lee, 2010) which has a tremendous impact on their mental and physical wellbeing.

The “competition discourse” within the Japanese newspaper sample focuses on economic issues. Nearly 75 per cent of the competitive discourse is focussed on economic matters, which is proportionately higher than their neighbouring counterpart, South Korea. This is perhaps related to the complex and vigorous nature of competition in many Japanese industries (Beeson, 2016; Porter and Sakakibara, 2004). The current and future state of Japan’s economic competitiveness has been mentioned more frequently since 2009, but much less than their South Korea counterpart. On educational competitiveness, the articles shifted their focus after early 2000s. Many of the early articles looked at the Japanese education system’s ability to compete internationally with Finland and its East Asian competitors. In the Japanese sample, Finland has been a preferred reference society, not only because of its high scores, but also its strong welfare system and high quality of life for all citizens (Darling-Hammond, 2013; Gorard and Smith, 2004; Niemi, 2012). Competitive references to the Finnish system increased during the education crisis and the re-orientation of education policy in 2003 (Sahlberg, 2011a). In contrast, references to East Asian competitors like China and South Korea are to PISA results since 2000. Similar to South Korea, Japanese discourse often compares its students with their Eastern rivals.

The “competition discourse” within the Finnish newspapers is not as frequent due to a smaller sample size, however, it is still of interest and proportional significance. Unlike Japan and South Korea, the majority of Finnish articles mentioning competitiveness had an educational focus. The two references to economic competitiveness in the articles are to the inextricable link shared between education and a knowledge-based Finnish economy (Halme et al., 2014; Powell and Snellman, 2004; Schienstock, 2007). Perhaps the lack of references to competition can also be attributed to the greater degree of equity within the country’s education system (Reinkainen, 2012; Sahlberg, 2012a). Interestingly, recent discourse acknowledges the decline in Finnish students’ PISA scores, which has been linked to the increase in immigrant children in schools (Brunello and Rocco, 2011), and to competitive countries and regions in Asia that have picked up their performance scores.
(Ma et al., 2013). Unlike the Japanese and South Korean discourse, Finland’s media has not shown an increase in discourse on competition over time, despite a decline in results. The literature suggests that the Finns are content to persist with their educational model and not undertake radical educational reform (Sahlberg, 2012b). It is evident from the discourse that Finland is confident in its education system, built on reforms which evolved slowly and carefully over decades, and which continues to enjoy broad and sustained political support across many changes in government.

The “competition discourse” in the Australian newspaper sample concentrates on educational competitiveness, and there are no examples of clear reference to economic competitiveness. This is a stark contrast to the media discourse in the two Asian nations, which makes a strong correlation between economic competitiveness and educational attainment. All of the references in the Australian discourse are dedicated to educational competition, with the majority focused on comparing the performances of individual states, boys and girls, and private and public schools. This form of competitive discourse is aligned with the current debate over inequality in the Australian education system (Ford, 2013; Kenway, 2013; Lamb, 2007; Teese, 2007). A smaller proportion of articles that reference competition are focused on Australian students displaying competitive performances in PISA’s early rounds. In addition, there is reference to the relative levels of competition for teachers and students against the highly successful Finnish system and other East Asian systems. This is consistent with the argument and tensions over which reference society Australia should be looking to for future reform (Sellar and Lingard, 2013).

Shifts over time and in attainment

This section further explores the shifts in discourse on competitiveness over time and in relation to countries with declining or improving PISA scores.

Although Finland has generally been considered the top performer in PISA since its inception in 2000, it has been closely followed, and recently bettered, by Japan and South Korea. Finland has also shown some declines in scores. Australia’s PISA scores since the first assessment in 2000 show that, although the reading, mathematics and science scores are still well above the OECD average, the performance of Australian students is declining. The trends over time are shown in Table IV.

To explore how the trends in Table IV relate to shifts in discourse, the educational attainments are plotted and the coincident discourse is examined. The reports over time are analysed and the dominant discourse themes for each country are plotted alongside the national mean attainments for mathematics (the trends for reading and science attainment are provided in Appendix). The trends and associated discourse for declining countries, Australia and Finland, are shown in Figure 2 and for improving countries, Japan and South Korea, in Figure 3.

Australia’s strong performance in the first PISA round has since seen a steady decline. Finland had improving performance until a declining trend began in the 2009 PISA. Both countries start with media discourse which is self-congratulatory in their standard of performance in PISA assessments. However, Australia’s sustained decline in performance has since seen an increase in negative discourse that questions the state of its education system. Interestingly, the Australian discourse also includes many “feel-good” articles that often cherry-pick positive PISA outcomes despite an overall decline in performance. Finland’s discourse is highly reflective and recognises the impact that early reforms in education have had on results. A recent decline in the last two PISA assessments has not been met with a large deal of criticism, but rather explanatory and reflective discourse that emits confidence in the current education system and with a focus on the decline in ranks, rather than scores, which recognises that some competing Asian countries have raised the standard of performance.
<table>
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<th></th>
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<tbody>
<tr>
<td></td>
<td>Maths</td>
<td>Reading</td>
<td>Science</td>
<td>Maths</td>
<td>Reading</td>
</tr>
<tr>
<td>Australia</td>
<td>533 (6)</td>
<td>528 (4)</td>
<td>528 (8)</td>
<td>524 (11)</td>
<td>525 (4)</td>
</tr>
<tr>
<td>Finland</td>
<td>536 (5)</td>
<td>546 (1)</td>
<td>538 (4)</td>
<td>544 (2)</td>
<td>543 (1)</td>
</tr>
<tr>
<td>Japan</td>
<td>557 (2)</td>
<td>522 (9)</td>
<td>550 (2)</td>
<td>534 (6)</td>
<td>534 (14)</td>
</tr>
<tr>
<td>South Korea</td>
<td>547 (3)</td>
<td>525 (7)</td>
<td>552 (1)</td>
<td>542 (3)</td>
<td>534 (2)</td>
</tr>
<tr>
<td>OECD average</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>494</td>
</tr>
</tbody>
</table>
Both Japan and South Korea are self-critical of their early PISA results. Interestingly, South Korea looked to its students and teachers to work harder, while Japan wanted to learn from higher performing educational systems at the time, such as Finland. The general consensus in both countries was a need to perform better than their previous round. The South Korean discourse is much more focused on remaining competitive academically on the world stage and it is only recently that the discourse has begun to focus on contentious issues associated with these high academic scores. Over time, there is increasing reporting on
student welfare issues stemming from the high pressure and high stress education system in South Korea. The Japanese discourse is highly reflective and questioning, seeking to understand what factors are influential in PISA performance over time. The discourse recognises the positive impact the yutori educational reforms have had on Japan’s PISA performance since 2003.

Conclusion
This study has been constrained by its focus on English language newspapers and a smaller data set for Finland. While noting these limitations, the findings help understand cross-national differences in education discourse and also differences in how competition is positioned within that discourse.

Despite the now highly globalised nature of education, there are clear differences in national discourses. Within the overall PISA discourse Finland, Japan and South Korea have focussed on system-level perspectives of education and have international comparative outlooks. By contrast Australia focuses on disciplinary areas, particularly mathematics, and internal contrasts between states, which could be interpreted as a parochial approach. Finland and South Korea both have a focus on “time” and also aspire to “high” standards among teachers, in addition to the aspirations all four countries expressed for high standards among students. Interestingly, Finland was the only country to hold “research” in a prominent position in relation to education.

There is a somewhat predictable focus on competition within the Asian discourse. The competitive nature of Japanese and South Korean education is widely acknowledged and, particularly in South Korea, economic competitiveness is also tied to educational competitiveness. This is also seen, to a lesser extent, in Finland, despite the limited data. Australia stands in contrast, with little mention of educational competitiveness and no reference to economic competitiveness, despite declines in performance since 2000.

When plotted alongside the trends in national performance between 2000 and 2012 the narratives of the media discourse are compelling. A focus on competitiveness is most obvious in the improving Asian countries, Japan and South Korea, as they take a critical view of their systems. The Finnish and early Australian discourses are more self-satisfied and do not acknowledge their changing relative position and declines in scores until the 2012 assessments.

The trends evident in the longitudinal analysis warrant further research. The correlation between the educational trends and the World Economic Forum competitiveness data, identified by Baumann and Winzar (2016), is elucidated here with national discourse perspectives that do not sit comfortably with much of the existing literature in education. The continued positioning of Finland as a reference country, with policies to aspire towards, illustrates the tensions between an economic perspective of education and more human capital and humanist approaches. Humanist perspectives raise many questions:

Q1. Should education be linked to economic competitiveness?

Q2. How are other purposes of education to be positioned in considering this relationship?

The discourses within countries, like Japan and South Korea, which couple education closely with competition, have also grown to recognise the difficulties that competition can impose.

There are no simple answers. More research is needed to elucidate these perspectives, to inform the questioning of positions and develop a more nuanced understanding of how education reflects deeper societal values. Future comparative work could draw on questionnaire and interview data to understand national perspectives on education and how competition is positioned. The findings presented here contribute to this understanding and may stimulate discussion on policy orientations in the countries examined.
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Appendix

**Figure A1** PISA results for mathematics between 2000 and 2012

**Figure A2** PISA results for reading between 2000 and 2012

**Figure A3** PISA results for science between 2000 and 2012
Chapter 4: Media neglect of Indigenous performance in the Programme for International Student Assessment 2001–2015

The article in this chapter has been accepted and is in press as:


**Author contribution statement**

I planned and wrote this article under supervision of Dr Rachel Wilson and Associate Professor John Evans. Joint discussions provided shared contributions. I completed the research design, planning, implementation and analysis independently.

**Australian Journal of Indigenous Education**

The article in Chapter 4 is currently in press for the *Australian Journal of Indigenous Education* which is an internationally refereed journal that publishes papers on Aboriginal and Torres Strait Islander studies, with a clear focus on the theory, method and practice of Indigenous education. This article provided reflections and discussions on research concerning Indigenous Australian students’ performance in PISA, which is an area that had been neglected in Australian academic research. The Journal Impact Factor is currently unavailable for this journal.
Media neglect of Indigenous student performance in the Programme for International Student Assessment (PISA) 2001–2015

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Abstract

This research explores media reporting of Indigenous students’ Programme for International Student Assessment (PISA) results in two national and 11 metropolitan Australian newspapers from 2001 to 2015. Of almost 300 articles on PISA, only 10 focused on reporting of Indigenous PISA results. While general or non-Indigenous PISA results featured in media reports, especially at the time of the publication of PISA results, there was overwhelming neglect of Indigenous results and the performance gap. A thematic analysis of articles showed mainstream PISA reporting had critical commentary which is not found in the Indigenous PISA articles. The three themes identified include: a lack of teacher quality in remote and rural schools; the debate on Gonski funding recommendations and the PISA achievement gap between Indigenous and non-Indigenous students. This study concluded the overwhelming neglect is linked to media bias, which continues to drive mainstream media coverage of Indigenous Australians.

Introduction

In 2000, the Organisation for Economic Co-operation and Development (OECD) launched the Programme for International Student Assessment (PISA), which evaluates education worldwide by triennial assessment of the mathematics, science and reading literacy skills of 15-year-old students (OECD, 2016). PISA stimulated educational research because the reports provided authentic and viable methods for Australian academics to examine Australian students’ performance. Interest increased after it became clear that Australian results were both declining and relatively poor compared to other high-performing OECD nations (Waldow et al., 2014). Australia’s declining international rankings generated consistent negative publicity. The media discourse was critical for the Australian education system and focused on the performance of all stakeholders, including teachers, school leadership and neoliberal policies.

Analysis of the rich array of PISA data showed many students who had the poorest performance were Indigenous Australians (Dreise and Thomson, 2014). These students were, on average, two and a half years behind non-Indigenous students. Figure 1 shows the mean test scores in the tested subject areas and that the gap between Indigenous and non-Indigenous student results has remained relatively similar since 2000, despite a slight upturn in PISA 2015 reading and mathematics literacy scores.

This study aims to better understand discourse framing Indigenous performance in PISA by investigating the attention it received in Australian academia and mainstream media. After reviewing the academic literature, the study investigates coverage in two national and 11 metropolitan high-circulation newspapers from 2001 to 2015. To develop a theoretical framework to help understand this lack of attention, this paper focuses on the following two research questions:

(1) What is the positioning of Indigenous education within Australia’s media discourse on PISA?
(2) What theoretical insights can be used to help explain the findings related to the media attention given to Indigenous PISA performance?

Background

Australian educational research on PISA

Since publication of PISA’s first results in 2000, a significant body of literature has emerged. The main drivers of this research have been the many articles in the print and television media
and the 2009 release of Australia’s poor and declining scores. In the last 3 years alone (2015–2017), there have been eight peer-reviewed articles with a sole focus on Australian students’ PISA performance.

Table 1 summarises the eight articles on PISA and the three main themes: government and non-government school funding, education inequality and teaching quality. There is a lack of research exploring Indigenous performance in PISA. We explore the three themes to understand what educational issues have attracted more academic interest than Indigenous PISA performance.

The first theme is the difference in funding between government and non-government schools. Education academics have reported on the level of public funding for non-government schools (Dowling, 2008; Forsey et al., 2017) and mostly agree that it is a flawed, complicated system (Connors, 2007) that continues to undermine the government schooling system in Australia. The funding of schools is an important determinant for student educational performance. The literature has also argued that the growing divide between government and non-government school funding in Australia has wider implications for segregation and multiculturalism (Butler et al., 2017; Rowe and Lubienski, 2017), the socioeconomic status background of each sector (Watson and Ryan, 2010) and student educational outcomes (Perry and McConney, 2013).

The second theme is inequality in the Australian schooling system (Kenway, 2013; Yates, 2013). This theme has appeared repeatedly in the literature, while the Federal Government has introduced educational policy interventions with the intention to reduce the causes of Australia’s educational inequality. For example, one policy is the promotion of ‘school choice’ under neoliberal ideology and practices. Many academics have examined the problematic nature of ‘school choice’ (Windle, 2014; Angus, 2015) and shown that the Australian schooling system has fallen short in fairness and equity, which has further been linked to the decline in Australian PISA results (Lingard, 2016). Surprisingly there is little, or no explicit, discussion of the iniquitous ‘gap’ between Indigenous and non-Indigenous students.

The third theme is teacher quality. There is concern that teacher quality may have fallen in recent years, and this correlates with the decline of Australia’s PISA performance (Leigh and Ryan, 2008; Treagust et al., 2015). Leigh and Ryan (2008) found the academic aptitude of new teachers had fallen considerably over the past two decades. Recent initiatives to ensure quality teaching in Australian schools include the introduction of professional standards for teachers and the evaluation of teachers against those standards (Mayer et al., 2005). However, many academics have questioned the effectiveness of initiatives in teacher professional development (Bowe and Gore, 2017), teacher accountability (Thompson, 2014) and an oversupply of teachers (Dinham, 2013), which are combining to work against teacher quality (p. 92).

School funding, issues of inequity and teacher quality are also dominant in academic research on PISA. However, there is a notable lack of attention to, and neglect of, the performance of Indigenous Australian students in PISA. This neglect is surprising as the lowest performers are disproportionately from an Indigenous background (Thomson, 2016); there have been numerous policies to address Indigenous underperformance (Gray and Beresford, 2008); and Indigenous education research has increased for almost two decades (Mellor and Corrigan, 2004).

**Indigenous Australian PISA results**

Since the initiation of PISA in 2000 only four empirical research studies have investigated the achievement gap between Australian Indigenous and non-Indigenous students in PISA (McConney et al., 2011; Woods-McConney et al., 2013; Song et al., 2014; Sikora and Biddle, 2015). McConney et al. (2011) analysed science literacy performance in PISA 2006 and found that Indigenous students’ interest in science was equal to their non-Indigenous peers, while not having the same educational outcomes as other Australians. The researchers argued school science curriculum should acknowledge and publicly value Indigenous Australian science knowledge, and incorporate it into professional learning for teachers. Woods-McConney et al. (2013) examined and compared factors associated with science literacy and with science engagement for Indigenous and non-Indigenous 15-year-old students in Australia and New Zealand and found consistent patterns of
Table 1. The eight peer reviewed journal articles published since the 2015 round of PISA

<table>
<thead>
<tr>
<th>Authors (Year)</th>
<th>Approach</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gorur and Wu (2015)</td>
<td>Uses ‘sociology of measurement’, which incorporates statistical analysis using the PISA database, as well as methodologies more usually associated with policy ethnographies, such as interviews (p. 651-652).</td>
<td>‘That there is no generalised crisis in education that can be inferred based on a detailed reading of the PISA data…the data points towards the need for a more focused and targeted approach, rather than sweeping national reforms’ (p. 662).</td>
</tr>
<tr>
<td>Jerrim (2015)</td>
<td>Investigates whether children of East Asian descent, who were born and raised in a Western country (Australia), score as highly as children from other high performing East Asian countries in PISA (p. 310).</td>
<td>Results suggest that second-generation East Asian immigrants outperform their native Australian peers by approximately 100 test points. Moreover, the magnitude of this achievement gap has increased substantially over the last ten years’ (p. 310).</td>
</tr>
<tr>
<td>Chesters and Haynes (2016)</td>
<td>Examines the association between parental education and various educational student outcomes using 2003 PISA (p. 273-274).</td>
<td>‘The results presented here show that as parental education increased, student’s PISA score increased even after the effects of grade level, sex, migrant status, and the location and the type of school attended were taken into consideration’ (p. 281).</td>
</tr>
<tr>
<td>Gillis et al., (2016)</td>
<td>Considers the role played by policy makers, government organisations, and research institutes (sometimes labelled ‘think tanks’) in the analysis, use and reporting of PISA data for policy advice and advocacy’ (p. 131).</td>
<td>‘Given the lack of statistical literacy amongst much of the public, including some policy makers and the media, it is vital that high profile commentators, research and policy organisations (including the OECD) and government consider and adequately acknowledge such limitations when using PISA data for policy advice and for advocacy purposes’ (p. 144).</td>
</tr>
<tr>
<td>Baroutisis and Lingard (2017)</td>
<td>This paper uses ‘framing theory to empirically document media portrayals of Australia’s performance on the PISA, 2000–2014 (p. 432).</td>
<td>‘Most of the media coverage (41%) was concerned with the first frame, counts and comparisons, which analysed PISA data to provide ‘evidence’ that was then used to comparatively position Australia against other countries, reference societies, which do better, with particular emphasis on Finland and also Shanghai after the 2009 PISA’ (p. 432).</td>
</tr>
<tr>
<td>Marks (2017)</td>
<td>This article focuses on school-sector differences in students’ evaluations of their teachers and schools using the OECD PISA 2009 study (p. 426).</td>
<td>‘On eight of the 10 attitudinal measures, students attending Catholic and independent schools have more positive evaluations and these school-sector differences survive controls for students’ SES, their overall level of achievement and school-SES, which has no substantive influence’ (p. 426).</td>
</tr>
<tr>
<td>Skrzypiec and Lai (2017)</td>
<td>Examines the applicability of the Theory of Planned Behaviour (TPB) for predicting the relationship between students’ intentions, their mathematics attitudes, subject norms, perceived controllability, self-efficacy and mathematics behaviour, using items created by PISA 2012 question designers to assess these TPB constructs (p. 2146).</td>
<td>‘Australian PISA 2012 data from 14,481 students found that the hypothesised TPB antecedents for studying mathematics were very poor predictors of mathematical intentions and indirectly, weak predictors of mathematical behaviour’ (p. 2146).</td>
</tr>
</tbody>
</table>

Influence on engagement in science for Indigenous and non-Indigenous students in both countries. Socioeconomic status, time spent on science lessons and study and the character of science teaching explained variations in science literacy.

Song et al. (2014) found the achievement gap between Indigenous and non-Indigenous students in PISA 2009 was related to unequal allocations and differences in the rates at which home and school resources are converted into positive educational outcomes. The study also found the achievement gap is substantially larger in Australia than in New Zealand, and is related to greater inequity in the allocation of school resources. Sikora and Biddle (2015) used PISA 2006 and 2009 data to investigate educational and occupational expectations of Indigenous and non-Indigenous youth. They found similarities in school-related factors that boost ambition of Indigenous and non-Indigenous boys and girls. In contrast, maternal and paternal role models influence Indigenous and non-Indigenous youth differently.

These four studies on Indigenous PISA results are largely comparative in their approach, and examine the extent to which the achievement gap between Indigenous and non-Indigenous students can be measured or attributed to various influencing factors both within and outside the school environment. There has been very little academic, empirical attention on Indigenous performance in PISA. This paper examines this neglect by analysing PISA discourse in the Australian media and the attention on Indigenous student performance.

Methodology

The sample

The sample for this study is two national and 11 metropolitan newspapers across a 15-year period, 2001–2015. Table 2 shows the newspapers represent a broad range of coverage and ownership. News Corp Australia takes a conservative news agenda, while Fairfax Media has a more central liberal bias (McKnight, 2010, p. 310).

Metropolitan newspapers were selected from the capital cities of each Australian state or territory to gain the largest possible coverage of the nation’s newspaper readership, complemented by including the only two national daily newspapers, The...
The total number of PISA newspaper articles obtained provides a broad overview of the PISA discourse in Australian newspaper media. We follow this with a more specific analysis of the PISA articles which provide a focus on Indigenous performance, and further correlate this reported discourse in relation to the timing of specific PISA rounds and the greater politico-educational landscape. We focus on Indigenous performance, and further correlate this reported discourse in relation to the timing of specific PISA cycles nearly every year following a PISA round. Figure 2 shows the highest article increase in 2004, with an increase in 28 focused articles compared to the preceding two years. The highest peak in 2013 saw 58 PISA oriented articles published, higher than any other year.

Table 2. Newspaper media ownership and their origin

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Fairfax Media</th>
<th>News Corp Australia</th>
<th>Seven West Media</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sydney</td>
<td>Sydney Morning Herald</td>
<td>Daily Telegraph</td>
<td></td>
</tr>
<tr>
<td>Melbourne</td>
<td>The Age</td>
<td>Herald Sun</td>
<td></td>
</tr>
<tr>
<td>Brisbane</td>
<td>Brisbane Times*</td>
<td>Courier Mail</td>
<td></td>
</tr>
<tr>
<td>Adelaide</td>
<td>The Advertiser</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perth</td>
<td>The West Australian</td>
<td></td>
<td></td>
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<tr>
<td>Darwin</td>
<td>Northern Territory News</td>
<td></td>
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</tr>
<tr>
<td>Canberra</td>
<td>Canberra Times</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hobart</td>
<td>The Mercury</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National</td>
<td>Australian Financial Review</td>
<td></td>
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</tbody>
</table>

*Publication began in 2007, online only.

Results

Non-Indigenous PISA articles

The intensity of reporting on Australian students’ PISA performance has increased over time, as shown in Figure 2. This increase can largely be attributed to the rise in prominence and significance of PISA in both national media across Australia and internationally across other OECD countries (Breakspear, 2014, p. 7).

There is a saw-tooth pattern with a peak in PISA focused articles nearly every year following a PISA round. Figure 2 shows the highest article increase in 2004, with an increase in 28 focused PISA articles compared to the preceding two years. The highest peak in 2013 saw 58 PISA oriented articles published, higher than any other year.

There are two distinct reporting peaks in PISA articles (one in 2004 and the other in 2013) and one distinct reporting trough in 2009. The peak in 2004 is associated with the newfound interest in the PISA performance results from the Australian print media, partly attributed to the high performance and initially high international ranking of Australian students in 2000 and 2003 PISA.

The large majority of PISA articles reporting on 2000 and 2003 results voiced appreciation and positive affirmation to the nation’s education system, its teachers and students. Media headlines included: ‘Australia’s education system gets full marks’ (O’Connor, 2004); ‘Aussies get high marks in a world test’ (Buckingham, 2004) and ‘Australian students read the way’ (Wilson-Clark, 2004). These positive PISA news stories make no acknowledgement of the gap between Indigenous and non-Indigenous performance despite it being well established in PISA reporting and highlighted in the executive summary and media release on each cycle. Not a single media article before 2004 addresses Indigenous performance in PISA. There is a clear imbalance in media attention towards Indigenous PISA performance in this period. In 2009 there is a clear trough in newspaper coverage with only five PISA articles as the PISA results for 2009 had not yet been released, and it was 2 years since the release of previous PISA results in 2007. The focus of each article was different (Figure 3).

Table 3. Word search and references

<table>
<thead>
<tr>
<th>Word search</th>
<th>References attained</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘Aborig’</td>
<td>Aborigines, Aboriginal, Aboriginality</td>
</tr>
<tr>
<td>‘Indigenous’</td>
<td>Indigenous</td>
</tr>
<tr>
<td>‘ATSI’</td>
<td>ATSI (Aboriginal and Torres Strait Islander)</td>
</tr>
<tr>
<td>‘Torres Strait Islander’</td>
<td>Torres Strait Islander</td>
</tr>
<tr>
<td>‘Koorie’</td>
<td>Koorie</td>
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</tbody>
</table>

Data collection

The total number of PISA newspaper articles obtained provides a broad overview of the PISA discourse in Australian newspaper media. We focus on Indigenous performance, and further correlate this reported discourse in relation to the timing of specific PISA rounds and the greater politico-educational landscape. Articles were retrieved using the media database Factiva, through keyword searches for ‘PISA’ in the selected Australian newspapers between 2001 and 2015. Because Factiva did not provide search results for the online newspaper, the Brisbane Times, articles were collected using the Brisbane Times’ online search capability. Using ‘PISA’ as the search term, 684 PISA articles were retrieved, and 287 of these articles were relevant to the study by showing a clear focus on the international assessment. Articles that made only passing reference to PISA were excluded. Each of the 287 PISA focused articles was examined in a systematic, methodological manner to determine which articles also focused on Indigenous Australian PISA performance using the ‘Find’ option in Microsoft Word to search for individual Indigenous references in full text. Keyword searches also included other terms appropriate to Indigenous Australians (see Table 3) and were also shortened to consider short form and stemmed words.

When the context of a reference had a focus on Indigenous student performance in PISA, the entire article was then analysed to determine its overall focus. An article with a whole focus on Indigenous student PISA performance was then added to a separate Word file. Of the 287 PISA articles, only 10 articles had a focus on Indigenous PISA performance, which represents 3% of the total sample.

Data analysis

The articles were analysed using thematic analysis to identify, analyse and report on themes that emerged (Braun and Clarke, 2006, p. 6). The themes emerged from the 10 newspaper articles on Indigenous student PISA performance. This study followed Braun and Clarke’s (2006) six-step process for thematic analysis in social sciences: the researcher ‘familiarised’ themselves with the data; systematically coded the data to generate ‘general initial codes’; established ‘potential themes’ through the negotiation of similar and overlapping codes; reviewed the potential themes against the coded data; defined and named each theme to clearly outline the theme’s central concept and lastly, reported the story the data tells across the themes.
In 2013 the second distinct peak of PISA newspaper coverage is attributed to the decline in Australian PISA results. Australian students were now ranked 13th in reading, down from 9th in 2009; 17th in science, down from 10th and 19th in mathematics, down from 14th. These results confirmed the declining trend that had been occurring in reading, science and mathematics for nearly a decade. Despite 2013 having just over 20% of the total PISA articles, only 2% of articles had an Indigenous PISA focus for 2013.

This peak in PISA reporting reflects the broader educational discourse in the lead up to the release of PISA results in 2013. The release of Gonski’s Review of Funding for Schooling—Final Report, highlighted the inequity within the educational system and recommended changes to funding to ensure equality for all students (Gonski et al., 2011). A total of 48 of the 58 PISA articles in 2013 refer to the Gonski report and call for the government, in light of the decline in 2013 PISA results, to commit to, at least parts of, the Gonski school funding package.

Findings and discussion

To better understand the lack of media reporting on PISA performance of Indigenous students, this discussion is divided into three parts: thematic analysis; media bias and Indigenous Australians in the media.

Thematic analysis

Only 10 newspaper articles on Indigenous students in PISA formed the sample for this analysis, with seven of the articles published by Fairfax Media newspapers, two by News Corp Media newspapers and one by the Seven West Media newspaper (see Table 4). One newspaper, the Canberra Times, had three of the 10 articles.

It might be expected the mass media would specifically report on the large discrepancy between Indigenous student PISA scores and their non-Indigenous peers. While this does occur, not all articles address this issue with in-depth insight or analysis. Rather the articles, recognising the need to address the issue of Indigenous PISA performance, provided limited in-depth discussion that focused on embarrassing educational dilemma. From the limited discourse of only 10 articles there are three specific themes (see Table 5):

A 2004 article in The Sydney Morning Herald titled ‘Aboriginal performance tarnishes result’ documented the issue associated with poor Indigenous student results and the effect it was having on the overall Australian PISA results. For the author, Doherty, the results themselves were not problematic for Indigenous student populations, but for the impact on the nation’s academic prestige. She notes ‘students are performing above the national average in reading, mathematics, science and problem-solving but share with the rest of the country a poor record on Aboriginal education’ (Doherty, 2004). The language used shows that for the author, Aboriginal education is tarnishing and letting down the rest of the country’s otherwise positive results in the 2003 PISA.

The first theme argues that a lack of teacher quality in remote and rural schools is having a major influence on the Indigenous student PISA performance.

The issue we are trying to address here is quality of teaching, not quantity of teaching, in remote schools and therefore the incentive programs need to focus on the recruitment and retention of teachers who have capacity to contribute to the achievement of identified educational outcomes (Penfold, 2014).

The focus on quality teaching in both metropolitan and national newspapers is interesting, as it has been identified as a cause for concern across the teaching profession in Australia. Reasons for the lack of quality teaching in remote and rural school settings are largely undiscussed in the media discourse. However, some discourse identifies the need for government and education...
authorities to identify and rectify a lack of quality teaching in remote and rural schools. One journalist’s reflection outlines the potential future benefits of addressing this issue in remote and rural schools:

Putting money into ‘hard to staff’ schools would have long-term benefits for the nation: extra teachers now will always represent a saving in terms of lower costs in the future, in terms of unemployment and social welfare, incarceration and disengagement from the community (O’Connor, 2004).

The language creates a negative ideological discourse towards students in rural and remote schools (which are highly populated by Indigenous students): without increased monetary support, rural and remote students will be left with a very poor future outlook. This shows how the media is capable of a bias: that students in these schools are potentially problematic, particularly in relation to future ‘costs’ to the rest of society if the issue is not addressed.

Similar to the first theme, the second theme argues for increased government funding, explicitly to address the Gonski report recommendations. Two metropolitan newspaper articles in 2012 and 2013 argued that the latest PISA results confirm serious inequity within Australia’s education system, and therefore the need to commit to the most recent recommendations from the 2011 Gonski Review of Funding for Schooling—Final Report. However, both articles describe the federal government as uncommitted on the proposed funding recommendations:

The findings are likely to further fuel debates around school funding, reinvigorated this week by the Abbott government’s shifting positions on the Gonski ‘needs-based’ funding model…the Northern Territory will not be required to distribute the funding to schools with the most disadvantaged students (Tovey and Patty, 2013).

This discourse has again highlighted the issue surrounding the first and second themes, where current funding is either inadequate or misdirected and seen as having a direct effect on the Indigenous educational dilemma. While the Gonski report might present a case for radical restructuring of the school education funding model, analysis of the media discourse shows its implementation remains unclear (Keating and Klatt, 2013).

The third theme focuses on the achievement gap between Indigenous and non-Indigenous students, and is referenced in five newspaper articles. While this represents half of the sample, the discourse provides little examination of the two and a half year achievement gap existing between Indigenous and non-Indigenous students according to PISA. One article, by journalist Trevor Cobbold, provides some critical dialogue on the various achievement gaps in Australia’s 2012 PISA results:

These achievement gaps are a social calamity. A shameful social injustice is being perpetrated on the disadvantaged in Australia. It effectively denies them access to further education, well-paying jobs, positions of power and influence in society and an extended healthy life (Cobbold, 2012).

The analysis also highlighted how the language and tone used delivers an ominous outlook for Australia’s disadvantaged students, consistent with the negative outlook apparent in the first theme. The Indigenous PISA media discourse in the last 15 years has pitched a single message to its Australian readers—
there is a stark educational disparity between Indigenous and non-Indigenous students according to PISA indicators that has not improved and warrants further attention in terms of teacher quality and monetary investment. However, while this is an important message, it becomes almost inconsequential when less than one article a year is published on Indigenous PISA performance, and some newspapers failed to publish a single focused article. In comparison, on average nearly 20 articles a year were published on non-Indigenous PISA issues with a yearly high of 57 non-Indigenous PISA articles in 2013. There is almost a complete paucity in media reporting that is not relative to the magnitude of this educational outcomes issue, or the social implications that it has for Indigenous youth, communities and Australian society.

The analysis highlights the lack of attention to Indigenous PISA education performance, six newspapers failed to address Indigenous performance in any way: The Brisbane Times, The Courier Mail, The Daily Telegraph, The Mercury, The Australian Financial Review and The Northern Territory News. News Corp newspaper articles have been silent on Indigenous PISA reporting. There are only 10 Indigenous PISA articles in the sample over 15 years, during which Australian educational policy has clearly defined Indigenous education as a priority area and the Council of Australian Governments (COAG) has produced numerous policies and practices to address the alarmingly high levels of Indigenous inequality and entrenched disadvantage (see e.g. COAG Reform Council, 2010). While Indigenous inequality and disadvantage has become more pronounced and evident in the trend of Australian PISA results, the media shows bias and neglect on this issue.

Indigenous PISA performance is one of the outstanding features of the Australian national performance profile and therefore deserved more attention by the media. This finding suggests mass media bias in what they do and do not print, that is consistent with other research. For example, other research has shown that the majority of newspaper articles involving Indigenous issues and practices to address the alarmingly high levels of Indigenous inequality and entrenched disadvantage (see e.g. COAG Reform Council, 2010). While Indigenous inequality and disadvantage has become more pronounced and evident in the trend of Australian PISA results, the media shows bias and neglect on this issue.

The media neglect of Indigenous PISA performance results is even more evident given the high number of articles on general Australian PISA performance. For example, between 2001 and 2015 the two nationally distributed Fairfax Media and News Corp newspapers, The Australian Financial Review and The Australian, published 96 articles on national Australian PISA performance. Of these articles, only one from The Australian examined the PISA performance for Indigenous students in PISA.

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Here again the analysis showed the language in many media articles attempts to deflect responsibility from the governments upon which responsibility rests. While there is a strong feature critiquing teacher quality and the achievement gap, which is a central issue in the larger proportion of articles, there remains little critical analysis of the issues that have been raised in the thematic analysis. This lack of critical media discourse and attention to the Indigenous PISA performance points to the existence of bias in Australian mainstream media. As shown in previous studies that investigated Indigenous representation in the media, there have been continuous and unequivocal attempts to isolate and misrepresent Indigenous Australians through the controlled media discourse.

**Media bias**

Media bias, defined as: any form of preferential or unbalanced treatment by personnel within the mass media, in the selection of events and stories that are reported, and how they are covered (Lee, 2005, p. 45) can help understanding of the lack of Indigenous PISA reporting in Australian media. Bias can happen in a number of ways: which stories are selected, selection bias (White, 1950), how much attention is given to a story, coverage bias (Stempel, 1969), and how a story is reported, statement bias (Hofstetter, 1976). Media bias is well documented and continues to cause considerable international debate in the current media landscape i.e. the ‘fake news’ debate (Allcott and Gentzkow, 2017). Our analysis suggests that all three biases are evident in the reporting examined.

The theory of liberal bias suggests that the media supports liberal causes and thinking and thereby influences readers to prefer liberal over conservative positions and beliefs (D’Alelio and Allen, 2000, p. 134). For example, Lichter et al.’s (1990) United States study combined survey data with content analysis and argued that journalists project their shared, predominantly liberal views onto media coverage. Numerous studies have found there is a larger portion of media personnel who espouse their liberal attitudes to media coverage (Kobut, 2004; Groseclose and Milyo, 2005).

Studies have also investigated the conservative bias of the media, arguing that the media shapes public opinion in a manner that preserves the hegemony of society’s ruling interests (Lichter, 2017, p. 403). Bagdikian (2004) argued that the concentration of the media is increasing and proposed that media owners and advertisers both shape the news directly and indirectly, through biases linked to media production. These biases include professional routines that define news to favour the rich and powerful, such as through overreliance on official sources to marginalise opposing opinions (Lichter, 2017, p. 406). Similarly our analysis provides evidence for the marginalising practices of the media with nine of 10 Indigenous PISA newspaper articles failing to include Indigenous sources in their coverage.

Debate over media bias includes societal functions, including racial bias within mass media. Studies in the United States and Europe have argued that the media has promoted racial stereotyping and also regularly marginalised non-white voices (van Dijik, 1991; Jakubowicz et al., 1994). For example, Henry and Tator (2002) provided a critical discourse analysis of case studies in Canadian and English-language press, showing how the media produces, reproduces and disseminates racist thinking. They argue that these kinds of racial bias are not isolated, and reflect a set of core assumptions, hypotheses and world views held by many who work in the mass media (p. 4). In our analysis this is evident in both extent and nature of media coverage on Indigenous PISA performance.

Australia has one of the most concentrated media ownership structures in the world (Newman et al., 2017, p. 116) with Rupert Murdoch’s News Corp having owned roughly 70% of the newspaper industry, and Fairfax Media with most of the rest (Griffen-Foley, 2002). Few researchers have investigated bias in the wider media, although there are studies on the ideological stance of newspapers (McKnight, 2010; Hobbs and Owen, 2016), and their coverage of environmental issues (Beder, 2004), minority groups (Kabir, 2006) and religions in Australia (Richardson, 1996).

While much of the available literature is on the American mass media and its political allegiances, there is research worldwide. It is therefore likely that in Australia, with its concentration of media ownership one of the highest in the world (Newman et al., 2017), media bias and control not only exists but has substantial influence on issues reported on by mass media. Certainly our analysis here identified trends in relation to media ownership and the issues it chooses to ignore and report on.

**Indigenous Australians in the Media**

Our findings are consistent with widespread research on the connection between Indigenous Australians and the mass media. The general trend of media coverage defines Indigenous people as a threat or problem, and almost always negative and associated with anti-social activities (Jakubowicz and Seneviratne, 1996; Meadows and Molnar, 2002). Historically research has also found there has been little change in the low level of use of Indigenous sources in media stories about Indigenous affairs (Hippocrates and Meadows, 1996; Meadows et al., 1997). Another study by Bullimore (1999) found there is a considerable lack of Aboriginal voices in two of Australia’s major newspapers, *The Sydney Morning Herald* and *The Australian*: ‘when Aboriginal voices did occur, they were mostly outnumbered by the voices of elite actors (such as academics, government officials etc.), or were mediated by white voices that appear on behalf of, and instead of, Aboriginal voices’ (p. 75). While this study does not refer to bias operating in the Australian media, it shows that the media makes a legitimate attempt to marginalise the views on Indigenous peoples through their underrepresentation in the reporting of Indigenous affairs. As stated earlier we have found similar evidence reflected in our analysis with all but one article from the three major news corporations failing to provide Indigenous sources in their reporting.

**Table 5. Outline of the central concept and boundaries attributed to each of the three themes for this thematic analysis**

<table>
<thead>
<tr>
<th>Theme</th>
<th>Working definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lack of teacher quality in remote and rural schools</td>
<td>Discourse on the issue of a lack of teacher quality in remote and rural schools</td>
</tr>
<tr>
<td>2. Debate on Gonski funding recommendations</td>
<td>Discourse on the advice put forward by the Government commissioned Gonski report on school funding</td>
</tr>
<tr>
<td>3. PISA achievement gap between Indigenous and non-Indigenous students</td>
<td>Discourse on the achievement gap between Indigenous and non-Indigenous students according to PISA results</td>
</tr>
</tbody>
</table>
Many studies have attempted to further understand the role, nature and processes used by the mass media to help shape and construct dominant ideas and assumptions about Indigenous Australians and their place in society. Simmons and Lecouteur (2008) used a discourse-analytical approach to explore the ways in which a particular formulation, ‘the possibility of change’, was repeatedly implicated in descriptions of two ‘riots’ that received widespread media attention in Australia: one involving Indigenous, and the other involving non-Indigenous community members (p. 667). Their analysis of the media discourse demonstrated how, for the event involving Indigenous Australians, ‘change’ was repeatedly represented as an unachievable outcome. In contrast, descriptions of problems within the non-Indigenous community regularly represented ‘change’ as an achievable outcome. The study labelled this practice ‘a modern form of racism, which uses more subtle language techniques so racist discourse may be plausibly denied’ (p. 684). This example shows that while bias is not mentioned, the media and its systems of representation are not unequivocally neutral, and the messages delivered within a discourse are invariably complex in nature and implications. As our analysis has shown, articles on Indigenous PISA performance use language that displays Indigenous education in a negative light, either as ‘challenging’ or ‘problematic’ for the nation.

Indigenous Australians have been further affected by how the media frames stories (McCallum, 2016; McCallum and Waller, 2017). McCallum (2007) performed a news frame analysis of seven Australian newspapers, from January 2000 to June 2006, reporting on incidents of ‘Indigenous violence’. Over the 6-year period, stories on Indigenous violence featured at regular intervals through stories of substance abuse, domestic violence and child abuse in remote communities. McCallum (2007) suggested that narrow and stigmatising portrayals of Indigenous Australians were used by the media, who ‘sought to actively drive political agendas in Indigenous affairs through the construction of mediated public crises’ (p. 1). Again while bias is not mentioned, this study argued that seven newspapers played both a regular and active role in delineating chosen messages to their public audience.

While the words ‘media bias’ do not appear, it is clear the media decides what to report. Biases manifest in various ways, and although subtle, are clearly an observable phenomenon. Ewart (1997) interviewed journalists from a regional newspaper and importantly found that the journalists were largely uninterested in reporting on Indigenous Australians and Aboriginal affairs, as they weren’t considered news by the newspaper’s editorial hierarchy (p. 112). When an issue was deemed newsworthy, Ewart (1997) states that ‘race or colour are usually mentioned where Indigenous Australians are involved in issues with negative slants, but seldom are subjects of stories described as Anglo Saxons’ (p. 115). The self-described practices of these representative journalists show that their reporting is undoubtedly manipulated by higher editorial powers, showing how the discourse can be easily forfeited to inherent biases of the media. Our analysis has shown that across a 15 year period a mere 10 newspaper articles reported on Indigenous PISA performance, illustrating a clear disregard for the educational issue across the Australian mainstream media.

### Conclusion

It is almost a decade since the Melbourne Declaration on Educational Goals for Young Australians (2008) appeared. In this landmark document the authors highlighted that there needed to be a commitment to action for Indigenous youth. The Declaration noted, ‘For Australian schooling to promote equity and excellence, governments and all school sectors must improve educational outcomes for indigenous youth’ (Ministerial Council on Education, Employment, Training and Youth Affairs, 2008, p. 15). The document went further and identified that ‘Meeting the needs of young Indigenous Australians and promoting high expectations for their educational performance requires strategic investment’ (p. 15).

This ‘strategic investment’ also meant undertaking research into addressing this inequality and improving educational outcomes. While a wave of research in the area ensued, by both Indigenous and non-Indigenous academics, research specifically related to Indigenous PISA reporting was strangely neglected. The research reported here is an attempt to redress some of this neglect by reporting on Indigenous PISA performance in the Australian mass media between 2001 and 2015. The main finding to emerge from the research is the existence of bias in the reporting of Indigenous PISA performance in Australian mainstream media. Australian mass media has not seen the performance of Indigenous youth as worthy of significant reporting and analysis. Further investigation, examining media and political power structures, is needed into why Indigenous PISA performance is not reported. Given the stark feature the neglect of Indigenous education has created in the Australian educational landscape, recurrent and productive research, as well as unbiased media and informed political attention is needed, to redress the gross educational injustice it reflects.

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Chapter 5: Education policymakers’ perspectives on Australian education challenges and PISA’s impact upon policy

The article in this chapter has been submitted and is under review (28 February 2009) as:


Author contribution statement
I planned and wrote this article under supervision of Dr Rachel Wilson. Joint discussions provided shared contributions. I completed the research design, planning, implementation and analysis independently.

Journal of Education Policy
The article in Chapter 5 has been submitted and is currently under review for the Journal of Education Policy which publishes informed research that discusses, analyses and debates policymaking, policy implementation and the impact of policy at all levels and in all facets of education. This article provided a strong focus on the views of policymakers and the impact of PISA on Australian education policy, and was therefore a highly relevant journal to publish in. The journal has a very high Journal Impact Factor of 2.446 and ranks 35/238 for education and educational research journals.
Education policymakers’ perspectives on Australian education challenges and PISA’s impact upon policy.

Abstract

PISA (Programme for International Student Assessment) has featured significantly in the media and public discourse and had direct and research Documented impact on policy across a multitude of countries. This study explores if, and how, this trend might apply to Australia by interviewing 15 policymakers involved in educational policymaking between 2000 and 2015. Policymakers identified a range of pressing challenges in Australian education, and were almost unanimous in acknowledging PISA’s importance as a source of data (14/15), but suggested PISA had no direct impact on Australian policymaking (13/15). They acknowledged media, public and government attention had focused on high performing countries in PISA, in particular Finland, yet argued Canada (9/15) should have had more influence on policy. Finally, all reported concern in relation to Australia’s declining performance in PISA, but often (9/15) qualified this with dismissive and defensive comments. Together, policymaker views reflect deep concern combined with a lack of direction; alongside comments that the steerage of Australian policy is beyond their control, consequently resulting in defensive positions. The research illustrates the methodological advantages of direct questioning, with assured anonymity, among powerful policy stakeholders. Discussion highlights the difficulties policymakers face within complex, and shifting, societal and political environments.

Keywords

PISA, Australia, education, policy, policymakers, international.
Introduction & Background Information

This research investigates and evaluates the impact that the PISA has had on Australian educational policy since its introduction in 2000 until 2015. Similar research has documented PISA’s impact on policy in other countries; including Denmark (Egelund 2008), France (Dobbins and Martens 2012), Germany (Ertl 2006), Japan (Takayama 2008; Tasaki 2017) and a range of other countries (Breakspear 2012; Grek 2009). This body of research has concluded that PISA has impacted strongly upon the formation of education policy. Since the beginning of PISA, Australia’s participation has provided opportunity to compare its student performance to others on a global scale, and provide insight to help improve its education system both in comparison to other countries, and in relation to previous results (ACER 2018). However, relatively little is known about if, and how, PISA data and analyses, have informed Australian policy making; with just one study suggesting that Australia may be in outlier position:

“Australia was the only country that did not select either a ‘yes’ or ‘partly’ for at least one of the PISA result categories [indicating policy impact and]…only the respondents from Australia and France answered that ‘no’ change had occurred in response to PISA reading performance results.” (Breakspear 2012, 11)

However, this research was based on a single individuals’ report and it begs further exploration.

Australia within The Program for International Student Assessment

PISA is a sample-based study of young adults, at age 15, covering the domains of reading literacy, mathematical literacy, scientific literacy and problem solving. In early PISA rounds Australian students performed well in reading, mathematics and science. However 2009 PISA results confirmed the emergence of a declining trend in Australian student performance. Declines in PISA results were also seen in other English speaking countries including Ireland (Cosgrove et al. 2010; Perkins et al. 2010) and Canada (Beese and Liang 2010), and non-English speaking countries like Sweden and Germany (Ringarp 2016; Waldow 2009). In Australia, this decline in performance attracted widespread and sustained media coverage (Davis, Wilson, and
This heavy media coverage increased pressure upon governments and politicians to help lift Australia’s PISA performance.

In Australia the PISA data has also been used to support fervent academic research and discussions on educational issues, including schooling inequality (Kenway 2013; Yates 2013), teacher quality and training (Leigh and Ryan 2008; Treagust, Won, Peterson, and Wynne 2015), and government and non-government school funding (Dowling 2008; Forsey, Proctor, and Stacey 2017); with surprisingly little attention given to the evident inequity between Indigenous and non-Indigenous students (Davis, Wilson, and Evans, 2019). These largely unresolved issues within Australian education, declines in PISA performance (Baroutsis and Lingard 2018) and the rise in PISA media and research (Baroutsis and Lingard 2017; Davis, Wilson, and Dalton 2018), have combined to put PISA in a privileged, but deeply contested, position of primacy within Australian education policy forums. Despite Australian education policymakers having increased access to PISA data over the last decade, there has been no public acknowledgement of a link between PISA data and education reform. Furthermore, significant reforms in Australian education over the PISA era have seen very little sign of positive impacts or outcomes.

In response to the national education challenge evident in PISA data, there has been a modest amount of academic work focusing on Australia borrowing from the policies and learning practices of high performing PISA education systems (Gorur and Wu 2015; Jensen et al. 2012; Sellar and Lingard 2013) and only one empirical study examining experts’ hypotheses on the cause of the decline. Morsy, Khavenson, and Carnoy (2018) conducted interviews with Australian education experts to investigate their hypotheses for the decline in average national scores, and assess these explanations’ empirical validity using Australian PISA and Trends in International Mathematics and Science Study microdata for the period 2000-2015. Examples of the microdata assessed include the means and standard deviations of individual students SES variables, grade attended at time of test, language spoken at home and school type attended. The experts provided three possible reasons for the decline, and found some evidence supporting only one of the hypotheses, which suggested that the quality of mathematics teachers had significantly deteriorated in this period and that the amount of time spent on math decreased significantly. Morsy, Khavenson, and Carnoy (2018) concluded the reasons given by the education experts
“largely failed to stand up to empirical scrutiny” in explaining the reasons for the declines in Australia’s PISA scores (74–75).

More attention has focused on PISA in the media and public discourse, where Australia’s PISA performance has raised serious concern and discussion on ways to improve schooling performance. This media interest was investigated in Davis et al. (2018) newspaper analysis of cross-national attraction within the media discourse surrounding PISA in Australia. Analysis showed that more than two thirds of references between 2001-2015 related to Finland. As the new, dominant reference country, Finland eclipsed all other education systems in media attention – even high performing and improving systems. The implications of this continued attraction to the Finnish model are significant as the media plays a critical role in influencing education policy decisions and debate (Baroutsis and Lingard 2017; Davis, Wilson, and Dalton 2018). Yet, the media has only indirect impact on policy and the direct impact on policymakers themselves remains unexplored, with the exception of the work of Grek (2009) and Breakspear (2012).

Grek (2009) used the insights from “key policy actors in Brussels” and illustrated how PISA had a direct impact upon national education systems in Finland, Germany and the UK. Breakspear’s (2012) study conducted an online questionnaire completed by 37 PISA Governing Board representatives, each from a different education system, and including one from Australia. The questionnaire was aimed at gaining insights into how PISA has been used within national policies and practices across various contexts at the national and senior policymaker levels (2012, 9). Governing Board responses suggested that, with the exception of Australia, PISA is becoming an influential element in national education policymaking, and they provided evidence that internationally PISA is being used within national policies and practices of: assessment and evaluation; curriculum standards; and performance targets (2012, 27).

The dominant feature in the Australian PISA research and mainstream media is a fascination with countries that have high performing education systems. The media has broadcasted the perception that Australia’s education model is not only broken, but needs to be overhauled so a new educational model can be instigated; typical headlines include “Australia’s education system has ‘failed a generation’ of schoolchildren” (The Guardian, April 20, 2018), and “Education expert urges reform for national curriculum” (The Australian, January 25, 2018). While Gorur and Wu
(2015) note it is important to understand that “education is deeply culturally embedded, practices and policies might not ‘travel’ that well across cultures” (654), and yet Australian education discourse looks globally toward other systems. In particular, Australian media shows the popularisation of Finland, which has continued despite declines in Finnish performance, as measured by PISA (Davis et al. 2018, 15), and despite an evident lack of “Finnish style” education policy.

There has been substantial research that focuses on PISA impact, both in international media (Grey and Morris 2018; Hopfenbeck and Gorgen 2017; Rautalin 2018; Tsakiris and Nikita 2017), and in the Australian media discourse (Baroutsis and Lingard 2017; Davis, Wilson, and Evans 2019; Reid 2017). There has also been research on PISA’s impact in education policy, with Breakspear’s (2014) study providing an international focus on the issue. However, no research currently provides a national focus for Australian education policymakers’ perspectives on PISA’s impact. To address this gap, and make a direct contribution to understanding of policy dynamics, the following four research questions are addressed in this study:

1) How has the PISA reporting impacted on policy development in Australia?
2) What are the main challenges facing Australian education, and how PISA has impacted on these assessments?
3) What are the educational systems that were, and should have been, most influential in Australian education policy 2000-2015?
4) What are the personal responses of policymakers to a graphic of Australia’s declining PISA performance 2000-2015?

**Methodology**

**Approach**
The study employs a simple survey strategy of education policy makers. While many expert panel studies undertake a “Delphi–technique” looking for consensus through an iterative survey process (Hsu & Sandford 2007), this study is more interested in exploring the diversity of policymaker views. Thus a simple strategy was designed to conduct email or individual telephone interviews, using set core questions but enabling a semi-structured approach, with probes being used to evoke further response where necessary. Historically researchers have preferred face-to-face interviews but advances in technology have provided more options, including email
exchange, to conduct interviews (Hawkins 2018). Conducting email interviews gives participants time to reflect on their answers before crafting well-formed written responses, and can result in more thoughtful and relevant data (Fritz and Vandermause 2018; Gibson 2010; Hawkins 2018; Seidman 2006). Telephone interviews are also deemed advantageous when participants are dispersed across a large geographical context (Oltmann 2016). Allowing participants to interact from a separate physical location can be more convenient for both parties, letting each stay in a familiar and safe environment (Kazmer and Xie 2008, 265).

This approach enabled us to gather information from education policy makers whilst assuring high levels of confidentiality and anonymity. It also reduced threats from social-desirability and professional-desirability bias, which may be present when participant views are aired in open forums (like classic Delphi technique and/or focus group research). Thus interviews allowed us to go beyond the political rhetoric so as to explore the individual experiences, perceptions and attitudes of these policy makers (Adamson et al. 2017, 194). Our strategy was focussed primarily on gathering full and frank views of individuals, rather than those of policy-makers as a group. As it turned out, however, responses were frequently consistent across a large majority of participants.

Participants
The participants were recruited using purposive sampling (Denzin and Lincoln 2011). Purposive sampling was used to gain the most data possible (Merriam 1998; Miles and Huberman 1994; Wiseman 2010) from the education policymakers about Australian education challenges and PISA’s impact on policy. A list of 21 potential participants was developed using the authors’ expertise in the field, and also cross-referencing and identifying individuals’ professional biographies online and in government publications. The participant list was developed on the basis of two criteria: first, a senior professional role in education policymaking, including senior executives in state or commonwealth departments of education, and/or other peak government educational authorities; and second, evident involvement and influence on Australian education policymaking between 2001 and 2015 period. Special efforts were made to include participants from a range of states and territories, and also include Indigenous policymakers and those directly involved in Indigenous education policies.
Each eligible participant was emailed an invitation to join the study using contact details retrieved from their public profiles. Of the 21 approached, 15 consented to participate. Four of the six non-participants did not respond to the email invitation. The other two responded and noted that they could not complete the semi-structured interview because of current work commitments.

The sample included nine male and six female participants. Eight participants were in senior positions in commonwealth organisations, such as The Australian Government Department of Education and Training (DET). In Australia this education department is responsible for some overarching national policies and programmes, while the state departments are responsible for school operations. The other seven participants were from the various state and territory education departments, predominately from New South Wales, Queensland and Victoria, as these are the largest state systems covering more than two thirds of the population, but the sample also included representation from Western Australia, Northern Territory and the Australian Capital Territory. The high profile nature of the participants included some known internationally as leaders in education policymaking, a former state minister for education, and others who worked directly on recent national educational reforms (school funding, teacher quality) during this period. Additional details, although available, are withheld in the interests of ensuring participant anonymity.

**Data collection and analysis**

The sample group of 15 high-profile Australian education policymakers, were asked seven questions, see Table 1, regarding their perspectives on the impact of PISA on Australian educational policy over the given timeframe. Semi-structured interviews were conducted through email or orally over the phone in a tape-recorded response. The data collection was designed to be flexible because we understood that participants were senior, powerful people who are time poor.

Semi-structured interviews encouraged a narrative style, reflecting the recursive style of questioning. This involved the interviewer directing the flow of conversation, or email exchange, by using probes in order to help extend or clarify participant responses, and keep the interviews relevant to the research questions (O'Keefe et al. 2016).
Each participant was provided with an information sheet prior to their interview which outlined the topic and informed them they were able to withdraw at any time from the interview. Participants were provided strong assurances of their anonymity, which enabled them to speak freely. In a number of studies, guaranteeing anonymity has enabled participants to more freely express their opinions and provide information that they might otherwise be cautious expressing outside the interview process (Lancaster 2017; Saunders, Kitzinger, and Kitzinger 2015; Signal et al. 2016).

The research protocols were approved by the Human Research Ethics Committee of the University of Sydney [2017/318], and interviews were conducted between November 2017 and August 2018. Due to methodological and ethical considerations, participant names are not provided and numbers are used to maintain anonymity.

The interviews were audiotaped, transcribed and analysed in depth using coding to classify common themes. The analysis is presented in four parts according to the research questions. This straightforward approach enables clear representation of each individual’s response and maximal inclusion of the policy-makers’ voice through quotes. Table 1 below shows the interview questions (IQ) and their relationship to the overarching research questions (RQ).

<table>
<thead>
<tr>
<th>Research Questions (RQ)</th>
<th>Interview Questions (IQ)</th>
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<tr>
<td>1. How has the PISA reporting impacted on policy development in Australia?</td>
<td>1. Could you provide a short summary of your observations on how the release of PISA data between 2000 and 2015 has, or has not, impacted on educational policy within your interest area or jurisdiction?</td>
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<td>2. Could you briefly comment, in no more than two paragraphs, how the PISA data and reporting has impacted on your work in education policy?</td>
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<td>2. What are the main challenges facing Australian education, and how PISA has impacted on these assessments?</td>
<td>3. In your expert opinion what are the main challenges Australia currently faces in education? List your top three – with a sentence or two, if necessary, on each.</td>
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<td>4. Please comment on whether PISA has impacted on your assessment of the three challenges you listed above?</td>
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<td>3. What are the educational systems that were, and should have been, most influential in Australian education policy 2000–2015?</td>
<td>5. From your expert observation what are the educational systems that you have observed as being the most influential on Australian education policy 2000 to 2015?</td>
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<td>6. In your expert opinion what are the educational systems that should have been most influential on Australian education policy 2000 to 2015?</td>
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Table 1: Research questions and interview questions.
The findings for the four research questions in Table 1 are therefore based on participant responses to the seven interview questions, plus a range of probes. The policymaker responses have been conveniently summarised and grouped in Tables 2 and 3, enabling commentary discussion to focus on higher-order analysis of results.

**Results and discussion**

Table 2 below provides a summary of the policymaker responses to six of the seven interview questions, while the final interview question is analysed separately and reported in Table 3. In both tables each of the 15 participants is represented through unidentified, numbered rows, illustrating each individual response given to the grouped and columned questions. Important findings linked to the four research questions have then been totalled in the bottom row of the Table 2. This row reflects the commonality among the education policymaker responses, which is markedly high. For example, all but one reported that PISA had impacted upon their work.

Table 2 however does not reflect the tone and nature of the policymaker responses, which was remarkably frank. In many of the interviews the respondents expressed personal concern, with deep emphatic comment on a range of issues and frustrations with Australian education structures and policy. The policymaker responses were often oriented to personal feelings, although several used the collective term “we” in reference to the shared role of policymakers. It is not just a methodological aside to note that several respondents were so moved that they used four letter words and expletives to describe their observations of the Australian policy landscape. Substantial quotes are included in Table 3 and discussions, to convey the tone and frankness; which might be assumed to be a result of the researchers’ efforts to assure anonymity.
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<tr>
<td>IQ</td>
<td>1. PISA impact on policy</td>
<td>2. PISA impact on your work</td>
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Table 2: Summary of respondents’ answers to the first three research questions.
1. How the PISA reporting has impacted on policy development in Australia.

All of the participants, with one exception, were in unison in identifying PISA as an important source of information within their work on education policy. Participant 7 noted:

The data was used as one of the key sources of information to analyse the policy problem…PISA highlighted the need for literacy and numeracy wrap around services to complement the delivery of VET qualifications and also to recommend the introduction of literacy and numeracy upfront testing.

Participant 11, who helped develop policy around Australian educational funding, further complimented PISA’s importance in their work:

PISA was central to my work. It was one of the key reasons we engaged so actively with the OECD given that it was widely reported in the media, and it was used in Commonwealth and state government education agreements. It provided basic data on the outcomes of school education and indicated how Australia was tracking.

PISA’s impact on the work of policymakers was also problematic for a number of participants. Six participants noted that the PISA data and reporting had an ‘unwanted’ or ‘negative’ impact upon their policy work. Perhaps the clearest example of this came from participant 6 who suggested PISA data was frequently misinterpreted:

PISA has impacted my work in the sense that I spend a lot of time telling people that they are misinterpreting the data…to be careful about how it influences policy and research. I play catch up regularly on explaining away those results.

The influence of PISA on these policymakers work was clear, but 13 of the 15 participants also stated that despite this PISA reporting had no direct impact on their development of educational policy. All, but two, participants noted this outcome, and language such as “absent” and “background factor” were used by participants describing the PISA impact on policy. In particular participant 7 collectively claimed that minimising translation through to actual policy was a deliberate exercise:
We attempted to limit the impact it had on education policy because we had to push back on a lot of things that the public, media, and other education advocates thought needed to be done, as we did not consider it in the best interest of the education system.

In fact this dismissive perspective toward PISA is evident in the response of the former state education minister, who stated there was legitimate reasons to be skeptical over the PISA results:

There is also this general understanding that different jurisdictions do funny things with PISA, so the results are to be taken cautiously...It really is hard for me to accept these results at face value (Participant XX (number withheld for anonymity across data)).

What is noted here is an unwillingness to “accept these results” that the media was all too happy to endorse. This questioning of the reliability of the PISA results was also evident among other participants (5, 6 and 15) who identified this uncertainty as a clear reason behind the data not having impacted their development of education policy between 2000 and 2015. A current commonwealth policymaker said, “You won’t see me looking at the PISA with any keen interest”. Thus the prevailing dynamic is that the policymakers acknowledge the importance of PISA, and frequently interact with PISA in their work, but there is evident skepticism and distrust. This means that the PISA does not directly impact on their policymaking.

2. Assessments of the main challenges facing Australian education, and how PISA has impacted on these assessments

Three clear themes were identified in response to the second research question. Participants were in agreement that the main challenges facing the Australian education system include: the misdistribution of educational funding (8/15); building quality in teaching and teacher training (8/15); a poor and complacent educational culture, with an unclear vision (7/15).

The majority of policymakers expressed a sense of deep concern regarding the current state of Australian education, combined with a lack of direction. In the opening interview questions policy makers had acknowledged PISA’s influence in discourse and procedural aspects of their work, and the negative outcomes PISA shows, yet paradoxically argued that this shouldn’t be translated into direct policy. In reflecting on the key challenges being faced concern was expressed again, but also
sometime contradictory, and sometimes equivocating, responses. There were frequent comments that the steerage of Australian policy is beyond policymakers’ personal, or collective, control. Many indirectly commented, or inferred, to a tension between their intents, media coverage and political agendas. Consequently, and perhaps understandably, this resulted in some putting forward defensive positions.

**School funding**

Seven participants, from various state and territory departments, and one participant from a commonwealth organisation, argued the distribution of government funding for schools remains a major challenge. Australian school funding has been a topic of heated debate, most notably since the 2011 release of *The Review of Funding for Schooling* (Gonski et al. 2011). The Gonski report recommended a major overhaul of federal funding arrangements, proposing a new need-based funding model that would require funding increases for both government and non-government schools, but with greater funding for government schools (Gerrard, Savage, and O’Connor 2017, 504). Since then the public funding of Australian schools and the role of governments in regard to it have been thoroughly contested (Connors and McMorrow 2015; Gerrard, Savage, and O’Connor 2017). For example, participant 3 made specific mention to the under-funding of public education and hence the inequity that exists in the Australian education system:

> We should be trying to reduce the disparity in funding between schools and across systems. Every education council meeting that I go to, I am constantly fighting for that equity…Currently our non-government schools are funded at 24%, and the federal government is dropping that down to 20%. So we are constantly fighting with the government to get their heads around this lack of equity in education.

This observation from participant 3 suggests that policymakers are “constantly fighting with the government”, and indicates that the distribution of educational funding has not only been a long standing issue, but one which lacks unity in its implementation. All the NSW and Victorian policymakers agreed that the distribution of funding is a major challenge for education. This included participant 4 who highlighted the poor relationship the PISA reports have with Australia’s system of school funding: “The uniqueness of Australia’s schools funding arrangements, however, limits the extent to which PISA reports provide assistance.” Perhaps most
interesting is the policymakers’ lack of discussion concerning the sharp decline in the
number of resilient students (bottom quartile SES students who are performing in the
top two categories of PISA) in Australia since earlier PISA rounds (Baroutsis and
Lingard 2018).

Related to the issue of funding, five of the eight participants found the PISA
reports had no impact on their assessment of how funding should be directed to
government and non-government schools, and PISA’s lack of policy penetration in
educational funding was clearly stipulated:

No, it [PISA] has highlighted that there are challenges in education funding…and the
reports haven’t affected what is actually done about it. I’m fairly pessimistic that will
change because year after year we see these same problems and nothing happens.
(Participant 12)

The challenge surrounding the educational funding process highlighted by the eight
participants is illustrative of widespread dispute at the policy level, and it is therefore
no surprise that there is persistent and widening educational inequality for the nation’s
schools. This educational inequality has been largely influenced by Australia’s school
funding system, and linked to the trend in poor PISA results (Hetherington 2018;

Quality teaching and teacher training
Many policymakers (8/15) identified quality teaching and teacher training as a major
challenge. This is the same number that identified school funding as an issue. More
than half of the participants directly commented on teacher quality and training. In
particular all but two participants, who had been involved in national policymaking,
felt there are growing and worrying signs in relation to quality teaching. While
participants mentioned numerous reforms and national initiatives aimed at reversing
this trend, there remain on-going concerns regarding the teaching profession. Reasons
as to why these concerns continue to pervade, are highlighted in the following
response:

We have a very poor system of professional learning and poor attitudes to providing
teachers with significant and effective professional development to reward them for
undertaking further study…Teachers [internationally] have a much higher status, they
are rewarded as being experts in this central task of teaching and learning, and they are
rewarded for spending huge amounts of time and resources to up skill themselves. There are no rewards in Australia for teachers to go through that process. (Participant 13)

One participant, a policymaker in the Australian DET, provided further criticism of teacher training:

The training of our teachers needs a complete re-think in my opinion, about the way we train our teachers, and the focus there is that we should actually be pushing them to get our students thinking critically, analyse and evaluate.

As with funding, teacher quality and training has also received academic and media interest concerning its link with declining PISA scores (Meroni, Vera-Toscano, and Costa 2015; Morsy, Khavenson, and Carnoy 2018; Wilson and Mack 2014). More than half of the eight participants suggested that the poor status of the teaching profession was deterring the best candidates from the profession. This widely accepted viewpoint has received fervent attention in the public discourse, and so numerous solutions have been proposed and implemented by the government to help in the quality teaching movement, their level of success continues to be debated (Bahr and Mellor 2016; Dinham 2013).

Six of the eight commonwealth participants stated the PISA reports did not impact on their assessment of this challenge. However a former state education minister suggested that the PISA data has been a useful tool in learning about the status of teaching in other countries:

Whilst we looked at PISA results we also triangulated them with other results from different measures and looked at the characteristics of those jurisdictions to see what you can learn and what you could apply from those characteristics. So one of them is the status of the teaching profession and if you take places like Singapore, Japan, Finland, the status of the teaching profession is very high. In these countries…they get higher performing students into the profession because it is such a high status profession. So that’s what we can learn, which system should we be looking at, recognising there is no silver bullet, and what are some of their attributes we can learn from. (Participant XX)

This quote highlights how the PISA data has given an educational policymaker the opportunity to compare Australia with other education systems, and examine
attributes within these higher performing education systems that may benefit Australia’s educational context. However, this perspective is exceptional among the policymaker interviews.

**Poor and complacent educational culture**

The third major education challenge identified by the policymakers (7/15) is Australia’s poor and/or complacent educational culture, with an unclear vision. This challenge differs to the previous two challenges in that it deals with an endemic, large scale issue concerning the perception that Australia remains a successful education system. This issue has been widely debated (Bentley and Savage 2017), and clearly identified by John Hattie, who states “Our enemy is complacency, blaming the post-codes, deploring the parents, fixing the students not the system, and arguing for more resources to continue what is not working” (2016, 19). Seven participants from Commonwealth departments voiced an opinion on this issue. One, known internationally as a leader in education policymaking, stated:

> When I look at some of the PISA’s higher performing countries they have a different cultural attitude towards education. Just as a generalisation, even the high performing demographics in Australia including the Sri Lankan, Indian, Chinese and Vietnamese kids, are going to the same school as everyone else but what they bring with them is a different cultural value that they place in education. I think after 20 years or more of uninterrupted economic growth in Australia, people have become a bit complacent about the importance of education…It is an Australian thing, meaning this change in what is happening is pretty uniform and therefore is representative of a broader cultural phenomenon occurring.

This belief in Australia having a complacent educational culture was also mentioned by two other commonwealth participants, and a further three participants felt Australian education has an unclear vision. One participant articulated this point most strongly:

> I think we have lost the plot regarding what we want out of our school system! I think we are languishing without a clear view of what it is we are expecting students to achieve and what we think success in a school system is exactly…So it is clear to me that the Australian education system is flatlining and low-income schools and areas remain the same as 20 years ago. (Participant 9)
You would not expect a rich country like Australia, with a long established education system would need to overhaul the education system’s vision and redefine what is needed to foster a successful education system. However it is clear from the seven senior commonwealth policymakers that they feel the Australian education system is becoming, or already is, obsolete in its current state.

Related to this issue on educational complacency, all five male commonwealth participants stated the PISA reports had not impacted on their assessment of this educational challenge. This was clearly referred to in the response from participant one:

No the PISA reports have highlighted this wider educational and cultural issue, and have continued to show that we are falling behind in Australia. But this is something I’ve been aware of for quite some time now, and it hasn’t affected my opinion on what educational changes, or educational issues need to be addressed in this country.

Participant 8 suggested that this is a complex issue that could not be addressed at the policy level alone:

I really think that from being on the ground and looking at the research that PISA doesn’t have any exceptional impact. Our education system has been stuck for a long time now! This is a complex problem, and one that can’t simply be achieved through policy interventions, but we might start with more equitable funding that supports all schools and those from disadvantaged backgrounds.

It is clear from these participant quotes that the policymakers are reluctant to have PISA data have any direct influence on educational policy, and PISA data is at best used to support and inform the work and discussions of policymakers. The policymakers also view this cultural issue over education as unapproachable, and so large that many feel seemingly powerless in addressing it.

While the interviews provided opportunity for problem identification, and policymakers were clear on the challenges faced, it was also noted that few referred to research, or the need for research analysis, to identify causal contributors to these problems. Any explanatory analytical stance was notably absent. The comments made often reflected a defensive stance, wherein they externalised the problem to beyond the reach of policy (as in poor culture of broader society/ or the political nature of
school funding); or reflected on the inexplicable ineffectiveness of recent reform efforts (teaching quality and training). While policy analysis identifies the assembling of evidence as a critical phase in problem solving (Bardach and Patashnik 2016) the commentary of policymakers, a lack of reference to investigatory studies (e.g. Morsy, Khavenson, and Carnoy 2018) and their reluctance to engage with PISA evidence directly in the policy process, may reflect a failure to engage deeply with the policy analysis process. While public discourse often focuses scrutiny upon schools, it is only recently that the systemic nature of Australian education challenges, has refocused its gaze upon systemic policy structures and processes – like problem solving policy analysis. Perhaps, here too, complacency has been a driver for too long.

3. Views on both the educational systems that were, and should have been, most influential in Australian education policy 2000-2015.

While Australian media analysis identifies Finland as the education system most referenced and aspired to (Davis et al. 2018) the perspective of policymakers suggests that dominance is not reflected in actual policy influence. The policymakers did not agree on the dominant international reference systems; with only 4 citing Finland, 3 the USA, 2 the UK and 2 Shanghai, China. Rather domestic systems, both commonwealth and state, were more predominantly cited as clear influences (8/15). This is consistent with media analysis which also suggests that Australia’s media discourse on education is more inward focused than that of rapidly improving education systems, like Japan and South Korea (Davis et al. 2018)

Given the media attention, it would be reasonable to assume that Finland would have been the most influential in policy. However, the results show that only two of the 15 participants (7 and 8) mentioned Finland as influential; and only two (8 and 9) suggested it “should” have been the most influential. The lack of policy action converting the Finnish fan base into Finnish style education policy is evident in some responses. For example, the response from participant 8 suggests, “We go off and learn all these wonderful things from Finland, and then come back and do *@#! all.” The lack of consensus among respondents in relation to influential education systems may reflect the complexities at play in the phenomenon of international policy borrowing (Tan 2016; Harris, Jones, and Adams 2016; Steiner-Khamisi 2014).
Across the group of participants, many (9/15) suggested that Canada should have been most influential in policy, with others reporting multiple or no clear choices (3/15), New Zealand (2/15) or Finland (2/15). Most (9/15) participants felt Canada should have had the most influence. The reasons why are not signposted by all participants, but some suggest the reason is “we have similar cultural values” and “in many ways their education system is ahead of ours”. One participant suggests:

Canada for me should have been most influential. Having been there…and been involved in education talks, places like Alberta, Ontario and other big cities in those provinces have similarities worth looking into. For example Canada has a first nation’s population, it is very multi-cultural, and of course has some English-speaking students. (Participant 10)

These similarities that exist between Australia and Canadian systems were of importance to policymakers, with Participant 11 arguing, with PISA evidence, that Canada should have been the most influential system in policy:

Canada has a very similar education system and has succeeded in starting to close their SES gap. As we have seen in the PISA they have been able to lift the performance of their lowest SES students in their country. That is the sought of education system and country that should be influential and it just doesn’t seem to translate.

Responses from both state participants and commonwealth policymakers highlight the shared importance placed on learning from a country that has many cultural, educational and demographical similarities to Australia. Whilst similarities exist, the PISA data also shows us that there are differences between the two countries in considering student educational outcomes (Perry and McConney 2013). Three participants note that education in Canada is more equitable, with students from low socioeconomic backgrounds performing higher in Canada than in Australia. The push to create more equitable student outcomes has been labeled as a high priority for the Australian government (Commonwealth of Australia 2018), yet the government reports, academic research and media discourse continue to show that there are high levels of school segregation and unequal access to education resources and opportunities within Australian education.

Nearly half of the participants that suggested Canada, also acknowledged that Australia’s policy context is a difficult one, and suggested that the Canadian
education policy governance structures should serve as an influential guide for policy processes:

The complexity of the States and the Commonwealth funding and regulatory mix of powers have created substantial barriers to the implementation of education policy. Even Canada’s system is better suited...Having one level of government, across all education sectors, with both funding and regulatory levers would be most influential. (Participant 9)

A policymaker in the Australian DET, made similar suggestions regarding government control in policy:

Canada’s states and provinces have exclusive control of their education systems. I think a similar policy context here in Australia, where the federal government is not as influential, would have helped us perform our work more easily.

Policymakers’ responses suggest that they have faced many difficulties in achieving effective state and commonwealth collaboration between 2000 and 2015, and this is partly due to the overlapping of these government jurisdictional roles. The nature of government involvement in Australian education has long been a subject of debate, and there is considerable variation among states and territories (Banks 2005; Dinham 2015). Currently the Australian federal government has sought to increase its power over the states by, for example, introducing national standards in teacher education policy (Savage 2016; Savage and Lewis 2018; Savage and Lingard 2018). However in Canada the states and provinces of each country have the main control over educational funding and decision-making (Perry and McConney 2013; Vergari 2018), which has in part facilitated greater policy coordination across the country (Jungblut and Rexe 2017).

The fact that nearly half of these participants make specific mention to these structural governance difficulties is a worrying sign, but nothing new. Barry McGaw, previous Executive Director of the Australian Council for Educational Research (ACER), argues that Australian education policy needs to work either exclusively at the state and territory level as Canada does, or negotiate effective ways of working collaboratively across federal, state and territory authorities (Melbourne Graduate School of Education 2013, 1).

![Australia’s PISA performance 2000-2015](image)

Figure 1: Australia’s PISA performance scores 2000–2015.

The final interview question, requiring a “personal response” to Figure 1, was introduced to elicit policymakers’ individual, non-professional, perspectives on the PISA data. The graph stimulated considerable interest, as the responses were quite lengthy. There are two main themes identified from coding. Firstly, there was a deep concern (15/15) over the results shown in the graph, evident from the language used in the interviews. Words such as “depressing”, “annoyed” and “dismay” were used to illustrate this concern. Second, some policymakers were also dismissive (9/15). Table 3 below provides a snapshot of each of their responses:
Please write your personal response to this graph (as much or little as you like).

1. We have known this for so long but no one seems to care about doing anything. These results beg for a reboot. But more of the same is the complacency argument, as we tinker ourselves away from a utopia.

2. This decline in achievement is a particularly worrying trend... How much can we rely on this? Not much. For example, it is clear that some countries perform better on certain types of questions than others, but OECD will never release those results.

3. Well I’m obviously concerned when I see a graph like this, but it doesn’t give the full story. I have data from elsewhere that says we are doing just fine.

4. Very concerning because very few people in Australia know about this or understand what it means.

5. This graph tells us that we are going downhill, especially in mathematical literacy, which is not comforting... this graph is also exaggerated in a representational sense, if you don’t take into account the increased number of East Asian nations that have performed really well.

6. This graph is very concerning... How you read this graph and what you read into it are important considerations... if it is used in determining which schools do and don’t get certain resources then it is a very useless tool.

7. This is a real concern in Australia, which is why because of these results there is a renewed focus on education in Australia... When you test 15 year olds in Australia, it’s not that they aren’t knowledgeable, its more the fact that not all kids think school is particularly important, and they certainly don’t think that an exam by some external organisation is particularly important.

8. We have to tackle this low performance, but this graph shows us nothing has changed... But the PISA results aren’t the most valuable tool we have.

9. I think this graph says that what has been pushed nationally hasn’t worked. And so we need to strip back and focus on what really matters.

10. This sort of graph is well known, and is the cause of much frustration in education... Australia’s funding arrangements limit the extent to which OECD PISA results that we see in this graph provide assistance.

11. In a general sense if it is an overall decline, your gut says that it’s not great... I wouldn’t want to act on this graph and add further to the crisis discourse that currently surrounds PISA, and maybe prompt a more thoughtful, measured consideration of what is it we are trying to do in education.

12. My personal response to this graph is one of disappointment, and dismay that things are not changing.

13. This should be of concern for all those involved in education policy, because evidently, this decline is constant.

14. At the end of the day PISA only assesses a sample of Australian students, but I am really concerned because it is clear to me that we are not improving, and the decline can be seen at both the top and bottom quartiles.

15. These results paint a worrying picture, I get very annoyed... ultimately it does more harm than good to put out these graphs. It fuels the PISA juggernaut and it fuels an industry of people who would like to sell us a solution to that problem but its not helpful.

Table 3: Snapshots from the personal responses to the PISA graph.

* Italicics = concerned (n = 15); regular font = dismissive (n = 9).

The 15 italicised snapshots in Table 3 clearly identify the declines in PISA scores as an issue of concern, with quotes from participants 1 and 14, for example, voicing concern and also frustration.

While some participants reported more concern than others, it was a unanimous sentiment. This theme is perhaps unsurprising when consider that PISA has been at the forefront of Australian educational media discourse and political debate since its
inception, and as policymakers it is fair to assume they would all be concerned about this decline. Yet, these same policymakers reported that PISA does not have a direct impact upon Australian education policy, and many voiced concerns regarding the interpretation of PISA results. One possibility is that in their professional roles, many are used to defending the Australian system and standards; thus they are used to questioning and sometimes rejecting the measures reflected in Figure 1, while in their personal responses they are free of that obligation and their concerns can be voiced.

The personal responses to the graph convey a clear mood of desperation. However, the second major theme to emerge from these responses was that some state participant (2, 3, 6, 7 and 10) and commonwealth participant (5, 8, 11 and 15) were ‘dismissive’ of the PISA results. After voicing initial concern some participants went on to express caution, suggesting that we shouldn’t read too much into the results, or that the results on their own are misleading. An excerpt from a leader in education policymaking illustrates the dismissive stance of these nine participants:

These results paint a worrying picture, I get very annoyed… I just think that it is misleading to provide that sort of graph without proper context, and to show the Australian student performance without showing alike performances from many other developed countries is again quite misleading. So ultimately it does more harm than good to put out these graphs. It fuels the PISA juggernaut and it fuels an industry of people who would like to sell us a solution to that problem but it’s not helpful. (Participant 15)

A current NSW policymaker was also dismissive of the PISA graph:

How you read this graph and what you want to read into it are important considerations…if it is used in determining which schools do and don’t get certain resources then it is a very useless tool. It will encourage the blame game to go on, keep perpetuating the same outcomes and see the constant navel gazing of the MySchool website to see which schools are the best and worst in Australia. (Participant 6)

These excerpts show that while concerned, policymakers have various criticisms of the published PISA results, and some feel that in some cases it can be more harmful than good. This perception has been voiced in the recent academic literature, with a growing discussion around the use and misuse of PISA data (Choi and Jerrim 2016; Rutkowski and Rutkowski 2016), and the importance of identifying the limitations of
the results in its presentation to educational policymakers (Araujo, Saltelli, and Schnepf 2017; Hopfenbeck et al. 2018). In response to the graph nearly two thirds of participants expressed this deficit view, with some skeptical of the potential benefits of the PISA results within the education policy domain.

Conclusion

This paper undertook original research to provide better insight into the understanding and impact of Australia’s performance in PISA 2000-2015 by voicing the perspectives of education policymakers. In such a study there are inevitable weaknesses in the nature of purposive sampling, the unknown unrepresentative of the sample, the unknown generalisability and potentially weak external validity. There is also the questionable validity of responses, although in this case, we feel the candour of participants is reassuring. Further, although there may be parallels evident in other national education systems and international comparative studies might be a fruitful part of future research, this study has a clear domestic focus on Australian education. These weaknesses provide an important caveat on the veracity of the concluding claims made here, where three key findings are highlighted.

Firstly, despite its press coverage, PISA has had very little direct impact on Australian policymaking, although all policymakers note its importance as a source of data. This appears a paradoxical arrangement, for if data is important, it should be analysed and its insights put to good use. While the policymakers claim that PISA has impacted substantially upon their work, it appears this has not been in relation to an explanatory analytical stance required by problem solving policy analysis (Bardach and Patashnik 2016). Indeed, the Australian education landscape has a scarcity of empirical analytical research using PISA (Morsy, Khavenson, and Carnoy 2018). The findings here suggest that, although copious amounts of analysis have been produced using PISA, and its associated surveys of principals, teachers and students, this work has not translated through to Australian education policy. It is also notable that policymakers, while expressing concern for Australia’s evident declines in PISA scores, suggest that many of the key challenges to Australian education are driven by shifts external to their sphere of influence.

Secondly while media focus, often coalesced around PISA, is on the highest performing countries such as Finland, Singapore and others, the policymakers do not
agree that this attention has been influential in Australian education policy. Rather policymakers look to a range of systems – including most dominantly Australian domestic education systems (state and federal) as models of influence in policymaking. Better agreement is evident among the policymakers in relation to identifying the system “that should have been” the most influential, with a majority (9/15) identifying Canada as the ideal candidate.

The final substantive finding of this study relates to not only what was said, but how it was said. The interviews, and their transcripts, are frank and often personal accounts of Australian education and the challenges it faces in this new millennium. They reflect a palpable sense of concern for standards of education in Australia; and convey policymakers’ frustrations, and in some cases anger and despair (complete with the use of expletives). There is no doubt that the policy landscape has shifted, the “sense of complacency” that policymakers identify as problematic in society at large, is being challenged by the realities of educational data, from PISA, but also many other sources. Tensions exist between media, politics and bureaucracies; with some policymakers reporting that the steerage of Australian policy is beyond their control.

Among the Australian policymakers interviewed there is no complacency but clear identification of key challenges: 1) teacher quality and training 2) equitable school funding and 3) poor and complacent educational culture. Problem identification has been achieved, but the next phase of problem solving – assembling all evidence – involves those policymakers coming to terms with PISA data and analysis as part of that. The unpleasant nexus of discourse around PISA that has evolved among media, public and political discourses may have hobbled this important resource; that has evidently been put to good purpose in educational reform among other nations (Germany, Japan). Further research and public discussion is needed to inform Australia’s policy future. There may be many shifts in thinking required for the challenges to be met.
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Chapter 6: Academics’ perspectives on PISA’s impact on Australian educational research and policy

The article in this chapter has been submitted and is under review (28 February 2019) as:

Author contribution statement
I planned and wrote this article under supervision of Dr Rachel Wilson. Joint discussions provided shared contributions. I completed the research design, planning, implementation and analysis independently.

Educational Policy
The article in Chapter 6 has been submitted and is currently under review at Educational Policy as this scholarly journal publishes educational research articles that shed new light on important debates and controversies within educational policy and those that specifically concern policymakers and those within educational practice. This article compared and contrasted the perspectives of Australian education academic researchers and education policymakers, making it a highly relevant article for the journal and its aim to help inform educational policy research. The journal has a high Journal Impact Factor of 1.586 and ranks 93/238 for education and educational research journals.
Academics’ Perspectives on PISA’s Impact on Australian Educational Research and Policy.

Abstract

The Programme for International Student Assessment (PISA) is an influential phenomenon with much research documenting its effect on education policy in many countries. However, the influence of PISA on Australian policy and research is less clear. We interviewed 15 academic researchers in Australia for their perspectives on the impact of PISA on Australian educational research and policy between 2000 and 2015, and contrast these with previously published policymaker perspectives. Contrasting discourses show both academic and policymaker groups are concerned about Australian PISA results and education more generally, but while academics report direct impact on their research, policymakers claim there has been no impact upon Australian policy.

Keywords

PISA, Australia, education, policymakers, academics, policy, borrowing, OECD, performance
Introduction and Background

This research compares and evaluates the opinions of Australian education academics and policymakers on the impact of the Programme for International Student Assessment (PISA) on Australian educational research and policy since PISA’s introduction in 2000. There have been many publications on PISA and how it has influenced the education and policy structures of many individual countries including Denmark (Egelund, 2008), France (Dobbins & Martens, 2012; Pons, 2016), Germany (Ertl, 2006), Japan (Takayama, 2008; Tasaki, 2017) and other comparative works (Adamson, Forestier, Morris, & Han, 2017; Breakspear, 2012; Grek, 2009; Hopfenbeck & Görgen, 2017; Martens & Niemann, 2013). These and many other studies have helped to explore the important and wide-ranging impact of PISA since its introduction in 2000 (Addey, Sellar, Steiner-Khamsi, Lingard, & Verger, 2017; Chung, 2010; Hopfenbeck et al., 2018; Steiner-Khamsi & Waldow, 2018).

From the research on PISA, there emerges a consensus that PISA has had a strong impact on both education research and policy reforms, although some of the conclusions on mechanisms and dynamics of influence are different. We can conclude that both policy and academic research stakeholders have been affected by and been reactive to PISA results. Yet, while Breakspear’s international study interviewing those directly involved with PISA implementation also confirmed this direct effect of PISA on education policy, it had one exception – Australia. The Australian key respondent suggested that Australian policy had not been reactive to PISA. Results from subsequent research examining the role of PISA in parliamentary debates on education policy legislation in six countries contrasted with Breakspear’s key respondents’ conclusions on the policy impact of PISA:
Findings do not support the claim that PISA is the cause of a change in this respect… yet there is a global trend in which national policies are increasingly often debated through appeals to models and policy advice promulgated by international organisations. (Rautalin, Alasuutari, & Vento, 2018, p. 1).

More recent work has also questioned complex forces at play in policy processes, acknowledging “different and often contradictory knowledge regimes that are embedded in education reforms” (Aasen, Prøitz, & Sandberg, 2014, p. 723). The study presented here examines the policy impact of PISA in Australia and documents some of the complexities.

An important part of the context in Australia is the media coverage associated with PISA. The media is fascinated by PISA, with widespread and sustained discussions investigating Australia’s triennial student performance. In the last decade PISA has clearly manifested itself as a dominant influence in Australian media reporting on education. This is most clearly illustrated in the high volume of media coverage in 2010 on Australia’s poor and declining comparative performance in PISA 2009 (Davis, Wilson, & Evans, in press). All major news services covered Australia’s declining rankings and broadcasters and media commentators offered much advice on why Australia’s schooling was failing. Consequently there has been an increase in academic research investigating the Australian media’s interest in PISA performance (Baroutsis & Lingard, 2017, 2018; Davis & Wilson, 2019; Davis, Wilson, & Dalton, 2018; Davis, Wilson, & Evans, in press; Reid, 2017; Takayama, 2018; Takayama, Waldow, & Sung, 2013; Waldow, Takayama, & Sung, 2014).

While PISA has featured prominently in the Australian media, there has been no clear, direct focus on PISA in Australian academic literature. While there is no distinct line of inquiry, there are various studies on performance in the assessed domains, such as the association between mathematics and school socioeconomic
status (McConney & Perry, 2010), the connection between students’ attitudes in science and scientific literacy (Bybee & McCrae, 2011), and what school characteristics influence school leaving (Marks, 2017). Other education researchers have used PISA to investigate Indigenous student performance (McConney, Oliver, McConney, & Schibeci, 2011), Australian-born students of East Asian descent (Jerrim, 2015), student scores in public and private schools (Mahuteau & Mavromaras, 2014) and rural, regional and metropolitan communities (Sullivan, Perry, & McConney, 2013). However the thesis put forward by media analysis studies, that the PISA media discourse should translate into political and policy influence, has not been tested.

One obvious source of information to explore the impact of PISA is through educational researchers and policymakers who can provide authoritative perspectives on how PISA has influenced Australian educational research and policymaking. Only one study has explored this line of inquiry; Morsy, Khavenson and Carnoy (2018) conducted interviews with Australian education experts to investigate their hypotheses for the decline in Australia’s average national scores, and then assessed these explanations’ empirical validity using Australian PISA and Trends in International Mathematics and Science Study (TIMSS) microdata for the period 2000 to 2015. The experts provided several possible reasons for the decline, but these “largely failed to stand up to empirical scrutiny” in explaining the declines in Australia’s PISA scores (Morsy et al., 2018, p. 74). One exception was the provision of qualified mathematics teachers and the amount of time spent on mathematics, as both of these decreased significantly over the period and offered some evidence to explain performance declines. While useful, the study did not provide a singular focus on PISA, and did not explore the expert views in depth. Further investigation is
required on how education experts understand the PISA phenomenon and how it influences research and policy shifts in Australia.

The impact of PISA on the work of Australian policymakers also remains unexplored. This is an important area of study as, while the media may report on PISA, it is policymakers who shape the Australian education system and PISA’s influence must be enacted through policy and policymakers. Breakspear’s (2012) study was an online survey with 37 PISA Governing Board representatives, each from a different country’s education system, including one from Australia. The questionnaire aimed to gain expert insights into how PISA has been used within national policies and practices across various contexts at the national and senior policymaker levels. A major finding was that Australia was the only country whose representative did not suggest that specific aspects of the PISA results had inspired changes in national policies and practices.

Research questions

While PISA has received wide media attention over the last decade, and also been the focus of a diverse cross-section of Australian research, there has been no research focusing specifically on its research and policy impact in Australia. This paper addresses that gap by investigating Australian education policymakers’ and academic researchers’ individual perspectives with the following four research questions:

1) How has PISA reporting impacted policy development and education research in Australia?

2) What are the main challenges facing Australian education, and how PISA has impacted these assessments?
3) What are the educational systems that were, and should have been, most influential in Australian education policy 2000–2015?

4) What are the personal responses to a graphic of Australia’s declining PISA performance 2000–2015?

**Methodology**

**Approach**

This study surveys academic researchers and education policymakers. While many expert panel studies undertake a “Delphi–technique” looking for consensus through an iterative survey process (Hsu & Sandford, 2007), this study explores the diversity of academic and policymaker views. The survey strategy of individual interviews by telephone or email with a set of seven core questions enabled us to gather information from academic researchers and education policymakers while assuring high levels of confidentiality and anonymity. Historically researchers have preferred face-to-face interviews but advances in technology have provided more options, including email exchange, to conduct interviews (Hawkins, 2018). Conducting email interviews gives participants time to reflect on their answers before crafting well-formed written responses, and can result in more thoughtful and relevant data (Fritz & Vandermause, 2018; Gibson, 2010; Hawkins, 2018; Seidman, 2006). Telephone interviews are also deemed advantageous when participants are dispersed across a large geographical context (Oltmann, 2016). Allowing participants to interact from a separate physical location can be more convenient for both parties, letting each stay in a familiar and safe environment (Kazmer & Xie, 2008, p. 265). It also reduced threats from social desirability and professional desirability bias, which may occur when participant views are aired in face-to-face interviews or open forums (like classic Delphi
technique and/or focus group research). Thus interviews allowed us to go beyond the political rhetoric associated with these experts’ positions of power, to explore their individual experiences, perceptions and attitudes (Adamson, Forestier, Morris, & Han, 2017, p. 194). Although the strategy focused on gathering full and frank views of individuals rather than group consensus, responses were frequently consistent across a large majority in both groups of participants.

Participants

The participants were recruited using purposive sampling (Denzin & Lincoln, 2011). Purposive sampling was used to gain the most data possible (Merriam, 1998; Miles & Huberman, 1994; Wiseman 2010) from the education policymakers about Australian education challenges and PISA’s impact on policy. For the academic researchers we identified 31 potential participants, and for the education policymakers we identified a list of 40 potential participants. The lists were developed using the authors’ expertise in the field, and also cross-referencing and identifying individuals’ professional biographies online and in government publications. Both lists followed two strict criteria on participants’ level of involvement and professional position in education. First, they needed to have deep and active involvement in Australian education policymaking and/or research between 2000 and 2015; and second, they needed to be considered a senior professional in education policymaking (including senior executives in state or Commonwealth departments of education, and/or other peak government educational authorities) or a senior academic education researchers with a professorial position (generalist) or specific research focus on educational systems and policy (specialist). Special efforts were made to include participants from a range of states and territories, and also include Indigenous academics and policymakers.
We approached people on each list, until 15 in each group had responded and agreed to participate in the study. This sample size was considered suitable as it reflects the mean saturation point identified across qualitative studies (Mason, 2010). Each eligible participant was emailed an invitation to join the study using contact details retrieved from their public profiles. Of the 40 education policymakers approached, 15 consented to participate, another 10 responded and noted that they could not complete the semi-structured interview because of current work commitments, and the remaining 15 did not respond to the email.

Of the 31 potential academic education researchers approached, 15 consented to participate, six responded that they could not participate in the interviews because of current work commitments; and 10 did not respond to the email. Thus the response rates of 38% and 48% for each group were similar and the groups were the same size, satisfactory for the comparative aspect of the research. Low response rates and difficult participant access are common in research with expert groups and were not unexpected. Normal research timeframes expecting participant response within weeks were expanded (up to 10 months) because of the senior positions of the invited participants and their time-poor profile.

The group of education policymakers included nine male and six female participants. Eight participants were in senior positions in Commonwealth organisations (Australian federal government), such as the Department of Education and Training which is responsible for some overarching national policies and programmes. The other seven participants were from the various state and territory education departments, which are responsible for school operations, predominately from New South Wales, Queensland and Victoria, as these are the largest state systems covering more than two thirds of the population, but the sample also included
representation from Western Australia, Northern Territory and the Australian Capital Territory. High profile participants included some known internationally as leaders in education policymaking, a former state minister for education, and others who worked directly on recent national educational reforms including school funding and teacher quality. Additional details are withheld to ensure participant anonymity.

The group of academic researchers included 10 male and five female participants. All but two participants were full professors, and all but three had published academic research on PISA, with a diverse cross-section of expertise across the sample. Those who had not published on PISA had researched in areas closely aligned, such as other international assessments, broad trends, and policy frameworks and policy borrowing. There were 10 participants from New South Wales, Queensland and Victoria, but the sample also included representatives from Western Australia, South Australia and Tasmania. Together the academic researchers had more than 200 years of research experience in education and included seven who had moved between academia, policy and other government authority roles.

Data collection and analysis

Participants were asked seven questions on their opinion on the impact of PISA on Australian educational policy or education research over 2000 to 2015 (see Table 1) Semi-structured interviews were conducted, according to the participants’ preference, either through email or orally over the phone in a tape-recorded response. The scheduling of data collection was designed to be flexible because we understood that participants were senior, powerful people who are time poor. The interviews allowed the use of probes to evoke more detailed responses where needed. Two interviews were conducted under time pressure and responses were notably short. The
researchers would like to gratefully acknowledge the time and insight and enthusiasm provided by all participants, particularly given their very busy schedules.

The research protocols were approved by the Human Research Ethics Committee of the University of Sydney [2017/318], and interviews were conducted between November 2017 and September 2018. Each participant was emailed an information sheet before their interview which outlined the topic and informed them they were able to withdraw at any time from the interview. Participants were provided strong assurances of their anonymity, which enabled them to speak freely. In a number of studies, guaranteeing anonymity has enabled participants to more freely express their opinions and provide information that they might otherwise be cautious expressing outside the interview process (Lancaster, 2017; Saunders, Kitzinger & Kitzinger, 2015; Signal et al., 2016). To maintain participant anonymity, numbers are used in reporting.

The phone interviews were audiotaped and transcribed and compiled alongside email responses. The data was analysed using inductive coding to classify sentences into codes, which were reviewed and compiled into categories, following the principles of thematic analysis (Braun and Clarke, 2006). The analysis is presented in four parts according to the research questions to clearly represent each individual’s response and include the participants’ voice through quotes. Table 1 below shows the interview questions and their relationship to the overarching research questions.
Research Questions | Interview Questions
--- | ---
1. How has PISA reporting impacted policy development and education research in Australia? | 1. Could you provide a short summary of your observations on how the release of PISA data between 2000 and 2015 has, or has not, impacted educational policy or research within your interest area or jurisdiction?
2. What are the main challenges facing Australian education, and how PISA has impacted your assessment of these challenges? | 2. Could you briefly comment, in no more than two paragraphs, how the PISA data and reporting has impacted your work on educational policy or research?
3. What are the educational systems that were, and should have been, most influential in Australian education policy 2000–2015? | 3. In your expert opinion what are the main challenges Australia currently faces in education? List your top three – with a sentence or two, if necessary, on each.
4. What are the personal responses to a graphic of Australia’s declining PISA performance 2000–2015? | 4. Please comment on whether PISA has impacted your assessment of the three challenges you listed above.
5. From your expert observation what are the educational systems that you have observed as being the most influential on Australian education policy 2000 to 2015? | 5. From your expert observation what are the educational systems that you have observed as being the most influential on Australian education policy 2000 to 2015?
6. In your expert opinion what are the educational systems that should have been most influential on Australian education policy 2000 to 2015? | 6. In your expert opinion what are the educational systems that should have been most influential on Australian education policy 2000 to 2015?
7. Please write your personal response to this graph.

Table 1: Research questions and interview questions.

Results

The study results for academics and policymakers are compared and contrasted under four main sections which correspond to the research questions. A summary of the stakeholder responses to each of the seven interview questions is provided in Tables 2, 3, 4 and 5, with further discussion of the major themes identified in the analysis. For full transparency each of the 30 participants is represented through unidentified, numbered rows, illustrating each individual response given to the grouped and columned questions. Important findings linked to the four research questions have then been totalled in the bottom row of each table. The total row in each table reflects the commonality among and between the academic researchers and education policymaker responses.

How has PISA reporting impacted policy development and education research in Australia?
Most policymakers suggested PISA impacted their work (n=14/15) but had no direct influence on education policy (n=13/15), while most academic researchers suggested PISA impacted both their work (n=12/15) and wider educational research (n=14/15) (see Table 2).

<table>
<thead>
<tr>
<th>Interview Questions</th>
<th>How has PISA reporting impacted policy development and education research in Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policymakers</td>
<td>Academics</td>
</tr>
<tr>
<td>PISA impact on policy</td>
<td>1. PISA impact on education research</td>
</tr>
<tr>
<td>Total</td>
<td>No = 13</td>
</tr>
</tbody>
</table>

Table 2: Summary of stakeholders’ responses to research question 1.

All of the policymakers, with one exception, identified PISA as an important source of information within their work on education policy. An education policymaker (participant 11) who helped develop policy around Australian educational funding explained PISA’s importance in their work:

PISA was central to my work. It was one of the key reasons we engaged so actively with the OECD given that it was widely reported in the media, and it was used in Commonwealth and state government education agreements. It provided basic data on the outcomes of school education and indicated how Australia was tracking.

Similarly, an academic education researcher (participant 13) also suggested that PISA has impacted her work and the work of other academic researchers:

It has helped me identify strengths and weaknesses in the current Australian education system and guided my thinking as to the key areas that need to be targeted. It has also raised the profile of various issues affecting Australian schools and created an opportunity for education experts to have a greater voice in the public domain, particularly the media, to discuss how we can address these issues.

The influence of PISA on participants’ work was clear, but 13 of the 15 policymakers also stated that, despite this, PISA reporting had no direct impact on their
development of education policy. All but two participants noted this outcome, and comments such as “absent” (participant 11) and “background factor” (participant 13) were used when describing the PISA impact on policy. In particular participant 7 inferred collectively that this was a deliberate exercise:

We attempted to limit the impact it had [on education policy] because we had to push back on a lot of things that the public, media and other education advocates thought needed to be done, as we did not consider it in the best interest of the education system.

Of the 15 academic researchers, 14 stated that PISA reporting had a direct impact on wider education research. Comments such as “fetishisation of PISA” and “a global trend in research” were used to describe the impact PISA had had on education research. In particular one academic researcher (participant 6) suggested:

The PISA data and reporting has provided a context of urgency for research grant applications and PhD student supervision in projects that investigate teaching, educational assessment, curriculum and funding.

The interview data suggests that the PISA reporting has had a high level impact across various issues within the field of education research. However for education policymakers there is skepticism and hesitancy about the PISA data and PISA reporting, meaning PISA does not directly impact their policymaking.

2. Assessments of the main challenges facing Australian education, and how PISA has impacted these assessments

Two main themes or challenges facing Australian education emerged from analysis of the data summarised in Table 3.
### Assessments of the main challenges facing Australian education, and how PISA has impacted these assessments

<table>
<thead>
<tr>
<th>Interview Questions</th>
<th>Policymakers</th>
<th>Academics</th>
<th>PISA impact on your assessment of these challenges</th>
<th>PISA impact on your assessment of these challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three main challenges to Australian education</td>
<td>Three main challenges to Australian education</td>
<td>Narrow conceptualisation of education’s relationship with economic mobility/stability</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>1 Unclear vision for education</td>
<td>Within school variance</td>
<td>Quality in teaching and teacher training</td>
<td>Schooling inequality and inequity</td>
<td>Ill-conceived educational policies</td>
</tr>
<tr>
<td>2 Inequities in student outcomes</td>
<td>School funding</td>
<td>Poor early childhood education</td>
<td>Resistance to change</td>
<td>Quality in teaching and teacher training</td>
</tr>
<tr>
<td>3 School funding</td>
<td>Public attitudes toward education</td>
<td>Shift to privatised education</td>
<td>Rural disadvantage and underachievement</td>
<td>Indigenous underachievement</td>
</tr>
<tr>
<td>4 School funding</td>
<td>Quality in teaching and teacher training</td>
<td>Political interference</td>
<td>School funding</td>
<td>Adopting evidence based curriculum and pedagogy</td>
</tr>
<tr>
<td>5 Equity in education</td>
<td>Quality in teaching and teacher training</td>
<td>Poor and complacent educational culture</td>
<td>Quality in teaching and teacher training</td>
<td>Overdependence on assessment instruments</td>
</tr>
<tr>
<td>6 Socioeconomic differences</td>
<td>School funding</td>
<td>No answer given</td>
<td>Quality in teaching and teacher training</td>
<td>Attitudes toward mathematics</td>
</tr>
<tr>
<td>7 Consistency in student attendance</td>
<td>School funding</td>
<td>Closing the gap</td>
<td>School funding</td>
<td>Teacher freedom in the classroom</td>
</tr>
<tr>
<td>8 Quality in teaching and teacher training</td>
<td>Poor early childhood education</td>
<td>Unclear vision for education</td>
<td>Schooling inequality and inequity</td>
<td>Education as a political/media football</td>
</tr>
<tr>
<td>9 School funding</td>
<td>Unclear vision for education</td>
<td>No answer given</td>
<td>Schooling inequality and inequality</td>
<td>School funding</td>
</tr>
<tr>
<td>10 School funding</td>
<td>Better integration between schools</td>
<td>Indigeneous underachievement</td>
<td>Shift to privatised education</td>
<td>Quality in teaching and teacher training</td>
</tr>
<tr>
<td>11 School funding</td>
<td>Quality in teaching and teacher training</td>
<td>Move from short term to long term fixes</td>
<td>Low value on education</td>
<td>Decide what society we want to be</td>
</tr>
<tr>
<td>12 Obsession with assessment</td>
<td>School funding</td>
<td>No answer given</td>
<td>Curriculum overcrowding</td>
<td>Quality in teaching and teacher training</td>
</tr>
<tr>
<td>13 School funding</td>
<td>Unclear vision for education</td>
<td>Narrow curriculum</td>
<td>Quality in teaching and teacher training</td>
<td>Early childhood education</td>
</tr>
<tr>
<td>14 School funding</td>
<td>Quality in teaching and teacher training</td>
<td>Link between socioeconomic status and performance</td>
<td>Schooling inequality and inequity</td>
<td>School funding</td>
</tr>
<tr>
<td>15 Quality in teaching and teacher training</td>
<td>Have not changed educational outcomes</td>
<td>No answer given</td>
<td>Lack of policy direction</td>
<td>Quality in teaching and teacher training</td>
</tr>
<tr>
<td>Total</td>
<td>School funding = 8</td>
<td>Quality in teaching and teacher training = 8</td>
<td>Poor and complacent educational culture, with unclear vision = 7</td>
<td>Quality in teaching and teacher training = 9</td>
</tr>
</tbody>
</table>

Table 3: Summary of stakeholders’ responses to research question 2.
Further in-depth criticism of teacher education in Australia was provided by an academic researcher in areas of curriculum and pedagogy (participant 7), stating:

Teacher education has become a cash cow for many underfunded universities, second tier universities who have reduced their entrance scores to put more bums on seats…We are doing ourselves a disservice, especially when we have institutions like Federation University, Australian Catholic University that are taking in graduates with an ATAR [Australian Tertiary Admissions Rank] below 50 for the various Bachelor of Education programs that progress into primary and early childhood education. These people are functionally illiterate and innumerate and are not fit to be in front of our children.

The second challenge both stakeholder groups largely agreed on was “school funding”, with eight policymakers and five academic researchers citing this in their responses. Australian school funding has been a topic of heated debate, most notably since the 2011 release of The Review of Funding for Schooling (Gonski et al., 2011). The Gonski report recommended a major overhaul of federal funding arrangements, proposing a new need-based funding model that would require funding increases for both government and non-government schools, but with greater funding for government schools (Gerrard, Savage and O’Connor 2017, 504). Since then the public funding of Australian schools and the role of governments in regard to it have been thoroughly contested (Connors and McMorrow 2015; Gerrard, Savage and O’Connor 2017). An education policymaker (participant 3) made specific mention of the under-funding of public education and hence the inequity that exists in the Australian education system:

We should be trying to reduce the disparity in funding between schools and across systems. Every education council meeting that I go to, I am constantly fighting for that equity… Currently our non-government schools are funded at 24%, and the federal government is dropping that down to 20%. So we are constantly fighting with the government to get their heads around this lack of equity in education.
An internationally acclaimed educationalist and researcher (participant 4) was clear that school funding is the first issue the Australian education system needed to focus on:

Firstly we need to resolve the inexorable debate about public funding of private school institutions in Australia. There is gross over funding of some schools, and gross underfunding of other schools which is a disgrace… No private school should be given any public funding if they are already above the Schooling Resource Standard level for primary or secondary school as appropriate. I have no difficulty or problem with having a private school system, but they should have to pay for that privilege.

Another significant finding was that most policymakers suggested PISA did not impact their assessment of the challenges facing Australian education (n=11/15), while in contrast most academic researchers suggested PISA had impacted their assessment of those challenges (n=12/15). A current education policymaker (participant 12) suggested:

No not really. I think PISA results, like any standard assessments, they continue to highlight that students from disadvantaged backgrounds achieve below their peers from more advantaged backgrounds… I really think that from being on the ground and looking at the research that PISA doesn’t have any exceptional impact on those challenges.

This response conveys a lack of awareness, or disregard, for the large body of analytical work done internationally on PISA, which informs understanding of the relationship between system and policy frameworks and educational outcomes. PISA is referenced by this policymaker as a product of limited descriptive capabilities and there is no mention of analytical potential. In contrast an academic researcher (participant 6) suggested that PISA had a significant impact on their assessment of challenges:
PISA reports have impacted on my assessment of all three challenges. Countries in which teaching is a valued profession, and education (especially in mathematics) is highly prized, tend to do better than other countries. PISA also reports on equity issues, and tracks the status of excellence vs. equity across countries. This has been very powerful in demonstrating that excellence need not come at the expense of equity.

This suggests greater familiarity with international analyses of PISA, beyond the descriptive national and state reports. These two quotes are representative of the different impact PISA has had on academic researchers compared to the education policymakers, with policymakers suggesting, for the most part, PISA did not impact their assessment of the main challenges facing Australian education – which adds to their view that PISA findings have not been translated into education policy. The policymakers appear to have mixed feelings about PISA. It has developed into an educational phenomenon they cannot ignore, but having acknowledged its impact on their work, they express some skepticism and hesitancy about the force of that impact.

3. Views on both the educational systems that were, and should have been, most influential in Australian education policy 2000–2015

Some studies suggest that PISA, and its media attention, feed into cycles of cross-national attraction and policy borrowing. Policymakers and academics were asked to name influential, or reference, education systems.
<table>
<thead>
<tr>
<th>Participant number</th>
<th>Most influential educational system/s</th>
<th>Personal choice for most influential educational system/s</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Federal system</td>
<td>Federal and state systems</td>
<td>No clear choice</td>
</tr>
<tr>
<td>2</td>
<td>United Kingdom</td>
<td>New Zealand, United States, Finland and Singapore</td>
<td>Canada</td>
</tr>
<tr>
<td>3</td>
<td>Canada, Israel, New Zealand and United States</td>
<td>United States and United Kingdom</td>
<td>New Zealand</td>
</tr>
<tr>
<td>4</td>
<td>Finland and state systems</td>
<td>Policy makers rely on their own research and beliefs</td>
<td>Should be multiple influences</td>
</tr>
<tr>
<td>5</td>
<td>Federal and state systems</td>
<td>Finland and Singapore</td>
<td>Canada</td>
</tr>
<tr>
<td>6</td>
<td>Canada, Finland, Singapore and United States</td>
<td>Shanghai (China) and Singapore</td>
<td>New Zealand</td>
</tr>
<tr>
<td>7</td>
<td>Finland, United Kingdom, United States, Shanghai (China)</td>
<td>United Kingdom, United States, Shanghai (China) and Singapore</td>
<td>Canada</td>
</tr>
<tr>
<td>8</td>
<td>Finland, Singapore and Shanghai (China)</td>
<td>Federal and state systems</td>
<td>Finland</td>
</tr>
<tr>
<td>9</td>
<td>Federal and state systems</td>
<td>United Kingdom and United States</td>
<td>Canada and Finland</td>
</tr>
<tr>
<td>10</td>
<td>New South Wales and federal system</td>
<td>United Kingdom</td>
<td>Canada</td>
</tr>
<tr>
<td>11</td>
<td>Various national and international influences</td>
<td>United Kingdom and United States</td>
<td>Canada</td>
</tr>
<tr>
<td>12</td>
<td>Victoria and federal system</td>
<td>Canada, New Zealand and United Kingdom</td>
<td>Canada</td>
</tr>
<tr>
<td>13</td>
<td>Various national and international influences</td>
<td>State systems</td>
<td>Canada</td>
</tr>
<tr>
<td>14</td>
<td>Various national and international influences</td>
<td>Finland</td>
<td>Canada</td>
</tr>
<tr>
<td>15</td>
<td>No clear international influence</td>
<td>Federal and state systems</td>
<td>Should be multiple influences</td>
</tr>
<tr>
<td>Total</td>
<td>No clear theme/s</td>
<td>United Kingdom = 6 United States = 5</td>
<td>Canada = 9</td>
</tr>
</tbody>
</table>

Table 4: Summary of stakeholders’ responses to research question 3.

Table 4 shows that, while the Australian media and public analysis has focused on countries performing at a high level in PISA particularly Finland (Davis, Wilson, & Dalton, 2018), two-thirds of policymakers (n=9/15) and a third of academic researchers (n=6/15) argue Canada should have been most influential on Australian educational policy 2000–2015.
Although not all participants were articulate in their rationale for this choice, some suggested the reason is “we have similar cultural values” and “in many ways their education system is ahead of ours”. Typical of this was a NSW policymaker (participant 10) who suggested:

Canada for me should have been most influential. Having been there… and been involved in education talks, places like Alberta, Ontario and other big cities in those provinces have similarities worth looking into. For example Canada has a first nation’s population, it is very multi-cultural, and of course has some English-speaking students.

The similarities between the Australia and Canadian systems were also important to academics, with one academic researcher (participant 14) listing various reasons why Canada should have been most influential:

I think Canada is often a good comparison – a fellow democracy, like Australia, another migration nation, an OECD member state, a federal system, and with a relatively small population to its huge land mass, which inevitably makes delivery of services (such as education) a key challenge.

Responses from both academics and policymakers highlight the shared importance placed on learning from a country that has many cultural, educational and demographic similarities to Australia. Leanings toward Canada as a preference in both participant groups were evident despite the public and media focus on PISA rankings and Finland, which some participants saw as unhelpful discourses in Australia.

Another notable finding is that a total of 14 of the 30 respondents listed the various Australian federal and state education systems as the most influential over the 2000 to 2015 period. The Australian PISA report includes a disaggregation by all 6 states and two territories, with many contrasting jurisdiction profiles providing fuel
for discussion. The participants confirm this strong domestic focus, which might explain why PISA had no direct impact on Australian education policy.


The final interview question, requiring a “personal response” to Figure 1, was included to elicit the individual, non-professional perspectives of policymakers and academics on Australia’s PISA performance.

![Australia's PISA performance 2000-2015](image)

**Figure 1:** Australia’s PISA performance scores 2000–2015.

The graph stimulated considerable interest, as the responses were lengthy. The main theme was that all policymakers (n=15/15) and many academic researchers (n=9/15) expressed deep concern over the results shown in the graph, evident from the language used in the interviews such as “depressing”, “annoyed” and “dismay”. Table 5 below provides a snapshot of each participant’s responses:
Table 5: Snapshots from the stakeholders’ personal responses to Figure 1 (PISA graph).

<table>
<thead>
<tr>
<th>Stakeholder Type</th>
<th>Response</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policymakers</td>
<td>Concerned (in italic font)</td>
<td>(n=15)</td>
</tr>
<tr>
<td></td>
<td>Dismissive (in regular font)</td>
<td>(n=9)</td>
</tr>
<tr>
<td>Academics</td>
<td>Concerned (in italic font)</td>
<td>(n=9)</td>
</tr>
<tr>
<td></td>
<td>Dismissive (in regular font)</td>
<td>(n=6)</td>
</tr>
</tbody>
</table>

1. We have known this for so long but no one seems to care about doing anything. These results beg for a reboot. But more of the same is the complacency argument, as we tinker ourselves away from a utopia.

2. This decline in achievement is a particularly worrying trend…How much can we rely on this? Not much. For example, it is clear that some countries perform better on certain types of questions than others, but OECD will never release those results.

3. Well I’m obviously concerned when I see a graph like this, but it doesn’t give the full story. I have data from elsewhere that says we are doing just fine.

4. Very concerning because very few people in Australia know about this or understand what it means.

5. This graph tells us that we are going downhill, especially in mathematical literacy, which is not comforting…this graph is also exaggerated in a representational sense, if you don’t take into account the increased number of East Asian nations that have performed really well.

6. This graph is very concerning…How you read this graph and what you read into it are important considerations…if it is used in determining which schools do and don’t get certain resources then it is a very useless tool.

7. This is a real concern in Australia, which is why because of these results there is a renewed focus on education in Australia…When you test 15 year olds in Australia, it’s not that they aren’t knowledgeable, it’s more the fact that not all kids think…an exam by some external organisation is particularly important.

8. We have to tackle this low performance, but this graph shows us nothing has changed…But the PISA results aren’t the most valuable tool we have.

9. I think this graph says that what has been pushed nationally hasn’t worked. And so we need to strip back and focus on what really matters.

10. This sort of graph is well known, and is the cause of much frustration in education…Australia’s funding arrangements limit the extent to which OECD PISA results that we see in this graph provide assistance.

11. In a general sense if it is an overall decline, your gut says that it’s not great…I wouldn’t want to act on this graph and add further to the crisis discourse that currently surrounds PISA, and maybe prompt a more thoughtful, measured consideration of what is it we are trying to do in education.

12. My personal response to this graph is one of disappointment, and dismay that things are not changing.

13. This should be of concern for all those involved in education policy, because evidently, this decline is constant.

14. At the end of the day PISA only assesses a sample of Australian students, but I am really concerned because it is clear to me that we are not improving, and the decline can be seen at both the top and bottom quartiles.

15. These results paint a worrying picture. I get very annoyed…ultimately it does more harm than good to put out these graphs. It fuels the PISA juggernaut and it fuels an industry of people who would like to sell us a solution to that problem but its not helpful.
The italicised snapshots in Table 5 from all 15 education policymakers clearly identify the declines in PISA scores as an issue of concern. One education policymaker (participant 12) suggested:

I think it is very depressing. I think it is very sad. My personal response to this graph is one of disappointment, and dismay that things are not changing. I think the thing that it says to me is: what are we doing? This is the advantage of PISA! You have all this rich background data and longitudinal data that looks into what the differences are, in terms of advantages and disadvantages in schools, and what is causing them, yet no one is following through and acting on them.

This concern was also made clear in an academic researcher’s (participant 6) response:

These are the trends that we need to pay attention to. The decline in mathematical literacy performance is of concern, especially when it appears that there are a decreasing proportion of students in the upper performance bands. PISA only assesses a sample of students, but the downward trend appears robust.

While these personal responses to the graph convey a clear mood of desperation, the second major theme to emerge from these responses was that many policymakers (n=9/15) and some academic researchers (n=6/15) were ‘dismissive’ of the PISA results. Some education policymakers voiced an initial concern and then went on to express caution, suggesting that we should not read too much into the results, or that the results on their own are misleading. A response from a leader in education policymaking (participant 15) illustrates the defensive and dismissive stance of these participants:

These results paint a worrying picture. I get very annoyed… I just think that it is misleading to provide that sort of graph without proper context, and to show the Australian student performance without showing alike performances from many other developed countries is again quite misleading. So ultimately it does more harm than
good to put out these graphs. It fuels the PISA juggernaut and it fuels an industry of people who would like to sell us a solution to that problem but it’s not helpful.

In addition an internationally acclaimed educational researcher (participant 1) expressed this sentiment of caution:

These sorts of graphs don’t tell the whole story, and indeed, can be actively harmful in terms of establishing a meaningful discussion about education quality. So, I would encourage caution with regards to referring to this sort of graph.

These excerpts show that, while concerned by the trends, both stakeholder groups have various criticisms of the published PISA result and some feel that, in some cases, it can be more harmful than useful. This perception has been voiced in the recent educational research, with a growing discussion around the use and misuse of PISA data (Choi & Jerrim, 2016; Rutkowski & Rutkowski, 2016), and the importance of identifying the limitations of the results when presenting to educational policymakers (Araujo, Saltelli, & Schnepf, 2017; Hopfenbeck et al., 2018). In response to the graph, nearly two thirds of policymakers and over one third of academic researchers expressed this deficit view, with some skeptical of the potential benefits of the PISA results in the education policy domain.

**Discussion and conclusion**

The first point of discussion is the clear impact PISA has had on the work of stakeholders in both education policy and research in Australia, which is not surprising given the public and media attention given to PISA. More surprising is the consistent report from policymakers that PISA has had no direct impact on their education policy development. This stands in contrast with the conclusions drawn from Breakspear’s international work (2012) and a range of other studies focused on PISA’s impact on education policy and policymaking processes in OECD countries.
(Choi & Jerrim, 2016; Dobbins & Martens, 2012; Grey & Morris, 2018; Pons, 2016; Tasaki, 2017). Our finding however, does align with the work of Rautalin, Alasuutari and Vento (2018) who find that in terms of parliamentary discourse around legislation the PISA influence cannot be confirmed.

It is also evident that, although the education policymakers express concern about the PISA results and acknowledge PISA’s impact on their work, they suggest it has not directly informed their assessment of Australia’s education challenges, nor their work on policy to address this decline in performance. While international authorities like the OECD are respected actors in a transnational policy network (Grek, 2009) and are frequently referenced at the highest levels of legislative policymaking (Rautalin, Alasuutari, & Vento, 2018), the fruits of that influence are not evident in Australia.

Some clues explaining the lack of translation of the PISA effect into Australian policy may lie in the participants’ responses. Both groups suggested that public and media discourses are largely superficial, with an unhelpful focus on rankings and aspirations toward Finnish education. Analysis of Australian media surrounding PISA confirms a fascination with education in Finland (Davis, Wilson, & Dalton, 2018), yet no Finnish-type policy reforms have been implemented in Australia. Indeed one education policymaker (participant 8) made that point most sharply:

Well we basically learnt about providing opportunities for teachers to do ongoing professional learning, to have a less structured curriculum, and to provide teachers with far greater pedagogical tools… so we go off and learn all these wonderful things about Finland, and then come back and do *@#!! all.

The policymaker responses were also more dismissive and defensive of the utility of PISA data than the academics. The policymaker responses suggested they viewed
PISA as yet another educational indicator, inferring it was limited to description of trends, rather than referring to the large body of PISA analyses which examine how these trends are linked to educational frameworks and policy. We may also surmise that much of the influence that policymakers feel, in response to political agendas, stems from the “unhelpful” media coverage; and we are unable to confirm that policymakers have access to the potentially more useful international analyses of PISA and its associated educational survey data. The depth of policymakers’ understanding and engagement with the OECD PISA literature was not examined and may be a good target for future research.

Another possible explanation may lie in the fact that both groups, in particular policymakers, cite domestic educational systems as being most influential on education policy. This strong domestic, or inward looking, stance is consistent with analysis of Australian media on PISA. In print media PISA results are often accompanied by discussion of the diverse state education systems and their relative performance (Davis & Wilson, 2019). This print media focus also contrasts with that of other high performing and improving countries like Japan and South Korea which show a more outward looking orientation (Davis, Wilson, & Dalton, 2018). The federated structures of the Australian educational landscape have long been viewed as a complicating, if not a limiting, factor in educational prosperity (Dawkins, 2010; Dowling, 2008). A pre-occupation with state by state comparisons and the wide variation in state and territory profiles of attainment in PISA, may serve to make Australia a special case by distracting attention, to some degree at least, away from the high levels of cross-national attraction and policy envy seen in other countries.

Related to this is the majority opinion of participants that Canada’s education system should have been most influential on Australian education policy during a
period when the educational focus of attention was largely on the UK, USA and Finnish systems. This finding is perplexing due to the lack of reporting and referencing of Canada’s education system in Australian educational research and media discourse where Finland has held primacy, but may be related to recent criticism on Australia’s Finland “fixation” (Joseph & Buckingham, 2018).

In conclusion, we propose that potential explanations for PISA’s failure to impact on Australian education policy include: firstly, the “unhelpful” nature of the media discourse which plays a significant role in setting political agendas that policymakers respond to. Secondly, the policymaker perceptions of PISA appear to be focused primarily on national reports rather than the international analytical work relating to policy. Thirdly, a strong domestic focus on the educational performance of Australian states and territories may distract from the impact of PISA.

What is salient to international audiences from this study is the way that Australia’s response to PISA may provide a new departure in understanding of that phenomenon. In some countries the impact and translation of PISA to policy is clearly documented (Ertl, 2006; Ringarp, 2016; Tasaki, 2017), while in Australia there appears to be a sceptical view of PISA at an expert level, which may constrain its influence. PISA’s influence may also be constrained by some of the participants’ evident focus on interstate comparisons. This inward looking stance, also suggested in media analyses (Davis & Wilson, 2019; Davis, Wilson, & Dalton, 2018), may be related to the Australian media’s relatively weak focus on the international economic competitiveness of education. Indeed, in one media analysis, there were no references made to the economic competitiveness associated with PISA (Davis & Wilson, 2019) and established through PISA’s extremely high correlation with WEF global competitiveness index data (Baumann & Hamin, 2011; Baumann & Winzar, 2016).
Thus, with little attention to international competitiveness in education beyond the unhelpful attention on rankings, Australian policymakers may not feel the imperative to look for cross-national insights into education policy. Rather, in the Australian media there is a superficial focus on individual reference nations, like Finland; when what is needed is deeper international analytical work. There is the potential for similar circumstances to exist in other countries. Further research is needed to examine possibilities and linkages between the factors considered here.

As a final point, although there were many notable differences between academic and policymaker perspectives in this study, both participant groups expressed deep levels of concern regarding Australian education. This research is limited by its small sample size and the unknown representativeness of the sample. However, even given the possibilities for sample bias, it was surprising to note the almost universal tone of concern for the current state of Australian education. This finding, from an array of national experts, should provide a clarion call for further political and research attention on the performance of the Australian education system.
References


Chapter 7: Conclusion

The publications in the preceding chapters present a body of research that investigated PISA related discourses over 15 years, at both an international comparative level, including Japan and South Korea with improving PISA performance and Finland and Australia with deteriorating PISA performance, and also at an Australian domestic level, using both media discourse analyses and interviews of education policymakers and academic researchers. This research is at the forefront of the current considerable political and public discourse on the impact PISA has had on Australian education policy and research. However, despite the increased reporting on PISA, and the media’s important influence in academic and education policy discourses, limited research has examined the ways in which PISA data has had an impact across the media, academic and policymaker discourses.

The study makes a contribution to our understanding of the way the media, policymaker and academic discourses have been impacted by PISA’s ascendancy, from both domestic and international perspectives. For example, the research in Chapter 2 found that the media discourse in the improving PISA countries of Japan and South Korea was more outward looking than the discourse in the deteriorating PISA countries of Australia and Finland. In particular, the research study’s findings on the impact of PISA data on cross-national policy attraction, international discourses of ‘competition’, media coverage of Australian Indigenous PISA performance and perspectives of education policymakers and academics could inform future research on the media’s role in reporting PISA data and how this relates to international and national educational policy settings.

One important finding is that while Australian PISA media discourse supports an argument for a strong cross-national attraction to Finland and its educational system, Australian policymakers suggest they have not adopted any of Finland’s educational features, nor let the PISA data impact education policy. When the policymakers were asked whether PISA had impacted their work in education policy, and which educational systems were most influential, they confirmed this point. In comparison, the academic researchers suggested that the PISA media discourse had changed education research, and that research might directly feed into Australian policy, but the relationship between PISA data and Australian education policymaking is, at the very best, indirect. This is an important finding because it contrasts with the
trend in research that investigated Finland’s impact on education policy (Chung, 2010, 2016) and PISA’s policy impact (Breakspear, 2014; Grey & Morris, 2018) on other OECD countries.

In light of this research finding, a compelling question is why has PISA not been more influential in Australian education policy and policymaking processes? This study and others have argued that the media plays an indirect, but critical role in shaping public opinion and informing education policy and policymaking processes (Baroutsis & Lingard, 2017; Coe & Kuttner, 2018; Davis, Wilson & Dalton, 2018). In Australia, this study has shown that mainstream media has provided limited in-depth analysis and critical discussion of PISA results, which has led to an unsophisticated interpretation of the results. The media has instead focused on high ranking and high performing PISA educational systems, such as Finland, the epitome of PISA success. Therefore the limited and narrow mainstream media discourse, and concerns surrounding the interpretation of the PISA results, may have affected the media’s capacity to play a more direct role in impacting education policy development in Australia. This study suggests that it may be the analytical quality of media discourse, not the quantity, which determines the impact of PISA on policy.

The mixed methods research design was an innovative approach to investigate PISA’s ascendency within the media, policymaker and academic discourses. The body of research in the five articles provides an opportunity for Australian education policymakers and researchers to reflect on several major conclusions found: 1) despite a strong cross-national attraction toward Finland in the national media discourses, there are inconsistent and paradoxical patterns between the four countries; 2) different national perspectives on education affect how educational competition is positioned within them; 3) the existence of bias in the Australian mainstream media affects reporting of Indigenous PISA performance; 4) policymakers suggest PISA has had very little direct impact on Australian education policymaking; 5) education academic researchers suggest PISA has impacted their individual work, educational research and assessment of the challenges facing Australian education, while policymakers suggest that PISA has impacted their individual work, but not educational policy and their assessment of the challenges facing Australian education. It is hoped this study will inspire more cooperation and communication between media, academics and education policymakers in order to improve Australia’s education.
**Journal article publications**

This thesis presents a body of research, five journal article publications, that investigated PISA related discourse over 15 years, at both an international comparative level, including Japan and South Korea with improving PISA performance and Finland and Australia with deteriorating performance, and also at an Australian domestic level, using both media discourse analyses and interviews of education policymakers and academic researchers. The study undertook a series of analyses of media and interview data that were published (or under review for publication) in a range of journals spanning international and comparative education; business studies (with an interest in educational competitiveness); Indigenous education and policy studies. Thus the thesis is somewhat interdisciplinary.

The first journal article presented in Chapter 2 analyses the educational media discourse surrounding the OECD PISA from a cross-national standpoint in four countries: Australia, Finland, Japan and South Korea. Following this journal article, Chapter 3 presents the second journal article that identified a second gap in the media literature related to contrasting discourses on education and competitiveness from the four countries. The article provides longitudinal perspectives to understand the contrasting societal values placed on education and how these relate to perspectives on competitiveness. This media evidence on national discourses can inform education policy orientations in the four countries examined.

While continuing the focus on media discourse, the third journal article in Chapter 4 builds on the previous publications in focusing on discourse framing Australian Indigenous performance in the PISA by investigating the attention it received in Australian academia and mainstream media between 2001-2015. The main driver behind this article is that there has been declining Australian PISA results, and very little academic, empirical attention on Indigenous performance in the PISA.

The fourth journal article presented in Chapter 5 maintains a national focus, exploring Australian education policymakers’ perspectives on Australian education challenges and PISA’s impact on policy. This article links to previous publications that had shown the PISA featured significantly in the media and public discourse and had direct and research-documented impact on policy across a multitude of countries. This study addresses a significant policy issue that has had limited research, especially in an Australian context.

Finally, the fifth journal article in Chapter 6 focuses on the perspectives of Australian academic researchers over the impact of PISA on Australian educational
research and policy since PISA’s introduction in 2000. The previous publications showed that the PISA has featured prominently in the Australian media, however there has been no clear, direct focus on PISA in Australian academic literature. This article provides a focus on the academic perspectives, as well as comparisons with policymaker perspectives in Chapter 5.

Findings

Table 7.1 summarises findings for the research questions in Chapters 2 to 6.
Table 7.1 Research questions for the five journal articles and summary of findings.

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<th>Journal Article</th>
<th>Research Questions</th>
<th>Summary of Findings</th>
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<tr>
<td><strong>Chapter 2:</strong> Another Slice of PISA: an interrogation of cross-national attraction in Finland, Australia, Japan and South Korea.</td>
<td>1. Within discourse that appears in the sample of newspaper articles, what findings and patterns can be identified that support (or not) an argument for educational CNA of one country towards the other three countries?</td>
<td>Australia, Japan and South Korean discourse supports an argument for a strong educational CNA towards Finland. Finland’s discourse shows fewer CNA references towards the other three sample countries, preferring to maintain a domestic focus. South Korean discourse exhibits the greatest breadth of CNA, with references towards Australia, Finland and Japan.</td>
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<td>2. What findings and dimensions (‘positive’, ‘neutral’ or ‘negative’) are evident within all cross-national references in each sample country’s media discourse?</td>
<td>South Korea and Japan show strong but neutral referencing towards the USA. Finland has the most widely distributed range of cross-national references. Finland’s media sample does not focus on the Asian region (unlike the other three sample countries), and includes Sweden and Canada in their ‘top six’ references.</td>
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<td>3. Within positive cross-national references, what are the various motivations evident that support an argument for cross-national attraction between countries?</td>
<td>Australia, Japan and South Korea have made Finland their most positively referenced country. Australia’s motivations are based on a large degree of internal dissatisfaction with its education system, and consequently an attraction for externalising potentials within the Finnish system of excellence and equity in schooling. Japan’s motivations have changed over time: at first Japan was attracted to Finland as a successful educational performer; and then more recently as an educational culture. South Korea’s motivations are based on the necessity for educational reforms due to internal dissatisfaction, and are attracted to a Finnish educational culture that integrates individualised and creative schooling, alongside high academic standards.</td>
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<td><strong>Chapter 3:</strong> Not so globalised: contrasting media discourses on education and competitiveness in four countries.</td>
<td>1. What is the media discourse on educational attainment surrounding PISA in Australia, Finland, Japan and South Korea?</td>
<td>The Australian discourse surrounding PISA is highly focused on ‘mathematics’, ‘science’ and ‘literacy’ scores and ranks. The Finnish discourse provides a focus on the national and foreign educational systems, and also system level perspectives on issues in education. The Japanese discourse provides a focus on the words ‘test’ and ‘survey’, mostly in reference to PISA, and less so in reference to local or national assessments. The South Korean discourse focuses on its own high achievement in PISA rankings and mean scores, as well as discussing the important role of highly trained and qualified teachers in ensuring high performance and educational success.</td>
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<td>2. How is competitiveness positioned within the discourse of educational attainment surrounding PISA?</td>
<td>Japan and South Korea have more extensive discourse on economic competitiveness than Australia and Finland. South Korea shows the highest overall orientation to competitiveness and Japan has the next highest percentage of references but with a stronger discourse around economic and educational competitiveness, while in Australia and Finland the focus is on educational competitiveness, with Australia making no clear reference to economic competitiveness.</td>
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<td>3. What shifts in discourse on competitiveness are evident over time and in relation to declining or improving educational performance?</td>
<td>A focus on competitiveness is most obvious in the improving Asian countries, Japan and South Korea, as they take a critical view of their systems. The Finnish and early Australian discourses are more self-satisfied and do not acknowledge their changing relative position and declines in scores until the 2012 assessments.</td>
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<td><strong>Chapter 4:</strong> Media neglect of Indigenous performance in the PISA 2000–2015.</td>
<td>1. What is the positioning of Indigenous education within Australia’s media discourse on PISA?</td>
<td>There is evidence of a lack of attention to Indigenous PISA education performance, with six newspapers failing to address Indigenous performance in any way. Only 10 Indigenous PISA articles made up the sample over 15 years. Most of the articles feature a strong critique of teacher quality issues and the achievement gap, however there is limited in-depth discussion and little critical analysis of the issues.</td>
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<td>2. What theoretical insights can be used to help explain the findings related to the media attention given to Indigenous PISA performance?</td>
<td>The lack of critical media discourse and attention given to Indigenous PISA performance points to the existence of bias in Australian mainstream media.</td>
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<td><strong>Chapter 5:</strong> Education policymakers’ perspectives on Australian educational challenges and PISA’s impact on policy.</td>
<td>1. How has the PISA reporting impacted on policy development in Australia?</td>
<td>Policymakers (14/15) suggested PISA impacted their work but had no direct influence on education policy (13/15).</td>
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<td>2. What are the main challenges facing Australian education, and how PISA has impacted these assessments?</td>
<td>Policymakers agreed that the main challenges facing the Australian education system include: the misdistribution of educational funding (8/15); building quality in teaching and teacher training (8/15); and a poor and complacent educational culture, with an unclear vision (7/15).</td>
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<td>3. What are the educational systems that were, and should have been, most influential in Australian education policy 2000–2015?</td>
<td>Policymakers did not agree on the dominant international reference systems. Australian domestic systems, both Commonwealth and state, were more predominately cited as clear influences (8/15). Policymakers (9/15) suggested Canada should have been most influential in policy.</td>
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<td>4. What are the personal responses of policymakers to a graphic of Australia’s declining PISA performance 2000–2015?</td>
<td>All policymakers expressed deep concern (15/15) over the results of declining performance shown in the graph. However policymakers (9/15) were also dismissive of the PISA results.</td>
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<td><strong>Chapter 6:</strong> Academics’ perspectives on PISA’s impact on Australian educational research and policy.</td>
<td>1. How has PISA reporting impacted policy development and education research in Australia?</td>
<td>Policymakers (14/15) suggested PISA impacted their work but had no direct influence on education policy (13/15), while academic researchers suggested PISA impacted both their work (12/15) and wider educational research (14/15).</td>
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<td>2. What are the main challenges facing Australian education, and how PISA has impacted these assessments?</td>
<td>Academics (9/15) and policymakers (8/15) suggested quality in teaching and teacher training was a main challenge for Australian education. Policymakers (8/15) and academic researchers (5/15) also suggested ‘school funding’ was another major challenge. Policymakers also suggested PISA did not impact their assessment of the challenges facing Australian education (11/15), while education academics suggested PISA had impacted their assessment of those challenges (12/15).</td>
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<td>3. What are the educational systems that were, and should have been, most influential in Australian education policy 2000–2015?</td>
<td>Academics (6/15) and policymakers (9/15) argue Canada should have been most influential on Australian educational policy 2000–2015.</td>
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<td>4. What are the personal responses of a graphic of Australia’s declining PISA performance 2000–2015?</td>
<td>Both academics (9/15) and policymakers (15/15) expressed deep concern over the results of declining performance shown in the graph. Some academics (6/15) and policymakers (9/15) were dismissive of the PISA results.</td>
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**Advantages and disadvantages of the research methods**

This section on the advantages and disadvantages of the research methods used in this study discusses three methodologies used across the body of research: content analysis, and thematic analysis of print media; and an interview survey of education policymakers and academic researchers. These two strategies were complementary. The media discourse collected from each of the four sample countries provided published perspectives which were reliably coded using two techniques; while the confidence interviews with policymakers and academics, produced discursive and nuanced personal perspectives on the topic. Many of the advantages and disadvantages, particularly in relation to media and interview sampling, are considered in the published papers. In addition I expand upon some here.

The study used both quantitative and qualitative design, and offers multiple perspectives to contribute to the current understanding of the PISA phenomenon and its ascendancy in media, policymaker and academic discourses. Although recent research has provided both quantitative and qualitative perspectives on PISA discourses, to date few studies have employed mixed research strategies and the study fills this gap.

The research presented in Chapters 2 and 3 used a mixed method design to conduct a content analysis of the media discourses surrounding PISA in four countries from 2001 to 2015. This research method was advantageous from a data retrieval perspective, as the media database *Factiva* provided easy access to readily available newspaper articles from both domestic and international media sources. Access to the rich data source enabled both time and cost-effective data collection. The method was beneficial in the coding phases of the research, as small errors when quantifying the manifest content could be easily rectified by simply recoding the necessary sections of the readily available newspaper texts. Finally, the use of both *NVivo* software and manual methods to code and identify relevant themes from the data helped to improve the overall reliability and validity of the results from the analysed media discourse.

The two main disadvantages of using this research method were experienced in the coding phases of the content analysis. A large sample of 304 newspaper articles was collated and therefore analysis and coding of the manifest and latent content was comprehensive and complex. Lastly, focused effort was required in coding the units to ensure they were not only exhaustive, but remained attentive to the research questions of the study.
The research presented in Chapter 4 used Braun and Clarke’s (2006) six-step process for thematic analysis to explore media reporting of Indigenous students’ PISA results in two national and 11 metropolitan Australian newspapers. First, the thematic analysis was advantageous as it provided a highly flexible and well-structured approach to effective inductive and deductive analysis of the 10 newspaper articles found. In particular, the method had an easy to follow framework, which was fundamental in exploring the discourse, working through the coding process and eventually identifying the key themes within the data set. Finally, committing to a rigorous thematic approach produced insightful results from the media discourse and contributed important answers to the two research questions.

While a strong research method, there were also disadvantages in using thematic analysis for this study. Firstly, thematic analysis is poorly demarcated and claimed, and therefore seen as a supposedly less sophisticated form of analysis compared to other research methodologies (Braun & Clarke, 2006, p. 97). Secondly data collection was a labour intensive process as 287 PISA focused articles were retrieved and examined in a systematic and methodological manner in order to determine which articles focused on Indigenous Australian PISA performance. Lastly, the six-step analytic process was also iterative due to the recursive nature of the method, with movement required back and forth between each of the steps, and frequent reviewing of potential themes and coded data.

The research presented in Chapters 5 and 6 used an interview survey strategy to gain the perspectives of Australian education policymakers and academic researchers on Australian education challenges and PISA’s impact on educational policy and research. The survey included both online and telephone interviews to suit busy participants and used a set of core questions, but also enabled a semi-structured approach, with probes being used to evoke further response when necessary.

The research demonstrated the value of using the interview survey strategy as a method to research the view of powerful experts like education academic researchers and policymakers. Very often systems, such as the education system, assume cohesion between these education professionals and the decision makers, but this study maps out diversity in perspective. Although there was consensus on some issues, academic and policymaker perspectives contrast on many key points.

The advantages of using individual interviews were numerous. The method allowed for interviews to be conducted over the phone and by email response, which increased not only the convenience for the geographically dispersed and high profile participants (Oltmann, 2016), but helped assure higher levels of confidentiality and
anonymity of the responses. This was an important assurance to give participants so that responses were less likely to be influenced by social desirability and professional desirability bias. The interview survey strategy was central to gaining responses that went beyond political and organisational rhetoric, and explored the experiences, perceptions and attitudes of the education policymakers and academic researchers.

Phone interviews were chosen by 24 of the 30 time-poor participants. The email responses gave six participants the opportunity to write and reflect on their responses to the interview questions over a greater time span, which can result in more thoughtful and relevant data (Fritz & Vandermause, 2018; Gibson, 2010; Hawkins, 2018; Seidman, 2006). Telephone interviews were also deemed advantageous as participants were dispersed across a large geographical context (Oltmann, 2016), and allowing participants to interact from separate physical locations can be more convenient for both parties, letting each stay in a familiar and safe environment (Kazmer & Xie, 2008, p. 265).

While the education policymakers and academics were comfortable to respond by email and phone, the phone interviews proved to be more effective in gaining longer and more detailed responses from participants, which provided richer data to analyse and compare with other participant views. This research method offered versatility, convenience and confidentiality that ultimately ensured the successful recruitment of 30 eligible participants, higher quality and in-depth response data, and remarkably frank answers to the interview questions.

There were also disadvantages to the interview survey method. Firstly, emailed responses provided less data than responses recorded by phone interview. The email interview was an option that may have taken the education policymakers and academics more time to complete, and therefore may have impinged on their capacity to provide detailed responses. Secondly, interviewing 30 high profile and time poor participants required a great deal of flexibility and understanding when scheduling and re-scheduling interview times. Delays during the data collection and analysis phases were often unavoidable, although ensured the participation of the high profile individuals for the interviews. Thirdly, using email and telephone interviews meant there was no opportunity to observe and interpret visual cues, tone, hesitation, or silence (Fritz & Vandermause, 2017), which has been shown to have an influence on the interviewer-participant dynamic (Hawkins, 2018, p. 496). Finally, despite taking the necessary precautions to protect the confidentiality of participants, there is always a possibility of computer malfunctions (Hawkins, 2018) and cyber security breaches.
Theoretical contributions
This study made five major contributions to knowledge, listed below.

1. The analysis of media across four countries has confirmed the relevance and utility of policy borrowing theory in understanding the PISA phenomenon. The analysis demonstrates the feasibility of identifying cross-national attraction through a range of analytical and data visualisation techniques for media analysis.

2. The findings make it clear there is substantial national variation in the degree and expression of cross-national attraction. The presence of many contradictions and complexities within just this small aspect of policy borrowing is illustrated.

3. The findings in this thesis indicate that Australian media reporting on PISA has not directly impacted educational policymaking, however the media has had an impact on academic research examining PISA data. Thus it is postulated that: it may be the analytical quality of media discourse, not the quantity, which determines the impact of PISA in the policy arena. There is some preliminary evidence for this from Australian media, academic and policymaker discourses.

4. By exploring three different stands of discourse, media, academic and policymaking, the study provides a fuller perspective on the dynamics of influence exerted by PISA. It maps out the tensions between discourses and highlights some of the complexities involved. For example; the majority of academic researchers have been impacted by PISA in their individual work, educational research and their assessment of the challenges facing Australian education. However the majority of policymakers, who are closer to the policy process, suggest that while PISA has impacted their individual work, it has not impacted educational policy or indeed their assessment of the challenges facing Australian education. Both groups commented on the narrow and unhelpful conceptions in the media discourse.
5. Methodologically the study showed the complementary nature and innovative pairing of two methods: media analysis and interview surveys. The media discourse collected from each of the four sample countries provided reliable and irrefutable information for analysis, which was further complemented by the information gathered from the in-confidence interviews with policymakers and academic researchers, whose discourse was more discursive and nuanced, and also carried the potential for bias. Pairing the two methods in this study provided a more comprehensive understanding of the discourse complexities of written and spoken samples, and how PISA’s impact is interpreted differently across various modes of enquiry.

Policy and media implications

This study and its analyses of the PISA related discourses provided research findings that have clear implications for media and policy, in both domestic and international contexts.

The international comparative analyses of the newspaper discourse in Japan and South Korea with improving PISA performance, and Australia and Finland with deteriorating PISA performance offered evidence that Finland and its education system have remained the preferred reference society in the Japanese, South Korean and Australian print media discourses from 2000 to 2015 (Davis & Wilson, 2018; Davis, Wilson & Dalton, 2018). The implications of this continued attraction towards the Finnish system are significant as the international media plays an important role in influencing educational policy decision-making and debate. This suggests that the popularisation of Finland in the international media means Finland could possibly remain a cross-national focus in the educational policy landscape. However, the results are only representative of four countries and are a small sample of their national discourse, and therefore the findings may, or may not, relate to other countries and their educational policy decisions. There are many complexities in considering the internal and external influences that help to shape educational policy debate and decisions, and therefore research using different methodological approaches and also a wider cross-section of countries is needed to understand the degree of influence the Finnish education model may, or may not have, on other countries and their educational policy.

The findings on the Australian PISA media discourse were perhaps the most confronting. Despite the large gap between Indigenous and non-Indigenous PISA
The study also found that both groups of stakeholders suggest that PISA was highly influential in their work, but while academics reported PISA had directly impacted their research, policymakers reported PISA had no direct impact on policy. The implications of this finding are that policymakers may need to rethink how PISA data can be used as a policy tool to help inform discussion of education policy and evaluate the effectiveness of potential education reform strategies, in particular those
related to student assessment and systems of accountability. Furthermore, policymakers may also need to be educated on how the PISA data could be used most effectively in policy processes, to ensure the data is not relied on or used outside the scope of what the data can support (Breakspair, 2014).

**Directions for future research**

Due to the diverse nature of the research, there are several directions for future research. The research in Chapter 2 showed that future research is needed to understand why there are sometimes inconsistent and paradoxical patterns in educational cross-national attraction between countries, specifically, further exploration of the inconsistencies where improving countries are attracted to high performing but deteriorating systems deserves further attention. This issue could be informed by examining these dynamics in greater detail, and across a much larger scope of countries.

The research in Chapter 3 identified that future research is needed to further investigate the trends identified in the study’s longitudinal analysis over 2000 to 2015. The most obvious trend that deserves further investigation is the continued positioning of Finland as a reference country in education internationally. Future research on this trend could prove beneficial in elucidating various national perspectives to help develop a more nuanced understanding of how education reflects deeper societal values. In particular, comparative research could draw on questionnaires and interview data to help understand the different national perspectives on education and how education competition is positioned within them.

Importantly, the article in Chapter 4 showed that future research examining Australian media and political power structures is needed to explore why Indigenous PISA performance is not reported. In particular, this study highlights the need for recurrent and productive research, with the aim of scrutinising trends and holding media to account. In particular this is needed to help redress the noticeable neglect of Indigenous education in the Australian educational landscape.

The article in Chapter 5 provided better insight into the impact PISA has had on Australian educational policy by voicing the perspectives of Australian policymakers. The study’s domestic focus made it original research, and future research would clearly benefit from continuing this domestic focus in investigating Australia’s educational policy landscape. Another avenue of research that would prove beneficial is the comparison of Australian policymaker perspectives with wider
international perspectives in education.

The article in Chapter 6 suggested that the impact of PISA on both Australian academic researchers and education policymakers remains a relatively unexplored area of academic research. This gap in the academic research provides an impetus for future research to further examine the diversity of expert perspectives on PISA’s impact internationally on educational research and policy. The basic research approach, using individual interview to directly gather information from high profile experts while assuring high levels of confidentiality and anonymity. This technique helped reduce the potential for social desirability and professional desirability bias, which can occur when expert views are aired in public forums and research focus groups.

**Concluding comment**

It is hoped that this set of research studies provides education policymakers and academic researchers with useful information to reflect on their professional roles and responsibilities, and further consider how they might engage more effectively in those roles by generating stronger pathways of communication and collaboration between their expert groups. The study also hopes to encourage future research that interrogates the PISA ascendancy and its impact across educational discourses, as this research has the potential to inform education systems and governments on how the PISA data can best be used to help improve learning and performance outcomes for students globally. Lastly, the study has shown that Australian media reporting on PISA is low level, with little critical or analytical commentary, which was identified as a determining factor in the media’s inability to influence Australian education policy. However, considering media’s ability to influence in our society, it is hoped that media reporting on PISA and Australian education can develop a deeper level of engagement, analysis and criticism of the PISA evidence and support analytical commentary on the future of Australian education.
References


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Marks, G. N. (2017). Students in Australian catholic and independent schools have more


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Appendices

Appendix 1: Author contribution statements
Appendix 2: Ethics approval statement
Appendix 3: Participant Information Statement
Appendix 4: Recruitment email
Appendix 5: Example of interview response answered by email
Appendix 6: Example of interview response transcribed after phone interview
Appendix 1: Author contribution statements

Research Paper 1

Title
Another slice of PISA: An interrogation of educational cross-national attraction in Finland, Australia, Japan and South Korea.

Authors

Journal
A Journal of Comparative and International Education.

Author Contributions
ED conceived the idea and the research design; analysed cross-national references and mapped emerging patterns; interpreted the results; and wrote the manuscript.

RW supervised the research and critically reviewed many drafts of the manuscript.

BD offered suggestions and shared contributions on the manuscript.

Author Signatures:

Edward Rock Davis
Date 16/08/2019

Rachel Wilson
Date 16/08/2019

Bronwen Dalton
Date 15/08/2019
Title
‘Not so globalised’: Contrasting media discourses on education and competitiveness in four countries.

Authors
Edward Rock Davis & Rachel Wilson.

Journal
Journal of Asia Business Studies.

Author Contributions
ED conceived the idea and the research design; analysed cross-national references and trends in educational attainment; interpreted the results; and wrote the manuscript.

RW supervised the research and critically reviewed many drafts of the manuscript.

Author Signatures:

Edward Rock Davis

Date 18/08/19

Rachel Wilson

Date 16/08/19
Title

Authors

Journal
The Australian Journal of Indigenous Education.

Author Contributions
ED conceived the idea and the research design; identified and analysed themes in the PISA mainstream media articles; interpreted the results; and wrote the manuscript.

RW supervised the research and critically reviewed many drafts of the manuscript.

JE supervised the research and critically reviewed many drafts of the manuscript.

Author Signatures:
Edward Rock Davis
Date 18/08/2019

Rachel Wilson
Date 15/8/2019

John Robert Evans
Date 15/8/2019
Title
Education policymakers’ perspectives on Australian education challenges and PISA’s impact on policy.

Authors
Edward Rock Davis & Rachel Wilson.

Journal

Author Contributions
ED conceived the idea and the research design; identified relevant PISA education questions; conducted interviews with education policymakers, and analysed the transcribed interview data, including policymakers answers to Australian education challenges and PISA’s impact on policy; interpreted the results; and wrote the manuscript.

RW supervised the research and critically reviewed many drafts of the manuscript.

Author Signatures:

Edward Rock Davis

Date 18/08/19

Rachel Wilson

Date 16/08/19
Title
Academics’ perspectives on PISA’s impact on Australian educational research and policy.

Authors
Edward Rock Davis & Rachel Wilson.

Journal
Educational Policy (under review).

Author Contributions
ED conceived the idea and the research design; identified relevant PISA education questions; conducted interviews with education academics and policymakers, and analysed the transcribed interview data, including policymakers perspectives on PISA’s impact on Australian educational research and policy; interpreted the results; and wrote the manuscript.

RW supervised the research and critically reviewed many drafts of the manuscript.

Author Signatures:

Edward Rock Davis
Date 18/08/19

Rachel Wilson
Date 16/08/2019
Appendix 2: Ethics approval statement

Research Integrity & Ethics Administration
Human Research Ethics Committee

Monday, 5 June 2017

Dr Rachel Wilson
Education, Faculty of Arts and Social Sciences
Email: rachel.wilson@sydney.edu.au

Dear Rachel

The University of Sydney Human Research Ethics Committee (HREC) has considered your application.

After consideration of your response to the comments raised your project has been approved.

Approval is granted for a period of four years from 5 June 2017 to 5 June 2021.

Project title: A Qualitative Analysis of Expert Opinions on the Programme for International Student Assessment’s Impact in Australia.

Project no.: 2017/318

First Annual Report due: 5 June 2018

Authorised Personnel: Wilson Rachel; Davis Edward;

Documents Approved:

<table>
<thead>
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<th>Date Uploaded</th>
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<th>Document Name</th>
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<tr>
<td>10/05/2017</td>
<td>Version 2</td>
<td>Participant Information Statement</td>
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<tr>
<td>10/05/2017</td>
<td>Version 2</td>
<td>Recruitment Email</td>
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<td>05/04/2017</td>
<td>Version 1</td>
<td>Proposal for waiver of consent</td>
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Conditions of Approval

- Research must be conducted according to the approved proposal.
- An annual progress report must be submitted to the Ethics Office on or before the anniversary of approval and on completion of the project.
- You must report as soon as practicable anything that might warrant review of ethical approval of the project including:
  - Serious or unexpected adverse events (which should be reported within 72 hours).
  - Unforeseen events that might affect continued ethical acceptability of the project.
- Any changes to the proposal must be approved prior to their implementation (except where an amendment is undertaken to eliminate immediate risk to participants).
- Personnel working on this project must be sufficiently qualified by education, training and experience for their role, or adequately supervised. Changes to personnel must be reported and approved.
• Personnel must disclose any actual or potential conflicts of interest, including any financial or other interest or affiliation, as relevant to this project.

• Data and primary materials must be retained and stored in accordance with the relevant legislation and University guidelines.

• Ethics approval is dependent upon ongoing compliance of the research with the National Statement on Ethical Conduct in Human Research, the Australian Code for the Responsible Conduct of Research, applicable legal requirements, and with University policies, procedures and governance requirements.

• The Ethics Office may conduct audits on approved projects.

• The Chief Investigator has ultimate responsibility for the conduct of the research and is responsible for ensuring all others involved will conduct the research in accordance with the above.

This letter constitutes ethical approval only.

Please contact the Ethics Office should you require further information or clarification.

Sincerely

Professor Glen Davis  
Chair  
Human Research Ethics Committee (HREC 2)

The University of Sydney HRECs are constituted and operate in accordance with the National Health and Medical Research Council’s (NHMRC) National Statement on Ethical Conduct in Human Research (2007) and the NHMRC’s Australian Code for the Responsible Conduct of Research (2007).
PARTICIPANT INFORMATION STATEMENT

(1) What is this study about?

You are invited to take part in research investigating the impact the Programme for International Student Assessment (PISA) has had on Australian education policy. The PISA results between the 2000 and 2015 period have seen Australian student performances decline. PISA is often cited as the most influential phenomena in education, and its surveys are increasingly seen to shape education debates globally.

This research will conduct qualitative with semi-structured interviews of government education policymakers and academics.

You have been invited to participate in this study because you are an acknowledged expert on educational policy and/or research. This Participant information Statement tells you about the research study. Knowing what is involved will help you decide if you want to take part in the research. Please read this sheet carefully and ask questions about anything that you don’t understand or want to know more about.

Participation in this research study is voluntary.

By giving your consent to take part in this study you are telling us that you:

✓ Understand what you have read.
✓ Agree to take part in the research study as outlined below.
✓ Agree to the use of your personal information as described.

You will be given a copy of this Participant Information Statement to keep.

(2) Who is running the study?
The study is being carried out by the following researchers:

- Dr Rachel Wilson
- Mr Edward Davis

Mr Edward Davis is conducting this study as part of research for a Doctor of Philosophy at The University of Sydney. This will take place under the supervision of Dr Rachel Wilson.

(5) What will the study involve for me?

The study involves you taking part in a 15-minute email or phone interview. Seven short-response questions, which will be posed, related to PISA and Australian educational policy between 2000 and 2015. You will not be exposed to any risk at any stage during the research process and can withdraw from the research at anytime. Your responses on email or phone will be kept securely, and data records will be anonymised. Your identity will not be disclosed in the research.

(4) How much of my time will the study take?

The interview is estimated to take 10-15 minutes to complete.

(5) Who can take part in the study?

In order to address this research topic, a group of twenty expert education policymakers and academics will be invited to participate in the semi-structured interview. Each of these invited participants will have power of authority and are experts in this field. From the consenting pool of participants, twenty (N=20) participants will be selected to be interviewed for the research.

(6) Do I have to be in the study? Can I withdraw from the study once I've started?

Being in this study is completely voluntary and you do not have to take part. Your decision whether to participate will not affect your current or future relationship with the researchers or anyone else at the University of Sydney.

If you decide to take part in the study and then change your mind later, you are free to withdraw at any time. Unless you say that you want us to keep them, any recordings will be erased and the information you have provided will not be included in the study results. You may also refuse to answer any questions that you do not wish to answer during the interview.

(7) Are there any risks or costs associated with being in the study?

Aside from giving up your time, we do not expect that there will be any risks or costs associated with taking part in this study.

(8) Are there any benefits associated with being in the study?

A Qualitative Analysis of Expert Opinions on PISA's Impact on Australian Educational Policy
Version 2 [19 and Sep 2017]
We cannot guarantee that you will receive any direct benefits from being in the study.

(9) What will happen to information about me that is collected during the study?

Your information will be stored securely and your identity/information will be kept strictly confidential, except as required by law. Study findings may be published, but you will not be individually identifiable in these publications.

(10) Can I tell other people about the study?

Yes, you are welcome to tell other people about the study.

(11) What if I would like further information about the study?

When you have read this information, Dr Rachel Wilson will be available to discuss it with you further and answer any questions you may have. If you would like to know more at any stage during the study, please feel free to contact Dr Rachel Wilson (02) 9351 6890 and email: rachel.wilson@sydney.edu.au.

(12) Will I be told the results of the study?

You have a right to receive feedback about the overall results of this study. You can tell us that you wish to receive feedback by indicating that you are interested in receiving feedback in your email or phone response. Feedback will be in the form of a one page summary, and/or the final published research article.

(13) What if I have a complaint or any concerns about the study?

Research involving humans in Australia is reviewed by an independent group of people called a Human Research Ethics Committee (HREC). The ethical aspects of this study have been approved by the HREC of the University of Sydney [2017/318]. As part of this process, we have agreed to carry out the study according to the National Statement on Ethical Conduct in Human Research (2007). This statement has been developed to protect people who agree to take part in research studies.

If you are concerned about the way this study is being conducted or you wish to make a complaint to someone independent from the study, please contact the university using the details outlined below. Please quote the study title and protocol number.

The Manager, Ethics Administration, University of Sydney:

- **Telephone:** +61 2 8627 8175
- **Email:** human.ethics@sydney.edu.au
- **Fax:** +61 2 8627 8177 (Facsimile)

*This information sheet is for you to keep*
Appendix 4: Recruitment email

Sydney School of Education & Social
ABN 15 211 513 464

Senior Lecturer - Research
Methodology/Educational Assessment & Evaluation

Room 526
A35, The Education Building
The University of Sydney
NSW 2006 AUSTRALIA
Telephone: +61 2 9351 6390
Facsimile: +61 2 9351 2606
Email: rachel.wilson@sydney.edu.au

A Qualitative Analysis of Expert Opinions on PISA's Impact on Australian Educational Policy

RECRUITMENT EMAIL

Name
Title
Address

Dear >>>>>>>>

My name is Mr Edward Davis and I am currently completing a PhD under the supervision of Dr Rachel Wilson. The research explores the impact that the Programme for International Student Assessment (PISA) data has had on Australian education policy/research between 2000 and 2015. You are invited to participate in this research because of your expertise in Australian education. Please see the attached participant information sheet for further information regarding the research.

This research project has been approved by the Human Research Ethics Committee (HREC) of the University of Sydney [2017/318]. Under normal circumstances you would be required to complete a Participation Consent Form (PCF). Due to your highly demanding schedule and in an attempt to reduce complication, this PCF has been replaced with an alternative form of consent. By simply completing the seven short-response questions listed below and indicating your consent given, via either the return email response or in a recorded phone interview, you give permission and consent for the information to be used as data for this research project.

Please also note that strict anonymity will be guaranteed, as all participants will be de-identified (via pseudonyms and any other fictional changes required to protect
and maintain participant and source privacy) in the dissemination of results. This ensures that you will not be identifiable in any way when results are disseminated in the final research publications.

My supervisor and I would be very happy to go over any questions you might have, or provide further information or any clarification you would like in order to take part in this research. You can contact me by phone on 0400 081 447 or by email cday9883@uni.sydney.edu.au.

I do appreciate your demanding and busy schedule, but humbly note that this issue needs to be addressed by expert education policymakers and researchers like yourself. Your expert opinion will help give greater insight and understanding into this important education policy issue.

The seven short-response questions are listed below. Please reply to this email and respond to these questions within the body of this email. Or, if you would prefer to respond in person on the phone, please reply to this email to arrange a time at your convenience. Once again complete anonymity will be assured.

A Qualitative Analysis of Expert Opinions on PISA’s Impact on Australian Educational Policy

Interview schedule

Interviewee pseudonym: .................................................................

(Suggest one if you have a preference)

Thank you for agreeing to participate in this email interview. The research is investigating the impact the Programme for International Student Assessment (PISA) is having on Australian educational policy and practice. The interview will take approximately thirty minutes. There are seven short-response questions regarding your expert opinion on the impact of PISA on Australian educational policy.

Let it be known that the views and opinions expressed in this interview are those of the interviewee and do not necessarily reflect the official policy or position of any agency, institution or government organisation. Participants’ anonymity in this research ensures responses are not linked to professional roles or workplaces.

By answering the questions below you are providing your formal consent to participate in this study. Please indicate, with an X, if you accept and consent to this precedent below:

YES:    NO:
There are no right or wrong answers to these questions; the research is interested in
your personal opinions and views. If, at any stage, you do not wish to continue the
interview, please send your reply incomplete or an email stating that you wish to
discontinue.

Interview Questions

1. Could you briefly comment, in no more than two paragraphs, how the OECD PISA
data and reporting has impacted on your work in education policy/research?

2. Could you provide a short summary of your observations on how the release of
   PISA data between 2000 and 2015 has, or has not, impacted on educational
   policy and/or research within your interest area or jurisdiction?

3. In your expert opinion what are the main challenges Australia currently faces in
   education? List your top three – with a sentence or two, if necessary, on each.

4. Please comment on whether PISA and other OECD reports have impacted on
   your assessment of the three challenges you listed above?

Now, two contrasting questions:

5. From your expert observation what are the educational systems (national or
   state/province) that you have observed as being the most influential on
   Australian education policy 2000 to 2015?

6. In your expert opinion what are the educational systems (national or
   state/province) that should have been most influential on Australian education
   policy 2000 to 2015?

7. Below is a graph that depicts Australia’s PISA performance from 2000 to 2015.
Please write your personal response to this graph (as much or little as you like).

Finally, would you like to receive feedback about the overall results of this study?

YES: NO:

If you answered YES, please indicate your preferred form of feedback and address:

Email: .................................................................

Postal: .................................................................

Thank you for participating in the study.
Appendix 5: Example of interview response answered by email

Hi Edward,

I finally got a spare half an hour to finish these questions. Please see below.

If there are any comments you would like me to extend or clarify, please let me know.

All the best with the project.

Kind regards,

Interview Questions

1. Could you briefly comment, in no more than two paragraphs, how the OECD PISA data and reporting has impacted on your work in education policy/research?

The OECD has emerged as a powerful player in education policy and most certainly influences debates within education policy studies, which is my area of expertise. Unlike many of my colleagues, the OECD has not emerged as a central focus of my work, but certainly exists as an important backdrop to many discussions about education policy in the contemporary era. For example, I am currently

Whether we like it or not, the OECD and PISA feature prominently at all education conferences. At the ECER conference in Copenhagen this year, I actually became fatigued by the amount of papers focussing on PISA.

While I completely understand the importance of such a focus, given the OECD’s powerful role, I also feel that it is an area of research that has become highly saturated. There is almost a fetishisation of the OECD and PISA and a related risk of researchers overstating its influence on national contexts.

2. Could you provide a short summary of your observations on how the release of PISA data between 2000 and 2015 has, or has not, impacted on educational policy and/or research within your interest area or jurisdiction?

PISA is now used as one primary indicator for judging the quality of education systems. As many of my colleagues and I have noted, PISA has not only played a major role in reshaping how student achievement is understood, but has also reshaped how other aspects of education are understood. Equity is a good example.

Indeed, the role of PISA in reshaping equity that fascinates and worries me the most. For example, how we understand equity has been powerfully reshaped by large scale testing and data infrastructures such as PISA, and also NAPLAN here in Australia. Equity, as a result of these measures, is now primarily understood in terms of the relationship between a young person’s background and their test scores. This is one way of understanding equity, but certainly not the only way.
3. In your expert opinion what are the main challenges Australia currently faces in education? List your top three - with a sentence or two, if necessary, on each.
   1. Growing inequality and inequities.
   2. School funding
   3. The future of teacher education

On the first point, I’ve written extensively. On a broad range of measures, from NAPLAN and PISA through to year 12 completion rates and other measures, Australia has significant and ongoing inequalities. Despite significant investments by governments, particularly over the past decade, many of these inequalities have worsened. It’s clear that policy is failing to combat entrenched inequalities between young people from different backgrounds. As a result, educational opportunities and outcomes continue to become further polarised. Young people from privileged backgrounds are accruing further advantage. Those from disadvantaged backgrounds are increasingly locked out of competitive education and job markets.

On the second point, schooling funding continues to bedevil politicians and policymakers. What has changed significantly in this area since the release of the original Gonski report in 2011 is a much greater focus on measuring the impact of funding and thus a focus on what schools do with money, rather than just how much schools are funded. This debate about impact, however, has a long course to run and has really only just started to heat up.

On the third point, I think we’re only seeing the beginnings of debates about how teacher education is shaped and delivered. There are multiple streams to this debate that are starting to gain momentum here in Australia.

4. Please comment on whether PISA and other OECD reports have impacted on your assessment of the three challenges you listed above?

PISA data is useful for getting a broad-brush sense of how students are performing, and for seeking to understand this performance in relation to various other indicators and inputs. But it is insufficient as a standalone measure. In my view, it’s what we do with PISA data that matters most. To use PISA data well, we not only need to closely examine the data and its complexities, but we also need to use it as one measure alongside others with the view to forming a more holistic picture of where young people are at, and how schools and systems might be performing.

5. From your expert observation what are the educational systems (national or state/province) that you have observed as being the most influential on Australian education policy 2000 to 2015?

The UK and the USA. By far!

6. In your expert opinion what are the educational systems (national or state/province) that should have been most influential on Australian education policy 2000 to 2015?

I don’t believe there are specific systems that Australia should be borrowing or learning from. Instead, I think there are pockets of good and bad ideas and practices in most systems. The job of talented politicians, advisors, bureaucrats and researchers is to move beyond seeing other systems as holding ‘the key’ to change here in Australia, but to instead seek to synthesise a broad range of ideas and practices, from a diversity of systems, that might be adapted (not just adopted!) towards generative reform in our nation.

As globalisation has intensified, and policy borrowing across national contexts has increased, a major concern I have is with the increased tendency towards a ‘what works’ approach to reforming education. This approach often results in the production of various lists of decontextualized ‘tips and tricks’. This has also led to certain
countries being held up as the golden cases to borrow from, and this is often based on the latest round of PISA results. It was Finland for a while, now it's Singapore. While it is always useful to consider what other systems might be doing better, it's farcical to think another country offers all the answers.

Finally, I also think that rather than a seemingly endless fascination with what other countries are doing, Australia should spend some time reflecting on the potential 'buckets of gold' that exist in our own backyard, and seek to share that gold more broadly. While Australian education has its problems, there are also many examples of highly generative and impactful practices that can be better understood and then shared within and across schools and jurisdictions.

7. Below is a graph that depicts Australia's PISA performance from 2000 to 2015.

Please write your personal response to this graph (as much or little as you like).
This is one measure that reflects a trend of decline in student achievement. This decline is worrying because it is sustained. My view on this data and my assertion that it is worrying is supported by knowledge of similar declines or stagnations on other key measures. For example, NAPLAN data show either stagnation or decline in many areas, Year 12 completion data continues to be a major problem, and so on. So, for me, this graph is just one of the pieces of evidence we can call upon that form a broader portrait of decline, which should be of concern to many educational stakeholders.

Finally, would you like to receive feedback about the overall results of this study?
YES
Appendix 6: Example of interview response transcribed after phone interview

Sydney School of Education & Social

ABN 15 211 513 464
Senior Lecturer - Research
Methodology/Educational Assessment & Evaluation

Room 526
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The University of Sydney
NSW 2006 AUSTRALIA
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Facsimile: +61 2 9351 2606
Email: rachel.wilson@sydney.edu.au

A Qualitative Analysis of Expert Opinions on PISA’s Impact on Australian Educational Policy

RECRUITMENT EMAIL

Dear [Name],

My name is Mr Edward Davis and I am currently completing a PhD under the supervision of Dr Rachel Wilson. The research explores the impact that the Programme for International Student Assessment (PISA) data has had on Australian education policy/research between 2000 and 2015. You are invited to participate in this research because of your expertise in Australian education. Please see the attached participant information sheet for further information regarding the research.

This research project has been approved by the Human Research Ethics Committee (HREC) of the University of Sydney [2017/318]. Under normal circumstances you would be required to complete a Participation Consent Form (PCF). Due to your highly demanding schedule and in an attempt to reduce complication, this PCF has been replaced with an alternative form of consent. By simply completing the seven short-response questions listed below and indicating your consent given, via either the return email response or in a recorded phone interview, you give permission and consent for the information to be used as data for this research project.

Please also note that strict anonymity will be guaranteed, as all participants will be de-identified (via pseudonyms and any other fictional changes required to protect and maintain participant and source privacy) in the dissemination of results. This ensures that you will not be identifiable in any way when results are disseminated in the final research publications.

My supervisor and I would be very happy to go over any questions you might have, or provide further information or any clarification you would like in order to take
part in this research. You can contact me by phone on 0400 081 447 or by email edav9683@uni.sydney.edu.au.

I do appreciate your demanding and busy schedule, but humbly note that this issue needs to be addressed by expert education policymakers and researchers like yourself. Your expert opinion will help give greater insight and understanding into this important education policy issue.

The seven short-response questions are listed below. Please reply to this email and respond to these questions within the body of this email. Or, if you would prefer to respond in person on the phone, please reply to this email to arrange a time at your convenience. Once again complete anonymity will be assured.

A Qualitative Analysis of Expert Opinions on PISA’s Impact on Australian Educational Policy.

Interview schedule

Interviewee pseudonym: ..........................................

(Suggest one if you have a preference)

Thank you for agreeing to participate in this email interview. The research is investigating the impact the Programme for International Student Assessment (PISA) is having on Australian educational policy and practice. The interview will take approximately thirty minutes. There are seven short-response questions regarding your expert opinion on the impact of PISA on Australian educational policy.

Let it be known that the views and opinions expressed in this interview are those of the interviewee and do not necessarily reflect the official policy or position of any agency, institution or government organisation. Participants’ anonymity in this research ensures responses are not linked to professional roles or workplaces.

By answering the questions below you are providing your formal consent to participate in this study. Please indicate, with an X, if you accept and consent to this precedent below:

YES: X NO:

There are no right or wrong answers to these questions; the research is interested in your personal opinions and views. If, at any stage, you do not wish to continue the interview, please send your reply incomplete or an email stating that you wish to discontinue.
Interview Questions

1. Could you briefly comment, in no more than two paragraphs, how the OECD PISA data and reporting has impacted on your work in education policy/research?

In terms of policy there's been an increase in policy impacts since 2000, as more nations participate in PISA. I think the PISA shock in Germany in 2001 gave great legitimacy to PISA and now 2015, 35 nations participated with East Asian nations at the top. I think there has been increased policy impact around the globe, and in actual fact, if you talk to Andreas Schleicher and if you read OECD documents, now they see one of the purposes of PISA as challenging a lot of policy assumptions within nations. So they want there to be a real policy impact! I've interviewed the media people and the head of media at the OECD, and he says "they are opposed to league tables but it's all the media want". So now they try to manage their relationship with national media to enhance the mediated impact on the politicians and policymakers in nations.

But in terms of research, you can pick up any educational journal now, and I think this is true probably since Shanghai's performance in 2009, there's almost a cottage industry or research in and around PISA, there's just so much. If you look at the journal of education policy, and the comparative education review you just find huge amounts of research in and around PISA. In a way, this is interesting in terms of the impact on educational research, comparative education as a field has been totally revitalised. And I think even more specifically via the enhanced significance in impact in policy terms and politically of international testing including PISA.

So I think there has been huge impact and it has increased over the time since 2000 to 2015 as more nations have participated in PISA, and as it has had more political impact. So there is more policy impact, but I think there is almost a cottage industry now around PISA and more broadly the OECD.

2. Could you provide a short summary of your observations on how the release of PISA data between 2000 and 2015 has, or has not, impacted on educational policy and/or research within your interest area or jurisdiction?

So in the late 1990s when PISA was just
being thought of. OECD work. Also ministers.

policy actor in its own right. Although if you interview people such as Andreas

So in relation to PISA, there was real pressure from the USA, for an international test for comparative nations. saying that the USA actually threatened to withdraw their funding from the OECD. So although there were a lot of people who thought it couldn’t be done, due to national differences in curriculum etc and they were pushed out in the end because the OECD just had to do this. So since the beginning of PISA in 2000 it received very little media coverage, and then the same after the second assessment in 2003. A lot of the headlines were the same such as ‘Australia tops the world’. Of course we were in the top five of the rankings in PISA. So I’ve been interested in the change of performance. How in those early days in seemed like the policy impact of PISA wasn’t so great. And so during the first part of this century I actually had another role where states and territories... but I’d say whilst.

So I’m interested say from 2006 to the present, where we had Shanghai’s performance in 2009 and the impact of the Grattan Institute’s Think-tank report. So I think PISA started a panic, particularly in the context of Asian Century and the Henry White paper on Asia and Australia, we all went a bit mad.

The media coverage of PISA details with the mean scores and their comparative performance. Whereas another year after that there are these huge secondary analysis reports, nearly 1200 pages, and you never see any media coverage about that, and I think that is the stuff that is more significant in policy terms. But because of the mediatisation of the earlier stuff I think it’s the one that has more policy impact, which isn’t quite right in my opinion. It then leave out the equity stuff as well.

3. In your expert opinion what are the main challenges Australia currently faces in education? List your top three – with a sentence or two, if necessary, on each.
Inequality and inequity – This is a point I make specifically in relation to PISA, PIMMS, PIRLS, NAPLAN etc. What we see is the correlation with socioeconomic background and performance is strong, and getting stronger. PISA classifies systems on quality, but also equity – the strength of socioeconomic background on performance. What you see in the now 35 OECD countries is the strengthening of that correlation, which I think links to the whole broader neo-liberal policy setting, and the impacts upon any quality. There is a growing inequality and inequity, which is reflected, in the strengthening correlation with SES performance. In all the OECD countries including Australia, the number of poor kids performing in the top categories has declined.

School funding – So my second point in relation to the first one on equity, is about what are the funding, but more importantly the policy and practice and broader public policy settings that we need to address that equity issue. I think in a way it is sort of acknowledged and sort of denied. I think this sort of thing is a problem in schools, so we need broader social policy settings to respond to it. I think one of the responses has been around funding, and I think Gonski 2.0 and wherever it goes, is a step in the right direction. But I feel more redistributed funding along with the OECD data shows this overwhelmingly – that the more equitably funded systems have the more equitable outcomes on PISA. I think it is not just the money its how you spend the money – I don’t think we have had that debate. Now I know Gonski 2.0 is looking at that closely, I don’t know what they will say and do, and I wonder the extent to which the federal government’s funding goes to the state, and that funding is mediated then by the catholic, public and independent systems. So the funding isn’t direct to schools. I noticed the other day that Tanya Plibersek said a policy Labor would take to the next election is to create an independent, highly funded, national educational research institute, that would have as its focus; how you confront equity issues?; what the funding arrangements need to be?; and what policy and practice needs to be?

4. Please comment on whether PISA and other OECD reports have impacted on your assessment of the three challenges you listed above?
I think PISA can tell us something about the first two challenges. Although it hasn’t impacted the way it should because of the mediatised representation of the performance, which always talks as if there is an Australian schooling system, with mean scores and ranks. Now fair enough, but aside from a couple of stories in media since 2000, all of the coverage has been about mean score and aggregated at the national level, and declines in that mean score, and so the emphasis has always been on quality. Whereas I think that what PISA shows us is that quality and equity go together. That is, the systems with the best performance are those that in some way minimise the affect that socioeconomic background has, and this is left out of Australian media coverage. Most of the secondary data, a huge document that comes out after the results, gets no media coverage, and that’s because of the way the mean aggregated national score is given all the media coverage with declines in that...Its frustrating because the obvious lesson to learn is the equity one. The other point I’d make is that we need to be more careful, more sophisticated and more nuanced in dealing with the data. Because if you disaggregate states and territories, what you find is that the poor performance in Australia is really the Northern Territory, which is explicable in terms of remote Indigenous populations...and Tasmania, which is explicable in terms of a whole range of things including structure of schooling, depressed economy, high youth unemployment and a whole range of factors...So if you pull those two out, Australia’s performance looks a bit better.

So overall there is important data from PISA that can be and should be used for policy, but I think because of the mediatised dealing of only the quality measure and decline, that that becomes the big political focus. I think if you just look at the quality measure without equity, schools and teachers are in a sense to blame. Whereas if you bring the equity in then you see that it’s a broader based issue, and we need broader based approaches. This is not just redistributing money, its also different policy frames and different sets of practices in schools and so on.

Now, two contrasting questions:

5. From your expert observation what are the educational systems (national or state/province) that you have observed as being the most influential on Australian education policy 2000 to 2015?

Discursively of course it was Finland in 2000 and 2001, and probably up to 2009. So I think people started to look to Finland for educational tourism, where they had low inequality, high status for teachers, highly educated teachers, early intervention around learning difficulties for all kids, start school late, but by in large have government schools and all kids do the same curriculum undifferentiated. I know that Helsinki and the ministry there got a bit sick of it all. But I think there were things we could have learnt from Singapore that we tended
But as I’ve said, the media and mediatisation of the PISA data, and the Grattan Institute report about what we can learn from East Asian systems...I don’t know, the first point I’d make about policy borrowing is that you can’t transfer history, culture, politics. You should look elsewhere, and of course this is the motivation for creation for comparative education in the late 18th, early 19th century, but you can’t take what is happening somewhere else and just plant it somewhere else because there is also what historians and political scientists call path dependency. So every system has its history located in the particular politics and history of a nation. So anything wanting that is implanted in a different context and can potentially become something else. So I always say we should have policy learning, rather than policy borrowing. Interestingly, I spent a lot of time in Singapore and they topped 2015 PISA and have done really well in other IEA’s tests, but they are looking everywhere else. Once you are at the top how do you stay at the top.

6. In your expert opinion what are the educational systems (national or state/province) that should have been most influential on Australian education policy 2000 to 2015?

I think Canada is often a good comparison – a fellow democracy, like Australia another migration nation, an OECD member state, a federal system, and with a relatively small population to its huge land mass, which inevitably makes delivery of services (such as education) a key challenge.

Of course in Canada they don’t have a federal national department of education. So PISA in Canada is run by Statistics Canada, so it’s all handled at a much more provincial level. And there hasn’t been the sort of national move there has been in Australia. But yes I think Canada because of its history, its political and federal structure.

7. Below is a graph that depicts Australia’s PISA performance from 2000 to 2015.
Australia’s PISA performance 2000-2015

These declines are statistically significant and substantive – equating to many months of progress in learning. Interpretation of this graph and its implications varies.

Please write your personal response to this graph (as much or little as you like).

It's depressing more than surprising. The decline in performance is indicative of Australia having fewer kids performing in the top two categories of performance. It is also indicative of more kids performing in the bottom two categories of performance. Also shows that Australia’s biggest decline is in mathematical literacy, and that’s not a good thing to see at all.

Finally, would you like to receive feedback about the overall results of this study?

YES

If you answered YES, please indicate your preferred form of feedback and address:

Email: [redacted]

Postal:

Thank you for participating in the study.