

On the supranational spell of PISA in policy

Jo-Anne Baird^{a*}, Sandra Johnson^b, Therese N. Hopfenbeck^a, Talia Isaacs^c,
Terra Sprague^c, Gordon Stobart^d and Guoxing Yu^c

^aOxford University Centre for Educational Assessment, ^bAssessment Europe, ^cUniversity of Bristol Graduate School of Education, ^dUCL Institute of Education, University College London

Abstract

Background PISA results appear to have a large impact upon government policy. The phenomenon is growing, with more countries taking part in PISA testing and politicians pointing to PISA results as reasons for their reforms.

Purpose The aims of this research were to depict the policy reactions to PISA across a number of jurisdictions, to see whether they exhibited similar patterns and whether the same reforms were evident.

Sources of evidence We investigated policy and media reactions to the 2009 and 2012 PISA results in six cases: Canada, China (Shanghai), England, France, Norway and Switzerland. Cases were selected to contrast high-performing jurisdictions (Canada, China) with average performers (England, France, Norway and Switzerland). Countries that had already been well reported on in the literature were excluded (Finland, Germany).

Design and methods Policy documents, media reports and academic articles in English, French, Mandarin and Norwegian relating to each of the cases were critically evaluated.

Results A policy reaction of ‘scandalisation’ was evident in four of the six cases; a technique used to motivate change. Five of the six cases showed ‘standards-based reforms’ and two had reforms in line with the ‘ideal-governance’ model. However, these are categorisations: the actual reforms had significant differences across countries. There are chronological problems with the notion that PISA results were causal with regard to policy in some instances. Countries with similar PISA results responded with different policies, reflecting their differing cultural and historical education system trajectories.

*Corresponding Author. Oxford University Centre for Educational Assessment, Department of Education, 15 Norham Gardens, Oxford, OX2 6PY, UK. jo-anne.baird@education.ox.ac.uk

Conclusions The connection between PISA results and policy is not always obvious. The supranational spell of PISA in policy is in the way that PISA results are used as a magic wand in political rhetoric, as though they conjure particular policy choices. This serves as a distraction from the ideological basis for reforms. The same PISA results could motivate a range of different policy solutions.

Keywords: PISA, policy, scandalisation, standards-based reform, ideal governance

Introduction

This research set out to investigate the representation of Programme for International Student Assessment (PISA) results in policy discourse and the media in six jurisdictions. Data and research, such as those gleaned from international studies, are but one player in the policy process. Neustadt (1960, 1990) taught us that politics as well as policy-making is essentially *persuasion*. Questions, then, follow from this about how PISA data and reports are represented in policy in different contexts, how they are used to persuade and, indeed, whether they *are* persuasive of the policies proposed in each setting.

PISA was launched with its first international ‘attainment and learning environment survey’ in 2000, after several years of planning and organisation. Surveys are sample-based and focus on 15-year-olds. Age 15 was chosen as the target age for testing because at the time it marked the end of obligatory schooling in most OECD countries. Surveys take place every three years in the OECD member states (predominantly European, North American and Australasian), and in a growing number of non-OECD countries and economies including Asian and South American countries. In 2012, 65 jurisdictions participated in PISA.

The motivation for PISA was a perceived need to fill a gap in the extensive set of indicator-based information on education systems that the OECD provides in its annual *Education at a Glance* reports (for example, OECD, 2014a). The traditional indicators give information about inputs to the education system while PISA is intended to measure outputs. PISA is not tied to school curricula; instead, it looks more broadly at the knowledge and skills that young people are considered to need to function adequately in society throughout their adulthood. As such, in each survey, student achievement is assessed in three key ‘life skills’ domains: ‘reading literacy’, ‘mathematical literacy’ and ‘scientific literacy’. Each domain is assessed as a ‘major domain’ every nine years, being allocated two-thirds or more of the available testing space (OECD, 2009a). A number of issues have been raised in the literature that render international comparison of survey results problematical. These include translation, the measurement model used for analysis, student sampling, domain representation, student motivation, and consequential validity (Baumert and Demmrich, 2001; Goldstein, 2004a, 2004b; Kreiner and Christensen, 2014; Wiliam, 2008; Gustafsson, 2008; Thomas and Goldstein, 2008).

One predominant reason for the rise in popularity of PISA and other international attainment surveys is the belief in the economic imperative – that countries increasingly need to be able to compete in the knowledge economy to assure the economic wellbeing of their citizens (e.g. see Schleicher, 2006). Meanwhile, there is growing recognition of the power that such surveys have to affect educational and assessment policy (see, for example, Rinne, 2008; Grek, 2009, 2010; Lawn and Grek, 2012); the credibility that governments afford organisations like the OECD when responding to their own countries' PISA scores (Grek, 2009; Lingard and Rawolle, 2011); and the use of PISA scores as political tools to initiate educational reform and policy borrowing (Bulle, 2011).

Alliances between organisations such as OECD, the EU, UNESCO and the World Bank further serve to promote particular policy ideas and agendas. Rinne (2008, 676) wrote that

'... in the obscuring processes of the supranational homogenisation of education and educational policy and of national differences, supranational organisations, such as the OECD and the EU, play a significant role. It would also seem that the message, objectives and language of those organisations are cast in the same mould. They have started to speak in the same words with the same stress, repeating the same phrases about globalisation, economic efficiency and productivity, and swearing that globalisation is inevitable in the name of progress. In this discussion, the role of nation-states stays silenced in the background.'

The OECD is independent of government and can therefore be cast as disconnected from national politics and superior in terms of its thorough, objective, technical, international evidence base. Lawn and Grek (2012, 134) argued that PISA results can be used as an 'externalisation' device; as an appeal to a superior, international form of knowledge and standards.

So, we see from the discussion so far that PISA apparently has a large impact upon policy, but what kind of impact? We would expect to see policy convergence across jurisdictions as they implement the lessons learned from PISA. Holzinger and Knill (2005, 780) outlined five causal mechanisms of policy convergence: imposition (political pressure), international centralising (legal obligation), regulatory competition, transnational communication and independent problem-solving. Legal pressures are not likely to affect implementation of educational reforms based upon PISA, but we might expect the other four causes to operate.

Given the above, it should follow from the literature that policy reactions to PISA results would take similar or the same forms in different countries - especially those countries that have similar results.

Method

We investigated policy and media reactions to the 2009 and 2012 PISA results in six cases: Canada, China (Shanghai), England, France, Norway and Switzerland. High-performing locations (Canada, Shanghai-China) were contrasted with European countries that generally performed towards the OECD average, but in which it was known that there had been interesting policy impacts (England, France, Norway and Switzerland). England is normally reported as a part of

the United Kingdom data, but as the policy environments differ in the constituent parts of the UK, we have focused on England specifically.

The top five countries featured as the subject of analysis in PISA studies published in academic journals were Germany, Finland, US, Denmark and Sweden (Dominguez, Viera and Vidal, 2012). Germany had over 100 articles published relating to its PISA results and Sweden had over 70. We purposefully excluded countries such as Finland (e.g. Välijärvi et al., 2002; Entorf and Minoiu, 2005; Simola, 2005; Itknonen and Jahnukainen, 2007; Rinne, 2008; Rautalin and Alasuutari, 2008; Grek, 2009) and Germany (e.g. Entorf and Minoiu, 2005; Kotte, Lietz and Lopez, 2005; Ertl, 2006; Grek, 2009), about which much has already been written.

The methodology is one of critical evaluation, based upon the authors' collective knowledge of the policy documents, media reports and research literature relating to PISA in the case countries (see further Baird et al. (2011) for a report on the state of the project prior to the 2012 PISA tests). Materials in English, French, Mandarin and Norwegian were included. Naturally, we read beyond these jurisdictions, but the results here focus upon the six cases.

Evidence for the impact of PISA can be conceptualised in a number of ways; as growth in participation, discourse on PISA, changes in educational policy, curriculum changes, effects on the preparation of teachers, research agendas and global organisational agendas, such as the World Bank (Lindblad et al., 2015).

In this article we look at stated reactions to PISA by governments, including claims regarding changes to educational policy. This is contextualised where appropriate by media narratives relating to PISA. The nuances of how PISA *actually* affects policy are beyond the scope of this paper, but are considered elsewhere.

PISA Attainment

Five of the six cases profiled participated in all four of the published PISA surveys conducted in the period 2000-2012; therefore we can look at student attainment in all three literacy domains as major domains (Table 1). Shanghai-China participated for the first time in 2009, so we have 'major domain' reading and mathematics literacy results for Shanghai, but no results for science as a major domain. Table 1 records the latest 'major domain' average performance results for the six locations: science in 2006, reading in 2009 and mathematics in 2012. PISA results are reported on a scale with a mean of 500 and a standard deviation of 100.

Canada has consistently performed above the OECD average. In science in 2006, France was virtually at the OECD average, Switzerland and the UK above average, and Norway below average. In reading in 2009, all four European countries produced similar results, all close to the OECD average. Shanghai-China produced a startlingly high performance for reading literacy in 2009, coming top of the international league table and continued to radically out-perform the other countries in 2012. Of the European countries included in our research, France, Norway and England performed close to the OECD average in 2012, but Switzerland performed above average.

****TABLE 1 HERE****

Policy Responses to PISA

Table 2 indicates the policy responses and reforms justified by PISA data in the six cases. We define them here and explain the content of the table more fully in the six cases that follow. Steiner-Khamsi (2003) categorised political responses to PISA as,

- Scandalization - used as a catalyst for policies that were not obviously directly connected. Construction of a crisis through scandalising the results helps to create impetus for change (Berliner and Biddle, 1995). So-called 'PISA shock' (Steiner-Khamsi, 2003) is a form of scandalization;
- Glorification – celebration of the country's education system and ongoing reforms;
- Indifference – little policy response evident.

Whilst authors have subsequently added to the above categorisation scheme (e.g. Pons, 2012), we found Steiner-Khamsi's classification to have best explanatory power for the countries we investigated. Scandalisation was present in four of the cases. None of the cases could be categorised as having glorification or indifference responses, with the exception of a short-lived glorification response in England in early PISA surveys, until it was established that the results were wrong due to sampling problems (OECD, 2010a). We add to these the kinds of reforms that were adopted as a reaction to the PISA data:

- Standards-based reform (Achieve, 1998) - measures have been introduced to standardise approaches across regions and/or jurisdictional models of success have been promoted as positive national examples. Results may be used in school accountability systems.
- Ideal governance – structural changes have been introduced to increase autonomy for schools so that they can more effectively respond to local circumstances (Pons, 2012). England had already introduced standards-based reform, so it is the only country that did not respond in this manner to PISA. Two countries – France and England – introduced school autonomy policies.

****TABLE 2 HERE****

Canada

Canada, the second largest country in the world geographically, has no integrated national education system (i.e., no federal department/ministry of education). The ten provinces and three territories assume responsibility for education. Both Canada and Switzerland elected in earlier PISA surveys to increase their PISA sample sizes to enable regional comparisons.

Canada has performed above the OECD average in every PISA survey to date, with results evidencing a relatively narrow achievement gap between students from different socio-economic backgrounds and between Canadian-born and immigrant children—positive indicators of equitable access to learning (OECD, 2011). Although Canada's decentralised system could be deemed part of the success story, enabling educational policies to cater more to

local needs than a national system, large provincial performance disparities persist. Under the direction of the Council of Ministers of Education Canada, which provides a national vision and direction, PISA has been used as a rationale for introducing more standardisation across provinces. The Pan-Canadian Education Indicators Program, for example, introduced harmonised indicators for provinces/territories to use in OECD reporting, including a PISA-based 'excellence in student achievement' indicator (Statistics Canada and Council of Ministers of Education, Canada, 2010).

A federal-provincial report highlighting how both the country and its constituent provinces are 'measuring up' on the international stage emphasises the importance of PISA results for evaluating returns on government investment in education and in gauging the competitiveness of Canada's emerging workforce (Brochu et al., 2013; Knighton et al., 2010). The overall message in the two most recent reports was that while Canada performs well on the global stage, attesting to the success of its educational provision, it should not become complacent. The 2012 significant decline in several provinces' mathematics performance, with only Quebec being robust to this trend and outranking the rest of the country, led to a call for greater cooperation among educational partners in validating current educational policies.

Echoing the message about the country's "fall" or "slipping" performance, the Canadian media, particularly when focused primarily on world rankings (i.e., dropping out of the top 10 in mathematics), appeared more susceptible to "set[ting] off alarm bells" in headlines following the 2012 PISA relative to more solid national performances of the past. One national newspaper featured a quote from a prominent former politician indicating that the results were "on the scale of a national emergency" (Globe and Mail, 2013).¹ Other less alarmist rhetoric cited the need for other Canadian provinces to learn from Quebec's curricular and pedagogical approaches to numeracy and underscored the dearth of teachers with subject-specific qualifications (Canadian Broadcasting Corporation, 2013).²

Overall, provincial responses to PISA have been mediated by the strength of their performance relative to that of other provinces, with high-performers tending to use the results to validate the effectiveness of their educational policies (e.g. Educational Quality and Accountability Office, 2010). The lowest performer in recent PISA exercises, Prince Edward Island, implemented provincial achievement tests in response to poor performance (Kurial, 2005). New Brunswick instituted aspirational ten year targets to improve its PISA ranking within Canada from 10th in 2000 to among the top three on international assessments by 2013 (New Brunswick Department of Education, 2009). Although ranked 6th in PISA in 2012 relative to other provinces, its mean was still lower than the Canadian national average. Numerous other provinces have recently instituted or are in the process of instituting curricular reforms (see Brochu, 2014). Alberta, a traditional high performer, with a long-standing provincial

¹ <http://www.theglobeandmail.com/news/national/education/canadas-fall-in-math-education-ranking-sets-off-red-flags/article15730663/>

² <http://www.cbc.ca/news/canada/canada-s-students-slipping-in-math-and-science-oecd-finds-1.2448748>

achievement testing tradition is in favour of mandating formative assessments (Alberta Education, 2015).

France

France has performed close to the OECD average in all subjects in PISA. Nevertheless, government ministers, including a former Minister for Schools, claimed France to be at the bottom of the league tables. Performance in reading and science has not significantly changed over testing cycles, while for mathematics there has been a small statistically significant decline in scores. PISA results continue to trigger national debate in France (Mons & Pons, 2010), with findings routinely being reviewed alongside other relevant system information to guide policy formulation.

One finding that has particularly concerned policy makers and politicians is the wide spread of pupil scores: for example, the score distribution for reading literacy in 2009 was even flatter than in 2000. This means that while there appears now to be a higher proportion of pupils in the top band of performance, which is good news, there is equally a higher proportion in the lowest band, which is bad news. In response, according to a press conference on PISA 2009 given in December 2010 by the then French Education Minister, in a first plan of action the Government was to 'refocus on fundamentals', by reforming the primary school curriculum, introducing a strategy to fight illiteracy, and launching an initiative in science. A second plan of action was to introduce personalised learning assistance throughout the system, to help students in difficulty. The third plan of action was to 'personalise' educational resourcing, such as making schools autonomous managers of their own budgets. The Government organised a comprehensive national consultation on the curriculum, which took place in Autumn 2014. This had, as its outcome, the launch in 2015 of an extensive programme of reform, covering every stage in the school system and embracing assessment as well as curriculum and teacher training (MEN, 2015a).

Arguably, one of the greatest impacts of PISA in France, directly or indirectly, has been on system monitoring. France has a long history of attainment surveying, but the aims of surveys have not traditionally concerned accountability. The international and inexorable move towards greater outcomes-based accountability in education, a move reinforced by the OECD through PISA, saw France abandon a long-standing 'diagnostic' survey programme, in which testing took place at the beginning of key school years in order to provide programme planning information for the benefit of school inspectors and receiving class teachers (Bonnet, 1997; Trosseille & Rocher, 2015), in favour of the now familiar end-of-year model (Johnson, 2016).

The first such programme, was ushered in for the end of the 2007-8 school year. This focused on literacy and numeracy, was badly received by teachers, and widely criticised on a number of grounds by other influential education stakeholders as well (Education Commission, 2011). In response, the Government abandoned the programme: the final survey, in 2013, was run for the benefit of teachers (and parents) only, with voluntary participation. As part of the 2015 educational reform package, beginning-of-year diagnostic assessment has been re-introduced in the early primary school, this time based on teacher assessment rather than tests, with assessment training support for teachers.

In the meantime, a new survey programme has been launched that is intended to monitor achievement with more direct reference to skill domain 1, 'proficiency in the French language', and skill domain 3, 'fundamentals of mathematics, science and technology', of the newly revised 'knowledge and skills framework' (*Le socle commun de connaissances, de compétences et de culture*), to be launched into schools in September 2016 (MEN, 2015b). Following very large baseline surveys carried out in 2012 and 2013 (DEPP, 2014, pp.48-49), involving tens of thousands of sample students, surveys are to be conducted at key points in schooling, taken in rotation on a 3-year cycle (DEPP, 2015a, p.222). Thus, 2014 saw testing in the lower primary school (DEPP 2015b, pp.48-49; Garcia et al. 2015), in 2015 attention shifted to the beginning of the lower secondary school (with a school sample of around 150,000 pupils, to furnish regional as well as national attainment estimates), and 2016 will focus on the end of the lower secondary school. The new programme is to be entirely computer-based in the secondary sector.

A wider programme of sample-based subject assessment that began in 2003 continues (e.g. Colmant et al., 2011). Known as CEDRE (*Le cycle des évaluations disciplinaires réalisées sur échantillons*), this programme assesses achievement in French, mathematics, modern languages, civics, science, history and geography, at the end of primary schooling and at the end of the lower secondary school; with each subject now being assessed on a 5 year cycle.

Norway

Norway has a decentralised education system, with many of the decisions being made at a local level. Norway performed significantly above average in 2009 for reading, but had average scores for mathematics and science. Unlike in England and France, the assessment system in Norway is relatively underdeveloped. The devolved school system leads to a wide range of assessment practices. Assessments are mainly teacher-based, with wide variation in how overall marks are determined between subjects, schools and regions (Galloway, Kiredbøen and Ronning, 2011).

The 2000 and 2003 PISA results led to what is widely referred to as 'PISA Shock' (Steiner-Khamsi, 2003; Elstadt, Nortvedt and Turmo, 2009; Elstad and Sivesind 2010). This was generated by Norway being ranked below the OECD average and below other Scandinavian countries, despite generous spending on education and teachers reporting high levels of self-efficacy (OECD, 2009b). This led to newspaper headlines in the Norwegian press such as 'Norway is a loser'.³ As in Germany (Ertl, 2006), the results were shocking because the public had previously believed in the quality of the education system. However, researchers were major stakeholders in the acceptance of the results because findings corresponded with their independent studies on issues such as ineffective school practices such as non-specific praise of pupils, expectations not being high enough for all pupils and a lack of classroom leadership (Haug, 2004; Hertzberg, 2003; Klette, 2003).

³ <http://www.dagbladet.no/nyheter/2001/12/05/299335.html> (retrieved July 31st 2015)

In comparative terms Norway remains a devolved system with only limited direct central intervention. At present, attempted improvements are often introduced through large-scale pilots of assessment and/or curriculum initiatives (e.g. the Assessment for Learning initiative; Hopfenbeck et al., 2015). The Minister of Education proceeded to introduce a series of educational reforms that were legitimised by reference to international testing, mainly to PISA and there has been political rhetoric about the need for continued improvement and educational reform. Indeed, Helge Ole Bergesen (2005), the Secretary General of the Minister for Education, published a book in which he detailed how PISA was a 'gift from heaven' for the justification of policies.

So, the PISA Shock led to a series of reforms of both curriculum and assessment, in which evidence from PISA was a large part of the justification for change.⁴ A national quality assessment system (NKVS) was introduced in 2004 that included national tests and a web-based portal (Skoleporten) for presentation of data for school evaluation. The national tests in reading were inspired by the PISA framework, and developed by reading researchers who also worked in the Norwegian PISA team (Frønes, Roe and Vagle, 2012).

This was followed by the introduction of the National Curriculum for Knowledge Promotion in 2006. Recent policy initiatives have included the Better Assessment Practices Project and a four-year national project on the implementation of Assessment for Learning. Some have gone so far as to say that Norwegian school policy is now directed by OECD (Sjøberg 2014), but other researchers have pointed to the abuse of PISA results by media and policy makers. The Norwegian PISA leader, Marit Kjaernsli warned against a simplistic debate in the media with the following comment after the release of PISA results in 2006,

It is easy to get the impression that PISA measures everything which goes on in school. It does not. It measures students' competences in mathematics, science and reading.
(Utdanningspeilet, 2007, 8).⁵

Switzerland

Switzerland has performed at around the OECD average in reading, and above average in science and maths. The country 'had the second largest national press coverage of all countries when the PISA 2000 results were released' (Ramseier, 2008, 36). Ever since the first results appeared, PISA results and questionnaire findings have been used extensively in overviews of the state of the nation, and have served to guide curriculum and system evaluation policy (SKBF-CSRE, 2010, 2014; Nidegger, 2014). The two major linguistic regions of Switzerland – French-speaking and German-speaking – have been over-sampled in PISA to permit regional attainment comparisons. But the data have become further exploited to offer cantonal comparisons within each region (e.g. Nidegger, 2014), despite small and non-representative pupil samples in many cases.

⁴ The Ministry of Education and Research, Proposition to the Storting No. 31, (2007-2008) *Quality in School*, Oslo, Norway.

⁵ http://www.udir.no/Upload/Rapporter/Utdanningspeilet_2007/5/US_2007.pdf?epslanguage=no

While not uniquely triggered by the PISA experience, it can be said that Switzerland's participation in international attainment surveys served to accelerate a number of policy initiatives that had been brewing for decades. These were aimed at:

- harmonising educational structures, curricula and standards across the country, or at least within linguistic regions;
- providing information about the education system in its entirety, and
- monitoring the education system regionally and nationally into the future.

Action towards centralisation began with the HarmoS Agreement of 2006 (SKBF-CSRE, 2014, 41), which, amongst other things established age 4 as the national starting age for obligatory education, and 11 years as the duration of that education. HarmoS also proposed national educational standards and the creation of common curricula within each linguistic region (Delamadeleine, 2008). By the end of 2012 the concordat had been signed up to by 15 cantons, representing 76% of the Swiss resident population (SKBF-CSRE, 2014, 41); the deadline for all-canton sign-up was July 2015.

As a result of HarmoS a common curriculum (the PER, *Plan d'Etudes Romand*) has been phased into all of the wholly or partially French-speaking cantons **over the period 2011-14 (Pagnossin et al., 2015, 20)**. The German-speaking cantons followed in 2014 with the introduction of their own newly developed curriculum, the *Lehrplan 21*, while the Italian-speaking canton, Ticino, introduced the *Piano di Studio* in 2015 (EDK/CDIP/CDPE/CDEP, 2015, 21). Debates about the need for a national programme of standards-referenced, sample-based system monitoring to be set up, following the PISA model (Behrens, 2008; Ramseier, 2008), are soon to result in a programme for monitoring outcomes at the end of compulsory schooling – this is now at the stage of planning for practical implementation (Marc and Wirthner, 2013; SKBF-CSRE, 2014, 93): basic skills in mathematics are to be assessed in 2016 and foreign languages in 2017 (Pagnossin et al., 2015, 73; SKBF-CSRE, 2014, 47). From 2015 Switzerland is to restrict its participation in PISA to international comparisons only, with no further need for regional oversampling to provide regional (or cantonal) attainment data for internal use (SKBF-CSRE, 2014, 47).

England

Much angst has been expressed in England by politicians and the media about slippage over time down the PISA performance league table. Much of this movement, however, can be very simply attributed to rising numbers of participating countries. England has produced average results, which have remained static over time. PISA, it is claimed, is of central importance to policy making. The then Minister for Education, Michael Gove, claimed that the White Paper, 'The Importance of Teaching', was almost a bespoke response to conclusions from the 2009

PISA survey (e.g. Gove, 2011). Certainly, the expansion of the ‘free schools’⁶ programme was in line with the survey’s conclusion that schools with autonomy worked better.

There are chronology problems here though, as the White Paper was published before the PISA survey. Equally, the likely effectiveness of the Government’s policy selections has been questioned, with Andreas Schleicher, OECD’s Special Advisor on Education Policy, arguing that investment in the professional development of the current workforce would **produce educational gains more quickly** (Stewart, 2011, 18). Furthermore, there are many policies contained in the White Paper that had no obvious relationship with the PISA findings (e.g. Higher Education taking control of the content of secondary school examinations) and OECD recommendations that have no corollary in the White Paper (e.g. reducing low attainment). Thus, use of the word ‘bespoke’ was at best a rhetorical flourish as a description of the match between policy in England and the PISA 2009 findings. Following the 2012 results, the coalition government reiterated that their reforms were in line with the PISA recommendations and said that it would take a while for the impact of them to be seen in the test scores.^{7,8} PISA results may play a part in policy making in England, but it is evident that they do not drive them. Claiming that the policies are allied with PISA shifts the discursive space so that political ideology is suppressed and the apparently value-free data are brought to the fore (Afonso and Costa, 2009).

One quandary for England is how national examination results have been rising whilst PISA comparisons with other countries have not changed. The 2010 – 2015 coalition required the examinations regulator (Ofqual) by law to ensure that English examinations were comparable in standard with international standards (House of Commons, 2009). This has led to the use of PISA as a benchmark for General Certificate of Secondary Education (GCSE) examinations taken at age 16.

Shanghai-China

Shanghai is China’s largest city with a steadily growing population of over 23 million. The city is not representative of China as a whole, because it is better resourced than other regions. Education and competitive summative examinations and credentials have been valued highly by the Chinese, ever since the formal establishment of the Civil Examination system in 603 AD, or even much earlier (Martin, 1870). Confucian learning philosophy has a profound influence on every aspect of Chinese education and its value system (see, for example, Evers, King, and Katyal, 2011). Shanghai has been a forerunner in educational reform in China in areas such as curriculum change, reducing teacher and student workloads, small class teaching, to name but a few areas. However, it is still fundamentally a typical Chinese education authority with a strong

⁶ ‘Free schools’ are not submitted to standard curricular and other controls and report directly to the Minister for Education rather than a local authority.

⁷ <https://www.gov.uk/government/news/major-international-study-shows-englands-15-year-olds-performing-poorly-in-mathematics-science-and-reading>

⁸ This was disputed by Andreas Schleicher, Special Advisor on Education Policy at the OECD, who argued that the reduction in the number of qualified teachers in England was a threat to standards.

emphasis on using examinations that serves as a lever for curriculum change and social and political agenda setting.

As a first-timer and top performer in PISA assessments in 2009, Shanghai has reported a cautious “reflective learning” approach towards its participation in PISA and its significant success. It serves as a unique case study with scores overtaking those of Finland, the previous PISA leader, immediately becoming the focus of much international attention. Interestingly, 12 provinces of China participated in the 2009 PISA exercise, but only the Shanghai scores were publicly reported. Rural areas generally have weaker educational outcomes than urban areas (e.g. Hannum, 1999). However, Andreas Schleicher has reportedly said ‘... what surprised me more were the results from the poor provinces that came out really well.’⁹ Therefore, we can discount poor performance as the reason for withholding publication of the data in the other provinces, but the real reason is not in the public domain. Good performance in rural areas could be problematical in relation to the country’s admissions to Higher Education policy. Entry to, for example, Shanghai Jiao Tong University, is more competitive for students living outside Shanghai and there is a cap on the proportion of such students that can be admitted.¹⁰

As reported in the media and official documents from PISA-Shanghai office, Shanghai took a “reflective learning” approach to PISA results, which is similar to that reported in Finland. Furthermore, analysis of the official documents released by the Shanghai PISA Coordinating and Research Centre (SHPISA) provides some interesting perspectives to understand PISA effects on educational policies in Shanghai and perhaps other provinces and regions in China. As a ‘first timer’, Shanghai took a ‘learning’ as well as a census approach toward its participation in PISA 2009. As described in the promotional document released by the Shanghai Education Commission, participation in PISA was considered to be full of high potential and value for the government for a number of reasons: to promote further reform and development of basic education; inform and guide the whole society to change educational beliefs and philosophy; establish scientific understanding about educational quality; and explore the use of internationally acknowledged standards of educational quality and scientific assessment methods to gauge the achievement of primary and secondary school students, with the ultimate aim to meet the demands of educational modernisation of the city. In addition, PISA was considered as a tool to provide evidence for participating schools about their standing in the world.

Although this kind of discourse is typically politically motivated, it does signal Shanghai’s intention to learn from its own performance and from the international community of educational assessment and quality monitoring. Unlike the international media (e.g., *Washington Post*, *BBC* and *New York Times*) and some governments in the West (e.g., USA) which talked a lot about Shanghai’s top performance, the highly government-controlled media in China took a different approach. Equity between schools and districts in Shanghai, rather than its overall top performance alone, was celebrated in the mass media. For example, in the front page

⁹ BBC, 9 May 2012, <http://www.bbc.co.uk/news/business-17585201>

¹⁰ <http://zsb.sjtu.edu.cn/info/1020/2009.htm>

of *Zhongguo Jiaoyu Bao* (中国教育报, 18 February 2011, issue #7830), Xue Mingyang, the Head of Shanghai Municipal Education Committee, wrote that the PISA results confirmed the success of Shanghai's educational policies and consolidated its commitment in promoting educational quality and equity.

Shanghai topped the league table again in PISA 2012; and in PISA 2015 a wider range of provinces in China (Beijing, Jiangsu, and Guangdong) **were** entered. One of the motivations for Shanghai to take part in PISA is to learn from PISA assessment to improve its own system for monitoring quality of basic education. In April 2015, it was announced that China will implement nation-wide monitoring of quality of basic education. It is dubbed 'Chinese PISA', as it is largely modelled on it. This is clear evidence that PISA has been exerting its influence on Chinese government's policy-making.

In addition to official and semi-official publications at government and school levels, there are ongoing discussions by Chinese educational researchers on a range of topics arising from PISA. For example the potential washback of PISA tests on teaching and learning have been the subject of discussion; such as whether PISA tests can promote critical thinking, creativity and innovation. Indeed, Shanghai considered pulling out of PISA for **because they did not assess these skills**.¹¹

Discussion

As a methodology, comparisons through international tests do not celebrate difference – they are more likely to produce convergence in terms of what is seen to be valuable in educational terms. In the regionalised countries of Canada, Norway, Switzerland and China there was some evidence of pressure for more converged structures or standardisation in data collection or reporting. Our findings for Switzerland coincide with those of Bieber and Martens (2011, 105), despite their characterisation of the country as being composed of 'veto players and a strong sense of political autonomy'. Canada had performed relatively strongly in PISA, yet PISA was used there too as a lever for change. This is, of course, in keeping with research on Finland, where it has been reported that despite topping the league table in the early rounds of PISA, it was decided to harmonise the education system by emphasising the core curriculum (Väljjarvie et al, 2003, 51).

Centralisation itself can be seen as a form of policy convergence, even if it has taken different forms in the countries we investigated. In Holzinger and Knill's (2005, 780) terms, the centralisation could be seen as transnational communication (lesson-drawing, emulation or international policy promotion). However, we do not have firm evidence that centralisation was pursued *because* of PISA results, as standards-based reform and the centralisation that it entails has a longer history.

¹¹ <https://www.tes.co.uk/article.aspx?storycode=6430819>

Policy borrowing from one context to another has been termed 'fast policy' (Peck, 2002). With supranational narratives at work, practitioners at the receiving end can find themselves,

'on treadmills of someone else's making, coerced and constrained by a combination of competitive relations and superordinate rule systems.' (Peck, 2002, 350)

Emancipation of practitioners from this treadmill relies upon the capability to engage with the prevailing supranational agenda. We do not dispute the fact of the shared neoliberal approach of international organisations and the homogenising forces of globalisation that ensue. This research, however, questions the extent to which homogenisation occurs *in practice*. It is striking that PISA results seem to have been used in political rhetoric to drive through educational reforms through scandalisation. Justifications for educational policy may well be founded upon arguments in which PISA results are (at least part of) the premise, but the form those policies take is not uniform across countries.

Countries with similar PISA result profiles such as England and France have taken different tacks to try to improve their educational performances. No doubt the choices made related to the different political, historical and cultural educational practices in those countries. Despite their similar PISA performances, they have significantly different education systems that need different approaches to improve academic achievement. The same data are used as justifications for different policies and political stances (Mons and Pons, 2009; Pons, 2012).

Gür, Çelik and Özoglu (2012) also concluded that the Turkish government made use of PISA result to justify curriculum reforms that they had already decided to implement. Takayama (2008) identified this pattern with respect to reforms in Japan involving child-centred pedagogy and slimmed down curriculum. Rautalin and Alasuutari (2008) similarly reported that Finnish policy-makers explained successes with respect to their actions and any limitations were ascribed to external causes. In Portugal, Afonso and Costa (2009) gave a long list of pre-existing policy measures - from changing the teacher qualification framework to the refurbishment of school buildings - that were legitimised by reference to PISA data.. The evidence for this approach to use of PISA data by policy makers is mounting. In France too, we have seen clarion calls for change based upon average PISA results, but they are for different changes **to those implemented elsewhere**. Naturally, the solutions posed are inextricably linked with the political parties in power. To some extent, so much is obvious, as many solutions can be proposed for a single problem. We do not underestimate the importance of international test data in policy processes – it would be hard for governments to ignore them in the knowledge economy. As such, we need to understand the supranational (e.g. see Holzinger and Knill, 2005; Holzinger, Knill and Arts, 2008; Grek, 2009; Lawn and Grek, 2012).

Bieber and Martens (2011) analysed the impact of PISA upon policy in the contrasting cases of the US and Switzerland. They concluded that the reason for an impact in Switzerland but not in the US was that the results simply confirmed what people already believed in the US: that their schooling system was below international standards. Therefore domestic pressure created by the problem was not more acute due to the findings. In our research, there is evidence of politicians *creating* problem pressure by exaggerating the weakness of national PISA performance through scandalization. Similarly, Lawn and Grek (2012, 134) wrote that

‘... policy actors are using PISA as a form of policy legitimation, or as a means of defusing discussion by presenting policy as based on robust evidence’.

They concluded that PISA is being used as a governing device at both national and international levels.

PISA is a dazzlingly ambitious enterprise and it is supported by impressive technical expertise. Just as with all policy-making processes, we see in this research that the role of PISA evidence is complex. There is no magical spell of PISA to conjure policies. Even if countries want to compete in the knowledge economy and accept that PISA results are a good indicator of **the health of their future knowledge economy**, there is a myriad of policy options from which to select. Argument structures presenting the same data from different political positions have been identified that apply to more than one country, such as going beyond the PISA data to argue for an ideal governance model in schools (Mons and Pons, 2009; Pons, 2012). However, these argument structures, although contradictory, are used for *the same data* in France.

Ozga (2012, 168) noted that ‘PISA data do not travel into national contexts and produce strengthened political accountabilities.’ As such, it is important for our educational policies that we are not distracted by the supranational spell of PISA. Instead we need to remain analytical about the ways in which our systems can be improved and open to the fact that PISA data do not provide all of the information we need to ask and answer the right questions. Andreas Schleicher has repeatedly been quoted as saying that “without data, you are just another person with an opinion.”¹² The supranational spell of PISA in policy draws a veil over fact that *with data* you are just another person with an opinion. PISA data are not unambiguous fact; all data must be interpreted.

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¹² <http://www.theatlantic.com/magazine/archive/2011/07/the-worlds-schoolmaster/308532/>

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Table 1: Mean scaled scores in major domains
(standard errors in brackets)

	Maths 2012	Reading 2009	Science 2006
Canada	518 (1.8)	524 (1.5)	534 (2.0)
France	495 (2.5)	496 (3.4)	495 (3.4)
Norway	489 (2.7)	503 (2.6)	487 (3.1)
Switzerland	531 (3.0)	501 (2.4)	512 (3.2)
England	495 (3.9)	495 (2.8)	516 (2.7)
OECD	494 (0.5)	499 (0.6)	500 (0.7)
Shanghai-China	613 (3.3)	556 (2.4)	
Total countries and economies	65	65	57

Sources: OECD, 2007, 2014b; 2014c; Bradshaw et al., 2010; Wheeler et al, 2014

Table 2: National policy responses to PISA

	Rhetorical responses		Reforms	
	Scandalisation	Glorification	Standards-Based	Ideal Governance
Canada	x		x	
France	x		x	x
Norway	<i>shock</i>		x	
Switzerland			x	
England	x	(x)		x
Shanghai-China			x	