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Title	PISA and education reform in Shanghai
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Source	<i>Critical Studies in Education</i> , 60(3), 391-406
Published by	Taylor & Francis (Routledge)

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This is an Accepted Manuscript of an article published by Taylor & Francis in *Critical Studies in Education*, on 17/12/2016, available online:

<https://www.tandfonline.com/doi/abs/10.1080/17508487.2017.1285336>

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Citation: Tan, C. (2019). PISA and education reform in Shanghai. *Critical Studies in Education*, 60(3), 391-406. <https://doi.org/10.1080/17508487.2017.1285336>

**Tan, C. (2017). PISA and education reform in Shanghai. *Critical Studies in Education*.  
<http://dx.doi.org/10.1080/17508487.2017.1285336>, 1-16.**

**DRAFT**

**PISA and Education Reform in Shanghai**

**Charlene Tan**

**Abstract**

This article examines how the Chinese education officials interpret and utilise selective information from Programme for International Student Assessment (PISA) to legitimate and consolidate contested reform messages and initiatives in Shanghai. A content analysis of data obtained from newspaper articles, official documents and education essays published in China yielded two key findings. First, the Chinese officials turn to PISA data to highlight the existing problems of academic burden and ‘school choice fever’ that validate the need for reform. Secondly, they aim to garner support for on-going reform initiatives that seek to redefine the aims and nature of education in Shanghai. In both instances, the education officials do not just rely on the resources from PISA to advance local reforms. They also re-interpret the information in such a way that allows them to create new possibilities and realities. The example of Shanghai illustrates the symbiotic relationship between PISA/Organisation for Economic Cooperation and Development (OECD) and the domestic education system that is characterised by both dependence and independence.

**Keywords: education reform, OECD, Shanghai, PISA, policy borrowing**

**Introduction**

Riding on the global reach and influence of Programme for International Student Assessment (PISA), the Organisation for Economic Cooperation and Development (OECD) which sponsors PISA has become the “arbiter of global education governance (Meyer & Benavot, 2013, p. 9). Education systems in the world are increasingly turning to OECD to variously define standards, diagnose their problems, evaluate their performance and offer policy advice (Grek, 2012; Kamens, 2013; Meyer & Benavot, 2013; Meyer, 2014; Sellar & Lingard, 2013). The dependence of education systems on OECD, facilitated by the continuous production of PISA data, is coupled with the interdependence among these systems through inter-country comparison. Grek (2012) asserts that such comparison “fabricates new realities and, hence, has become a mode of knowledge production in itself” (ibid., p. 252). PISA not only generates guilt by bringing ‘naming, blaming and shaming’ to the national policy spheres and actors, but also creates hope by providing the possibility of and confidence in reform (Carvalho, 2012). A discernible agenda for education reform across countries is to borrow policy from elsewhere (Phillips & Ochs, 2003, 2004; Tan, 2016a).

The potential and outcome of policy transfer from one location to another depends on a host of factors such as the cultural linkages between the home and borrowed contexts, compatibility of transnational concepts and domestic policy legacies (Holzinger & Knill, 2005). Furthermore, policy borrowing may not involve the actual adoption of the foreign theories and practices but may instead take the form of *externalisation* (Schriewer, 1990). This is where references to an external educational system, organisation or standard “function

as leverage to carry out reforms that otherwise would be contested” (Steiner-Khamsi, 2006, p. 670). The socio-logic of a system influences policymakers to turn to a specific reference such as an admired country or reputable international assessment programme as an external source of authority. The objective is to employ ‘the Other’ as a tool of legitimation (Willis & Rappleye, 2011) and obtain a ‘certification effect’ (Steiner-Khamsi, 2009) on domestic reform debates. Ozga (2012) observes that “policy makers (with a few exceptions) are not rendered accountable to their electorates for poor performance as judged by PISA – rather, they use PISA to justify policy directions that they *had already sought to implement* in their own contexts” (p. 168, italics added; also see Grek, 2009; Carvalho, 2012). Alongside the intention to legitimise reform are other motivations for policy borrowing such as to caution against educational reform, to glorify domestic education by projecting it as superior to elsewhere, to scandalise or exaggerate policy and practices at home so as to validate the need for reform, and to reinforce existing policy or practice (Phillips, 2000; Steiner-Khamsi, 2009). It follows that the PISA results are constantly being accepted, refused or (re)negotiated by national governments and other education actors (Pons, 2012; for case studies of policymakers’ responses to PISA findings, see Mons & Pons, 2009; Afonso & Costa, 2009; Gür, Çelik & Özoglu, 2012; Grek, Lawn & Ozga, 2009). Policy borrowing foregrounds not only what is (allegedly) borrowed, but more significantly, the political agendas and conflicts behind the borrowing in a given context (Steiner-Khamsi, 2006).

Among the contexts for policy borrowing is Shanghai due to its impressive performance in PISA in 2009 and 2012 where its students emerged top in mathematics, reading and science (OECD, 2010, 2014a, b). The astounding success of Shanghai has engendered some dispute over the extent to which its outcomes were the result of sampling, Shanghai’s education system or the wider Chinese culture that includes private tutoring (for details, see Jackson, 2013; Tan, 2013; Loveless, 2014; Tucker, 2014; Dronkers, 2015; Jerrim, 2015). Shanghai’s achievement has also generated divergent views and debates within China, ranging from enthusiastic and self-congratulatory responses to measured and self-critical voices (Tan, 2016b). Notwithstanding the controversies surrounding Shanghai’s PISA performance, its success has prompted countries to ‘look East’ (Sellar & Lingard, 2013) for policy transfer and externalisation (e.g. see Waldow, 2012; Waldow, Takayama & Sung, 2014; Auld & Morris, 2014; Crossley, 2014; You & Morris, 2015). But what remains relatively under-researched is how the Chinese education officials themselves perceive and respond to Shanghai’s PISA performance. Existing literature on the Chinese receptions do not examine, in an in-depth manner, the reactions of the Chinese policymakers to the 2012 PISA results in the context of on-going policy debates in the municipality (Tan, 2012, 2013; Zhang & Alexander, 2012; Baird et al., 2016). This article aims to fill the gap by investigating the interpretation and utilisation of information from PISA by Chinese education officials in the light of prevailing educational challenges and reform initiatives in Shanghai/China.

### **Interpretation and utilisation of PISA information by Chinese education officials**

As the study is on the statements and arguments made by Chinese education officials, the research data were drawn from media accounts and other publicly available documents in China. The data were obtained from three online academic research databases for publications in Mandarin: *China Core Newspapers Full-text Database (Zhongguo zhongyao baozhi quanwen shujuku)* that collects articles published in 618 newspapers in China since 2000; *China Knowledge Resource Integrated Database (Zhongguo zhiwang)*; and *Wangfang Data (Wangfang shuju)*. The unit of analysis for this study was each mention of “PISA”,

“Shanghai PISA” and “education reform in Shanghai” for documents published between 2009 and 2016. A total of 52 documents that comprised newspaper articles, official reports and education essays were analysed. The study was guided by the following research question:

How do the Chinese education officials interpret and utilise the information from PISA, especially the 2012 PISA results, in relation to on-going educational concerns and reform initiatives in Shanghai?

The term ‘Chinese education officials’ in the study refers to office-holders from the Ministry of Education in China and the local education authority in Shanghai (known as ‘Shanghai Municipal Education Commission’). In China, all education officials are appointed to their positions by the government and are responsible for different aspects of education such as elementary education, higher education and vocational and adult education. Given that the media in China are “highly government-controlled” (Baird et al., 2016, p. 131), the public views of the education officials are expectedly homogeneous. The uniformity of opinions from the education officials enabled this study to identify and analyse the common messages and themes presented by the education authority. For the content analysis process, initial codes generated from the theoretical knowledge and concepts that surfaced from the literature on policy borrowing were used to identify emerging themes from the documents (Miles & Huberman, 1994; Berg, 2009). The criterion for selecting the statements to be added to the data corpus was whether the statements provided information on the reactions and decisions of the Chinese education officials regarding PISA in general and Shanghai’s PISA performance in particular. The codes were developed inductively through repeated and detailed readings of the documents. All the findings cited in this paper were translated into English by the author.

A content analysis of the data reveals that the Chinese education officials make use of the information from PISA to achieve two main objectives: (1) to highlight existing educational problems in Shanghai for the purpose of validating the need for reform, and (2) to garner support for on-going reform initiatives so as to redefine the aims and nature of education in Shanghai.

### ***To highlight existing educational problems in Shanghai***

The first research finding is that the Chinese education officials utilise the 2012 PISA data to magnify two existing educational problems: heavy schoolwork burden and ‘school choice fever’ (competition for enrolment in top-performing schools). The deputy director and inspector of Shanghai Municipal Education Commission states that “although the [PISA] assessment has proven that the academic standard of Shanghai’s basic education has reached its peak, it also shows that Shanghai students’ academic pressure and schoolwork burden remain heavy” (cited in Shen, 2014; also see Wang, 2013a). The leader of Shanghai PISA team agrees that “participation in PISA is actually like undergoing a diagnosis to point out the strengths and weaknesses of Shanghai education; for example, heavy academic burden is one such practical problem (cited in Dong, 2013). Yet another example is the assertion made by an official from the Teaching-Research Department of Shanghai Municipal Education Commission that PISA finding shows that “Shanghai students’ academic results are outstanding but their schoolwork burden is relatively heavy and their schoolwork pressure is relatively high” (Wang, 2013b, p. 17).

The PISA finding the officials have in mind was a 2012 PISA report that noted that Shanghai students outranked their peers in the time spent on homework: 13.8 hours per week

which is almost three times the report average of 4.9 hours (OCED, 2014a, b). Heavy schoolwork burden is that this has been a vexing and perennial educational concern in Shanghai and the rest of China (Tan, 2016a, c). The prevalent pursuit of academic excellence, particularly in the *gaokao* (college-entrance exam) has led to students putting in long hours in studying, attending extra classes outside school and completing assignments (Peng, 2013). It is not uncommon for students to wake up before 7am and stay up to complete their homework until after 10pm (He, 2009; Wang, J., 2012). In tandem with the local grievance of heavy schoolwork burden is ‘school choice fever’ that refers to the intense competition among parents to enrol their children in top-performing schools. In Shanghai/China, a ‘good school’ is widely regarded as a ‘key school’ (*zhongdian xuexiao*), i.e., one with outstanding academic results (Feng, 2015). Such schools not only attract high-ability students, but also cutting-edge facilities and teachers with impressive credentials and track record in churning out top scorers in high-stakes exams (Cheng, 2011). To alleviate school choice fever, the Shanghai education authority has introduced policy initiatives such as prohibiting the official use of the term ‘key schools’ and admitting students to junior secondary schools by geographical proximity. Measures to reduce schoolwork burden have also been implemented, such as the stipulation that no/limited homework should be given to students (no homework for primary one and two, up to 1 hour for primary three to five, and up to 1.5 hours for junior secondary one and two) (Shanghai Municipal Education Commission, 2004).

However, the above courses of action have not been effective due to, among other factors, resistance from parents and other educational stakeholders who persistently turn to high test scores as the sole or main yardstick to judge the quality of a school (Wang, M., 2014; Chai, 2015a). The policy of admission into schools by geographical proximity has also been circumvented by the key schools themselves. An education official acknowledges that “many traditional ‘good schools’ [i.e., key schools] no longer enrol children based on geographical proximity and instead make them sit for an admission test” (Hu, 2015). Correspondingly, parents strive to enrol their children in key schools through strategies such as preparing their children for the key school’s admission test (which adds to the academic stress of their children), buying a property in the vicinity of the key school, and establishing ‘social connections’ (*guanxi*) with decision-makers (Cheng, 2014; Xu, 2015). A *2013 Survey of Public Education Satisfaction* conducted by the 21st Century Educational Research Centre with 50801 respondents across China reports that public satisfaction rate with the overall condition of education in their region is 58.28% which indicates a general dissatisfaction with the education system (*Zhongguo Jiaoyu Bao*, 16 May 2014).

In the face of local grievances, the Chinese education officials’ reference to academic stress and competition for prestigious schools may be interpreted as an attempt to validate the need for reform. The burdensome schoolwork and school choice fever are not new but existing scandals that have generated public outrage. It has been widely reported that the heavy school work burden has caused suffering, fear and a dislike of studying in the students, resulting in truancy and even suicide in some instances (He, 2009; Hu, 2013; Cheng, 2014). These problems are highlighted by the Chinese officials for the purpose of validating the need for reform. Referring to the 2012 PISA data on the long hours spent by Shanghai students on doing homework, the deputy director of Shanghai Municipal Education Commission maintains that “we need to actively respond to the relatively strong societal call to address the ‘reduce the burden’ problem, so as to actualise ‘light burden, high quality’ teaching” (cited in Shen, 2014). Echoing him is the leader of Shanghai PISA team who concludes from the PISA finding that “we must research and implement effective measures to reduce the excessive schoolwork burden” (cited in Dong, 2013).

### ***To garner support for on-going reform initiatives***

The second research finding is that the Chinese education officials aim to garner support for on-going reform initiatives that seek to redefine the aims and nature of education in Shanghai. It is worthy of note that the officials go beyond PISA's data to PISA's assessment system to legitimate and consolidate domestic reform initiatives. The goal is not only to implement contingent and piecemeal educational initiatives but more fundamentally to reformulate the direction and essence of education in Shanghai. The deputy director and inspector of Shanghai Municipal Education Commission avers that "Shanghai's gain from PISA, more than its result and ranking, is the acquisition of a set of progressive evaluation ideology, method and techniques" (cited in Fan, 2014). The team leader for Shanghai PISA concurs that Shanghai has developed its own "scientific appraisal system by borrowing the advanced test evaluation ideology, theory and techniques of PISA" (cited in Cao & Yan, 2014). Using the paradoxical phrase "to participate in order not to participate" (*canjia shi weile bu canjia*), he announces that Shanghai will withdraw from participating in PISA once it has completed its learning from PISA and adequately developed its own appraisal system (ibid.). We see here the reference to the PISA system as an external source of authority to sanction Shanghai's own appraisal system. By describing the PISA system as 'progressive', 'scientific' and 'advanced', the aim is to justify the political decision to introduce new reform initiatives that are modelled after PISA. Such borrowing from PISA, according to the deputy director of Shanghai Municipal Education Commission, is so essential that its value even surpasses Shanghai's stunning achievement in PISA (Fan, 2014).

Two recent educational initiatives in Shanghai have been identified by the Chinese education authority as containing borrowed elements from PISA. They are the *Green Indices for the Academic Quality of Primary and Secondary Students in Shanghai* (*Shanghai shi zhongxiao xuesheng xueye zhiliang lüse zhibiao*) (or *Green Indices* for short) and the *New High Quality School* (*xin youzhi xuexiao*) project. On the first initiative, the director of Office for Basic Education Research at the Ministry of Education (MOE) claims that "a positive effect" of Shanghai's participation in PISA was the conceptualisation of the *Green indices* that aims to foster academic quality appraisal (Wang, M., 2014). Noting that Shanghai's spectacular performance in PISA has "given us the confidence to create greater reform space", the leader of Shanghai PISA team announces that the *Green Indices* is a direct response to the 2009 PISA report on the long homework hours spent by Shanghai students (cited in Dong, 2013; *Jiefang Ribao*, 5 Dec 2013).

Introduced in 2010, the *Green Indices* is an evaluation system that goes beyond academic achievement to assess other aspects such as the students' physical health and moral conduct (Dong, 2013). A total of ten indicators or indices are used: index of student academic performance, index of learning motivation, index of schoolwork burden, index of teacher-student relationship, index of teaching methods, index of principal's curriculum leadership, index of the impact of students' socio-economic background on their academic performance, index of students' moral conduct, index of students' physical and mental condition, and index of students' progress within a year (for details, see Shanghai Municipal Education Commission, 2011). To achieve its goal of holistic education, the *Green Indices* de-emphasises summative assessment in favour of formative assessment to guide schools in improving teaching, learning and school management. Although the promotion of a broader definition of assessment (beyond the traditional understanding of written, summative and high-stakes exam) is not new in China (Xu & Yan, 2015), the *Green Indices* is significant for its ambitious objective and scale: a municipality-wide implementation of a comprehensive set of criteria in support of an all-rounded education. The evaluation system was carried out using three methods: academic assessment of students' performance in Chinese language, mathematics, English language and science (Grade 4 students are only assessed for Chinese language and mathematics); practical examination of students' physical and emotional health;

and evaluation of the learning, teaching and school management experiences of the students, teachers and principals using questionnaires (Wang, Y., 2012). Referring to learning from PISA, the deputy director of Shanghai Municipal Education Commission gives the example of the inclusion of questionnaire questions in the *Green Indices* where respondents are asked about their lifestyle such as hours spent in doing homework and sleeping (Fan, 2014). To ensure that *the Green Indices* is taken seriously by the schools, the indices are included in the criteria for school developmental inspection and school performance appraisal, as well as incorporated into the five-year plan for schools in Shanghai (Yin, 2014; Fan, 2014).

On top of justifying the *Green Indices* by associating it with PISA, the Chinese education officials also claim that the *Green Indices* is superior to the assessment system of PISA. The deputy director of the Centre of Quality Monitoring for Basic Education at MOE contends that unlike PISA which only assesses the competencies of 15-year-old students in mathematics, science and reading, the *Green Indices* covers more grades (Grade 4 and Grade 9) and more subjects (moral education, physical education and art, on top of the three subjects assessed by PISA) (Chai, 2015a). Reiterating the same point is the deputy director of the Supervision Office of MOE who posits:

When compared to PISA, our measuring tools are more complete and our samples are more scientific. We implement practical and hands-on assessments that is absent in PISA. By relying directly on school sampling, PISA is unable to reflect the educational developmental standards in the districts. In contrast, our samples are more scientific, more objective and less costly (ibid.)

It is arguable that the above quote is an instance of glorification of the *Green Indices* where the officials project the indices as better than the PISA system. The intended effect is to further legitimise and mobilise support for the reform initiative.

The second reform initiative is the *New High Quality School (xin youzhi xuexiao)* project (or NHQS project for short) that was introduced in 2011. An official with the Shanghai PISA Research Centre (SHPISA) of the Institute of Educational Sciences in Shanghai informs the public that the NHQS project is “totally aligned with the *Green Indices*” (Zhu, n.d., p. 13). The project is guided by the desired outcomes to “foster the healthy and happy growth of every child” (*cujin meiyige xuesheng jiankang kuaile chengzhang*) and “excel in managing every school in the neighbourhood” (*banhao meiyisuo jiamenkou de xuexiao*). Instead of key schools, this project spotlights on a group of little-known schools (‘jiamenkou’ literally means ‘the school at the doorstep’) that do not attract academically strong students, enjoy special resources or boost of a rich cultural heritage. The deputy director of Shanghai Municipal Education Commission explains that the adjective ‘new’ in ‘New High Quality School’ project underscores Shanghai’s quest to renew its educational paradigm from exam-centrism (the old paradigm) to all-rounded development (the new paradigm) (Mu, 2012). Within a test-driven environment, a ‘high quality school’ in Shanghai/China is synonymous with a key school. Through the creation and expansion of ‘new quality schools’ in Shanghai, the authority aspires to remove the societal obsession with academic excellence, alleviate the competition for enrolment into key schools, and relieve the schoolwork burden of students (Hu, 2015).

Going hand in hand with the ‘new’ is the term ‘high quality’ that refers to “the accent on and use of the *Green Indices* to change the prevailing system that relies only on academic results” (ibid.). In other words, ‘new high quality schools’ are schools that excel in providing an all-rounded education to their students by meeting all the requirements of the *Green Indices*. Such schools are able to creatively chart their own path rather than blindly copying the key schools (Wang, 2012; Xia, 2015). Reflecting each school’s unique and non-elitist

character and mission, some examples of school visions arising from the NHQS project are: ‘Not necessarily number one, but certainly the only one’; ‘A different life that is just as exciting’; and ‘Lifting the children of the common folks up high’ (Jin, 2012). A total of 43 public primary and junior secondary schools were selected for the NHQS project in 2011, with the number expected to increase to 250 schools in 2017 (which will comprise around 25% of all public primary and junior secondary schools in Shanghai).

As in the case for the *Green Indices*, the Chinese education officials turn to PISA to confer a stamp of approval for the NHQS project. An official with the Shanghai PISA Research Centre (SHPISA) of the Institute of Educational Sciences in Shanghai establishes the connection between PISA, *Green Indices* and the NHQS project:

NHQS project is closely linked to the PISA findings. The 2009 PISA results shows that the main reason for Shanghai’s excellent scores in reading is due to efforts in raising the lower-end marks and reducing the proportion of low scorers. The definition of ‘new high quality schools’ reflects the ideology of comprehensive appraisal for schools: not selecting students based on their learning ability, enrolling all children based on their geographical proximity to the school, raising the standard of school management and nurturing human beings ... (Zhu, n.d., p. 13).

According to the officials, the NHQS project is justified and praiseworthy since it is consistent with the PISA finding that Shanghai has succeeded in helping the weak students and schools. To support the NHQS project, it follows, *is* to support Shanghai’s record-breaking performance in PISA.

It is evident that the education officials have externalised to the PISA data and assessment system for the purpose of endorsing the reform messages and their underpinning ideals that otherwise would be contested. The contestation in the Shanghai context refers not to differences among the Chinese officials (at least not publicly) but between the education authority and the general population on the aims and nature of education in Shanghai. The *Green Indices* and NHQS project are controversial reform initiatives as they challenge the conventional understandings of a ‘good’ assessment and a ‘good’ school in Shanghai/China. By underlining formative assessment and reducing academic results to just one index, the *Green Indices* aspires to change the prevailing definition of ‘good’ assessment as summative assessment and standardised testing. The deputy director of Shanghai Municipal Education Commission maintains that an over-emphasis on summative assessment has resulted in three unhealthy developments in China: a ‘only test score index’ (*fenshu zhibiao weishang*) mindset that neglects the holistic development of students; a simplistic assessment method that lacks a genuine care for students; and a single function of the outcome that fails to improve the teaching process (Yin, 2014). Rather than assessment *of* learning through high-stakes exams, the *Green Indices* places an accent on assessment *for* learning to improve the processes of teaching, learning and school management.

In the same vein, the NHQS project challenges the popular perception of a ‘good’ school as a key school (Jin, 2012). The team leader of the NQS project holds that “many ‘good schools’ in Shanghai [i.e., key schools] are actually not ideal schools as their students experience very heavy schoolwork burden, are deprived of music and art lessons and extra-curricular activities, are saturated with ‘exam subject’ consciousness, and do not enjoy harmonious teacher-student relationships” (Hu, X., 2012, 2013, 2015). To support the redefinition of a good school, the education authority refers to the *Green Indices* survey report that shows that key schools suffer from high academic pressure, unsatisfactory campus life and low level of students’ identification with the school (Xia, 2015). In contrast, the schools in the NHQS project are truly good schools as their students experience lower

schoolwork burden and their parents enjoy more positive and enthusiastic experiences with the schools (Yin, 2014; Xia, 2015). The deputy director of Shanghai Municipal Education Commission further validates the NHQS project by stressing that the project is based on “the objective data of school performance” rather than the “subjective appraisal, by word of mouth, of what constitutes ‘good and bad’ schools” (cited in Shen, 2014). This is an effort to certify the schools under the NHQS project as good schools using the word ‘objective’. Concomitantly, the officials desire to scandalise the widely-held view of ‘good’ schools as key schools by reducing such a perception to ‘subjective appraisal, by word of mouth’.

### **The relationship between PISA/OECD and the domestic education system**

The example of Shanghai extends the research on the local receptions towards international large-scale assessments by illuminating the relationships between PISA/OECD and the domestic education systems. In the case of Shanghai, the relationship is one of symbiosis, characterised by both *dependence* and *independence*. On the one hand, the Chinese officials depend on the realities created by PISA to legitimise education reforms. The high regard of the Chinese education officials for OECD is understandable since the latter is viewed internationally as the ‘benchmarker of standards’ (Rinne, 2008). PISA therefore “brings the comfort of legitimising policy problems and solutions with the blessing of a putative universal, independent, expert knowledge” (Carvalho, 2012, p. 184). Without the reference to an external source of authority that is globally and locally respected, it would have been difficult for the local education authority to push for contested domestic reform agendas and initiatives. The Chinese officials’ strategy of capitalising on the dominant grievances of heavy schoolwork burden and school choice fever shows that policy transfer takes place through the ‘translation, interpretation and appropriation of ideas, knowledge and devices *already* in circulation’ (Freeman et al, 2007, p. 5, cited in Carvalho, 2012, p. 177, italics added).

But the dependent relationship between PISA/OECD and the domestic education system is not one-way. While the school systems rely on OECD to be the global “diagnostician, judge and policy adviser” (Meyer & Benavot, 2013, p. 9), OECD is also dependent on the respective school systems to maintain its international status, influence and significance. Our study of Shanghai has therefore drawn attention to the *interdependent* relationship between OECD and the countries/economies participating in PISA. Through a mutually beneficial partnership between PISA/OECD and the national governments, resources from PISA are and will continue to be, prized for their utility to fabricate and sustain existing and new realities. The success of OECD at promulgating their wares – including its neoliberal monitoring system and audit culture – to education systems is ultimately subject to and mediated by domestic policy talks, reform debates and competing agendas. The more contentious an education reform initiative or its underlying philosophy is, the more likely it is for the policymakers of the country/economy to exercise their agency to (re)shape and capitalise on selective PISA data to achieve their strategic goals.

But the Chinese officials do not just depend on the PISA data and assessment system to support and advance local reforms. They also simultaneously assert their *independence* from the narrative and resources provided by PISA/OECD. It is noteworthy that the independence made by local education officials is built upon their *very* dependence on the influence of the PISA system and production of PISA data. The independence takes the form of re-interpreting the PISA data in such a way that allows the local education authority to challenge existing realities and create new ones. Specifically, the Chinese education officials challenge the realities produced by PISA by deliberately castigating the 2012 PISA report that Shanghai students outranked their peers in the time spent on doing homework (OCED,

2014a, b). It is interesting to note that the OECD report does not cast this finding in a negative light. On the contrary, it points to a positive correlation between high student performance and hours spent on homework. The OECD report states, “There are very solid reasons why teachers assign after-school work, from helping struggling or underachieving students to learn the material covered in class, to ensuring that the material is stored in students’ long-term memory, to providing additional stimulation for high performers” (OECD, 2014b, p. 1). However, the Chinese officials use the PISA finding to ‘prove’ that Shanghai students are over burdened with homework and that their strong performance in PISA has come at a high mental and emotional price for the students. Rather than highlighting and celebrating Shanghai’s achievement, a relatively minor and positive finding from PISA regarding hours spent on doing homework is singled out to expose the current scandals of excessive academic burden and intensive competition for admission into elite schools.

Not only do the Chinese education officials challenge the realities constructed by PISA, they also create new possibilities and realities in their endeavour to address prevailing educational problems. The *Green Indices* and NHQS project, as pointed out earlier, are targeted at addressing the obdurate socio-cultural practices of heavy schoolwork burden and school choice fever. Solving these educational challenges requires not only a change in policy but, more importantly, a corresponding shift in the Chinese mind-set on the definitions of a ‘good’ school, assessment, teacher, student etc. A professor from East China Normal University in Shanghai observes that the *Green Indices* “challenges deep-rooted traditional culture as ‘using the outcome to restrict the process’ has always been our thinking and custom for operational appraisal reform in China’s history” (cited in Shen, 2014). The phrase ‘using the outcome to restrict the process’ refers to terminal exams such as the *zhongkao* (terminal exam at the end of junior secondary level) and *gaokao* (college entrance exam) that determine, through the washback effect, the nature of teaching and learning in Shanghai/China. Through the NHQS project, the authority hopes to change the public definition of a good school from one that produces academically strong students to one that values and nurtures all students. Shanghai’s current education reform, in short, is an ambitious project to advance a state-endorsed alternative vision of the good for China. In contrast to the decisions taken by many national governments to revamp their education systems to align with PISA standards (Meyer, 2014), the education authority in Shanghai turns the table around by adapting PISA standards to local norms, needs and demands. Furthermore, in shifting from centralisation and uniformity towards greater school autonomy and diversity through the *Green Indices* and NHQS project, Shanghai appears to deviate from OECD’s ‘standard global reform package’ (Meyer & Benavot, 2013) that privileges accountability and standardised-testing. It is therefore ironical that PISA has elevated Shanghai to the top of the international ranking charts when the municipality is taking steps to move away from OECD’s prescription of a successful education system.

## **Conclusion**

The controversial nature of the reform initiatives and ideals means that they are naturally met with resistance from various educational stakeholders. In the case of Shanghai, the problems of heavy schoolwork burden and school choice fever have persisted despite the implementation of the *Green Indices* and NHQS project (Ke, 2013). A 2014 survey conducted with 5000 high school students across Shanghai reports that the students continue to experience heavy schoolwork burden that results in insufficient sleep (Wang, W., 2014). The average index reported by students on the degree of schoolwork burden they experienced is 6.76 while that for sufficient sleep is 4.96 (both out of a total possible score of 10). It is

also reported in the newspapers that “millions of parents remain concerned with “the only one” and cannot let go of “the one-tenth” (Ke, 2013). The ‘only one’ refers to the index of students’ academic performance that comprises one out of a total of ten indices. The majority of parents (and their children) are therefore caught between a rock and a hard place: their desire to reduce academic burden is countered by their aspiration to admit their children to prestigious educational institutions – a goal that could only be attained, in the eyes of many Chinese, through long hours spent on studying.

Responding to the absence of any significant improvement in the heavy schoolwork burden of Shanghai students, the deputy director of Shanghai Municipal Education Commission comments that “educational outcomes have a delayed effect and need more time to gradually appear” (Peng, 2013). The statement by the deputy director suggests that the propensity to externalise to PISA, be it its findings, ideology, standard, system or methods, is likely to continue. In fact, the borrowing from PISA has extended beyond Shanghai to other parts of China. Drawing from the reform experience in Shanghai, the MOE in China has launched an education reform initiative in 2015, known as *Quality Monitoring Plan for Compulsory Education in China* (*guojia yiwu jiaoyu zhiliang jiance fangan*) (Cai & Tang, 2015). The plan resembles the *Green Indices* in its objective, contents and methods used (for details, see MOE, 2015).

It is instructive that the education authority in China brands it as ‘PISA with Chinese characteristics’ (*Zhongguo tese PISA*) or ‘China’s PISA’ (*Zhongguo de PISA*) (Chai, 2015b; Jin, 2015). MOE declares that the plan “borrows the methods from some countries and international assessments” (MOE, 2015, section 4, para 1). The deputy director of the Centre for Basic Education Quality Monitoring at the MOE affirms that PISA, as an “international assessment of student ability that has been publicly acknowledged to be of a high-standard”, contains many components such as technical specifications and research and development programmes for China to learn from (cited in Chai, 2015). He avers, “The description of our country’s *Quality Monitoring Plan for Compulsory Education* as PISA with Chinese characteristics gives us a vivid image; if there is a sentence that summarises the similarity between our plan and PISA, it is that our technical parameters and specifications conform to those of PISA” (ibid.). We see in the above plan, as in the case for Shanghai, the motivation to give credence to and obtain support for the reform initiative by referring to PISA. With Shanghai expected to continue to do well for future rounds of PISA, it is likely for the Chinese education officials to persist in turning to PISA to validate and sustain not just the reform initiatives but also the self-determined realities.

## References

- Afonso, N., & Costa, E. (2009). Use and circulation of OECD's 'Programme for International Student Assessment' (PISA) in Portugal. *Project KNOWandPOL*, WP 12, April. Retrieved from <http://knowandpol.eu/IMG/pdf/o31.pisa.portugal.pdf> (accessed 10 Oct 2016).
- Auld, E., & Morris, P. (2014). Comparative education, the 'new paradigm' and policy borrowing: Constructing knowledge for education reform. *Comparative Education*, 50(2), 129–155.
- Baird, J.-A., Johnson, S., Hopfenbeck, T. N., Isaacs, T., Sprague, T., Stobart, G., & Yu, G. (2016). On the supranational spell of PISA in policy. *Educational Research*, 58(2), 121-138.
- Berg, B. L. (2009). *Qualitative research methods for the social sciences* (7th edition ed.). Boston: Allyn & Bacon.
- Cai, J., & Tang, Q. (2015). Youda xiangqiang – tigao zhiliang pian [From large to strong – an essay on improving quality]. *Zhongguo Jiaoyu Bao*, 18 Dec. Retrieved from [http://www.moe.edu.cn/jyb\\_xwfb/moe\\_2082/zl\\_2015n/2015\\_zl64/201512/t20151218\\_225320.html](http://www.moe.edu.cn/jyb_xwfb/moe_2082/zl_2015n/2015_zl64/201512/t20151218_225320.html) (accessed 12 Mar2016)
- Cao, Ji., & Yan, W. (2014). PISA, huange shijiao kan jichu jiaoyu [PISA, looking at basic education from a different angle]. *Guangming Ribao*, Feb, 7, p. 6.
- Carvalho, L. M. (2012). The fabrications and travels of a knowledge-policy instrument. *European Educational Research Journal*, 11(2), 172–188.
- Chai, W. (2015a). Woguo jianli yiwu zhiliang jiance zhidu, jinnian qi kaizhan jiance gongzuo – Zhongguo tese 'PISA' jiekai miansha [China to establish a quality monitoring system for basic education, monitoring work to start this year – Unveiling 'PISA' with Chinese characteristics]. *Zhongguo Jiaoyu Bao*, Apr 16, p. 1.
- Chai, W. (2015b). Zhongguo tese 'PISA' jiekai miansha [Unveiling 'PISA' with Chinese characteristics]. *Zhongguo Jiaoyu Bao*, Apr 16, p. 1.
- Cheng, F. (2014). Gaobie gonglihua de jiaoyu [Saying goodbye to a utilitarian view of education]. *Xuexi Shibao*, May 5, p. 9.
- Cheng, Z. (2011). *Jiaoyu gongping lunshu yu Zhongguo jiaoyu zhengce zhi yanjiu – yi Hunan jiaoyu qiangshen zhengce weili* [Research on discourse in educational fairness and educational policy in China – Using the example of educational strengthening of the provinces in Hunan]. (Unpublished master's thesis). National Institute of Education, Nanyang Technological University.
- Crossley, M. (2014) Global league tables, big data and the international transfer of educational research modalities, *Comparative Education*, 50(1), 15-26.
- Dong, C. (2013). Shanghai PISA xiangmu fuzeren: PISA rang women zixin ye rang women zixing [Official in charge of Shanghai PISA: PISA gives us both self-confidence and self-examination]. *Dongfangwang*, Dec 4. Retrieved from <http://sh.eastday.com/m/20131204/u1a7809993.html> (accessed 2 June 2016).
- Dronkers, J. (2015). Are the PISA data for Shanghai flawed? *The Huffington Post*, Feb 10. Retrieved from [http://www.huffingtonpost.com/jaap-dronkers/are-the-pisa-data-for-sha\\_b\\_8234836.html](http://www.huffingtonpost.com/jaap-dronkers/are-the-pisa-data-for-sha_b_8234836.html) (accessed 10 Oct 2016).
- Fan, L. (2014). Pingjia zhihuibang 'gauge': Fenshu cong weiyi biancheng shifen zhiyi [Reform in the appraisal baton: test scores to change from the only one to one-tenth]. *Wenhui Bao*, Mar 21, p. 11.
- Feng, M. (2015). Hao linian shi zhang chulai de [Good ideology originates from growth]. *Shanghai Jiaoyu Keyan*, March, 13-16.

- Freeman, R., Barroso, J., Ramsdal, H., & Zanten, A. V. (2007). Orientation 3: regulation: specifications. *Project KNOWandPOL*, Unpublished document, September.
- Grek, S. (2009). Governing by numbers: The PISA 'effect' in Europe. *Journal of Education Policy*, 24(1), 23–37.
- Grek, S., Lawn, M., & Ozga, J. (2009). Study on the use and circulation of PISA in Scotland. *Project KNOWandPOL*, WP 12, April. Retrieved from <http://knowandpol.eu/IMG/pdf/o31.pisa.scotland.pdf> (accessed 10 Oct 2016).
- Grek, S. (2012). What PISA knows and can do: Studying the role of national actors in the making of PISA. *European Educational Research Journal*, 11(2): 243–254.
- Gür, B. S., Çelik, Z., & Özoglu, M. (2012). Policy options for Turkey: A critique of the interpretation and utilisation of PISA results in Turkey. *Journal of Education Policy*, 27(1), 1-21.
- He, R. (2009). Zhongxiao xuesheng jianfu diaocha – Xuesheng jianfu chengxiao ruhe? [Survey on burden for secondary and primary students – How effective is reducing the burden for students? *Yangzhou Ribao*, Feb 6, p. B1.
- Holzinger, K., & Knill, C. (2005). Causes and conditions of cross-national policy convergence. *Journal of European Public Policy*, 12(5), 775-796.
- Hu, X. (2013). 'Xinyouzhi xuexiao' xin zai nali [What is new about 'new high quality schools?']. *Shanghai Jiaoyu Keyan*, 1, 1.
- Hu, X. (2015). 'Xinyouzhi xuexiao' zhuiqiu shenme [What do 'new high quality schools' seek?]. *Shanghai Jiaoyu Keyan*, 3, 5-6.
- Hu, X. (2012). Ba xuexiao daidao hefang [Where are the schools heading towards]. *Shanghai Education*, 4A, 66-67.
- Jackson, A. (2013). Shanghai responds to school ranking cheating allegations. *Education Week*. Retrieved from [http://blogs.edweek.org/edweek/global\\_learning/2013/12/shanghai\\_responds\\_to\\_school\\_ranking\\_cheating\\_allegations.html?qs=PISA](http://blogs.edweek.org/edweek/global_learning/2013/12/shanghai_responds_to_school_ranking_cheating_allegations.html?qs=PISA) (accessed 10 Oct 2016).
- Jerrim (2015). Why do East Asian children perform so well in PISA? An investigation of Western-born children of East Asian descent. *Oxford Review of Education*, 41(3), 310-333.
- Jiefang Ribao (2013, Dec 5). PISA Shanghai xiangmu fuzeren: Xuexi shijian yu chengji chengzheng bili [Official in charge of PISA item: Learning time is proportionate to performance. Retrieved from [http://blog.sina.com.cn/s/blog\\_519169510101j3iz.html](http://blog.sina.com.cn/s/blog_519169510101j3iz.html) (accessed 2 June 2016).
- Jin, X. (2012). 'Zexiao jiazhang' huigui jiamenkou xuexiao ['School choice parents' have returned to the schools in the neighbourhood]. *Guangming Ribao*, June 5, p. 6.
- Jin, X. (2015). Jiaoyu zhiliang jiance: Kaoshi pingjia zhidu gaige de tupokou [Monitoring of educational quality: Breakthrough in reform for exam appraisal system]. *Guangming Ribao*, Apr 16, p. 10.
- Kamens, D. H. (2013). Globalisation and the emergence of an audit culture: PISA and the search for 'best practices' and magic bullets. In H. D. Meyer & A. Benavot (Eds.), *PISA, power and policy: The emergence of global educational governance* (pp. 117-140). Oxford: Symposium Books.
- Ke, W. (2013). Liangge 'diyì' de xiyuyou [The joy and sorrows of the two 'number one']. *Shanghai Kejibao*, Dec 6, p. 1.
- Loveless, T. (2014). *Lessons from the PISA- Shanghai controversy*. Retrieved from <https://www.brookings.edu/research/lessons-from-the-pisa-shanghai-controversy/> (accessed 10 Oct 2016).
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks, CA: Sage.

- Meyer, H.-D., & Benavot, A. (2013). Introduction. In H. D. Meyer & A. Benavot (Eds.), *PISA, power and policy: The emergence of global educational governance* (pp. 7-26). Oxford: Symposium Books.
- Meyer, H.-D. (2014). Questioning OECD's growing role in public education. *Global Policy*, May 5. Retrieved from <http://www.globalpolicyjournal.com/blog/05/05/2014/questioning-oecd%E2%80%99s-growing-role-public-education> (accessed 10 Oct 2016).
- MOE (2015). *Jianli guojia jiance zhidu cujin yiwu jiaoyu zhiliang tigao* [Establishing the national monitoring system to raise the quality of basic education]. Retrieved from [http://www.moe.gov.cn/jyb\\_xwfb/xw\\_fbh/moe\\_2069/xwfbh\\_2015n/xwfb\\_150415/150415\\_sfcl/201504/t20150415\\_187149.html](http://www.moe.gov.cn/jyb_xwfb/xw_fbh/moe_2069/xwfbh_2015n/xwfb_150415/150415_sfcl/201504/t20150415_187149.html) (accessed 12 Mar 2016).
- Mons, N., & Pons, X. (2009). The Reception of PISA in France: Knowledge and regulation of the educational system. *Project KNOWandPOL*, WP 12, April. Retrieved from <http://knowandpol.eu/IMG/pdf/o31.pisa.france.pdf> (accessed 10 Oct 2016).
- Mu, D. (2012). Shanghai xinyouzhi xuexiao banhao meiyisuo jiamenkou de xuexiao [New high quality schools in Shanghai to excel in managing every school in the neighbourhood]. *Jichu Jiaoyu Kecheng*, 108, Dec, 22.
- OECD (2010). *PISA 2009 results: Executive summary*. Available online at: <https://www.oecd.org/pisa/pisaproducts/46619703.pdf> (accessed 6 June 2016)
- OECD (2014a). *PISA 2012 results in focus What 15-year-olds know and what they can do with what they know*. Available online at: <https://www.oecd.org/pisa/keyfindings/pisa-2012-results-overview.pdf> (accessed 27 May 2016).
- OECD (2014b). *PISA in focus 46*. Available online at: <http://www.oecd-ilibrary.org/docserver/download/5jxrhqhtx2xt.pdf?expires=1464329970&id=id&accname=guest&checksum=3DAEBE4F6130674C6442FD730A43D51F> (accessed 27 May 2016).
- Ozga, J. (2012). Introduction: Assessing PISA. *European Educational Research Journal*, 11(2), 166–71.
- Peng, W. (2013). Kaoshi buying shi jiaoyu de weiye zhihuibang [Exam should not be the only baton in education]. *Jiefang Ribao*, Dec 6, p. 2.
- Phillips, D. (2000). Learning from elsewhere in education: Some perennial problems revisited with reference to British interest in Germany. *Comparative Education*, 36(3), 297–307.
- Phillips, D., & Ochs, K. (2003). Processes of policy borrowing in education: Some explanatory and analytical devices. *Comparative Education*, 39(4), 451–461.
- Pons, X. (2012). Going beyond the 'Pisa shock' discourse: An analysis of the cognitive reception of PISA in six European countries, 2001-2008. *European Educational Research Journal*, 11(2), 206-226.
- Rinne, R. (2008). The growing supranational impacts of the OECD and the EU on national education policies and the case of Finland. *Policy Futures in Education*, 6(6), 665-680.
- Schriewer, J. (1990). The method of comparison and the need for externalisation: Methodological criteria and sociological concepts. In J. Schriewer and B. Holmes (eds.), *Theories and methods in comparative education* (pp. 3–52). Bern: Lang.
- Sellar, S., & Lingard, B. (2013). Looking East: Shanghai, PISA 2009 and the reconstitution of reference societies in the global education policy field. *Comparative Education*, 49(4), 464–485.
- Shanghai Municipal Education Commission (2004). *Guanyu qieshi jianqing zhongxiao xuesheng guozhong keye fudan de ruogan yijian* [Opinions to practically relieve the excessive schoolwork burden of secondary and primary students] Retrieved from [http://www.shmec.gov.cn/web/hdpt/jydtj\\_detail.php?online\\_main\\_id=23](http://www.shmec.gov.cn/web/hdpt/jydtj_detail.php?online_main_id=23) (accessed 2 June 2016).

- Shanghai Municipal Education Commission (2011). *Shanghaishi jiaoyu weiyuanhui guanyu 'Shanghishi zhongxiao xuesheng xueye zhiliang lüse zhibiao (shixing)' de shishi yijian* [Opinions of the Shanghai Education Commission on the implementation of 'Green Indicators for the academic quality of primary and secondary school students in Shanghai' (trial)]. Retrieved from <http://www.shmec.gov.cn/html/xxgk/201111/402152011007.php>, 2012-08-3 (accessed 2 June 2016).
- Shen, Z. (2014). Shanghai: 'Lüse' chizi wei xueye zhiliang 'tiyan' [Shanghai: The 'green' ruler to 'experience' academic quality]. *Zhongguo Jiaoyu Bao*, Apr 5, p. 3.
- Steiner-Khamsi, G. (2006). The economics of policy borrowing and lending: A study of late adopters. *Oxford Review of Education*, 32(5), 665–678.
- Steiner-Khamsi, G. (2009). Comparison: quo vadis? In R. Cowen & A. M. Kazamias (eds.), *International handbook of comparative education* (pp. 1141–1158). Dordrecht: Springer.
- Tan, C. (2012). The culture of education policy making: Curriculum reform in Shanghai. *Critical Studies in Education*, 53(2), 153-167.
- Tan, C. (2013). *Learning from Shanghai: Lessons on Achieving Educational Success*. Dordrecht: Springer.
- Tan, C. (2016a). *Educational Policy Borrowing in China: Looking West or Looking East?* Oxon: Routledge.
- Tan, C. (2016b). Chinese responses to Shanghai's PISA performance. Unpublished manuscript.
- Tan, C. (2016c). Tensions and challenges in China's education policy borrowing. *Educational Research*, DOI:10.1080/00131881.2016.1165551, 1-12.
- Tucker, M. S. (Ed.). (2014). *Chinese lessons: Shanghai's rise to the top of the PISA league tables*. Retrieved from <http://www.ncee.org/wp-content/uploads/2013/10/ChineseLessonsWeb.pdf> (accessed 10 Oct 2016).
- Waldow, F. (2012). Standardisation and legitimacy. In G. Steiner-Khamsi & F. Waldow (Eds.), *World yearbook of education: Policy borrowing and lending in education* (pp. 411-423). New York: Routledge.
- Waldow, F., Takayama, T., & Sung, Y.-K. (2014). Rethinking the pattern of external policy referencing: media discourses over the 'Asian Tigers' PISA success in Australia, Germany and South Korea. *Comparative Education*, 50(3), 302-321.
- Wang Y. (2012). Shanghai shi zongxiao xuesheng xueye zhiliang lüse zhibiao tixi de shishi ji fansi [The implementation and reflection of the green index system for the academic quality of secondary and primary students in Shanghai]. *Xuexiao Guanli Yu Fazhan*, Oct, 42-45.
- Wang, J. (2012). Kandong PISA, kandong Zhongguo jiaoyu [Understand PISA, understanding education in China]. *Wenhui Bao*, Apr 21, p. A.
- Wang, M. (2013a). Kandai woguo jichu jiaoyu bufang duo yi fen lixing [Better to adopt a rational view regarding basic education in China]. *Zhongguo Jiaoyu Bao*, Dec 13, p. 2.
- Wang, M. (2013b). *Shanghai she zhongxiao xuesheng xueye zhiliang lüse zhibiao zonghe pingjia gaige yanjie* [Research on the green indicator integrated appraisal reform for the academic quality of secondary and primary students in Shanghai] Retrieved from <http://www.cnsaes.org/homepage/Upfile/2013126/2013120665257661.pdf> (accessed 2 June 2016).
- Wang, M. (2014). Kandai PISA ceshi bufang duo fen pingchang xin [Better to adopt a balanced perspective in looking at PISA]. *Zhongguo Jiaoyubao*, Sep 1, p. 2.

- Wang, W. (2014). Shanghai gaozhongsheng redian wenti diaocha baogao: shuimian buchu renwei jieju [Survey report on a hot topic for senior secondary students in Shanghai: The problem of insufficient sleep is still unresolved] *Xinmin Wanbao*, Aug 18. Retrieved from <http://edu.people.com.cn/n/2014/0818/c1053-25482363.html> (accessed 2 June 2016).
- Wang, Y. (2012). Xinyouzhi xuexiao quyue longqi de mou yu dao [New high quality schools, the strategy and logic for the rising up of districts]. *Zhongguo Jiaoyu Bao*, June 21, p. 5.
- Willis, D., & Rappleye, J. (2011). Education in Japan: testing the limits of Asian education. *Foro de Educación*, 9(13), 19–35.
- Xia, X. (2015). Dakai kecheng yu jiaoxue guocheng de heixiang: Xuexiao heyi youzhi [Opening the black box of curriculum and the teaching process: What makes a school excellent]. *Shanghai Jiaoyu Keyan*, March, 7-12.
- Xu, J., & Yan, J. (2015). *Integrating transversal competencies in education policy and practice in Shanghai - People's Republic of China*. Paris and Bangkok: UNESCO. Available online at: <http://unesdoc.unesco.org/images/0023/002319/231907E.pdf> (accessed 12 June 2016).
- Xu, Q. (2015). Ruyuan nan ruxue nan, jiachang jiaolü ruhe jie [Difficult admission to kindergarten, difficult admission to school, how to resolve the anxiety of parents]. *Jiefang Ribao*, July 11, p. 6.
- Yin, H. (2014). Pingjia gaige: Xianxing xianshi xianhuoli – Shanghai shi ‘lüse zhibiao’ zonghe pingjia gaige toushi [Appraisal reform: First to implement, first to experiment, first to benefit – Perspective on the comprehensive appraisal reform of ‘green index’ in Shanghai]. *Zhongguo Jiaoyu Bao*, Mar 4, p. 7.
- You, Y., & Morris, P. (2015). Imagining school autonomy in high-performing education systems: East Asia as a source of policy referencing in England. *Compare: A Journal of Comparative and International Education*, DOI:10.1080/03057925.2015.1080115, 1-24.
- Zhu, X. (n.d.). *Jiyu zhengce gaijin de pingjia – Shanghai PISA 2009 shishi, jieguo yu yingxiang [Appraisal to improve policy – The implementation, outcome and impact of Shanghai PISA 2009]*. Retrieved from <http://www.cnsaes.org/homepage/Upfile/2013126/2013120649357285.pdf> (accessed 12 June 2016).