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## PISA as a legitimacy tool during China's education reform: Case study of Shanghai

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# TranState Working Papers

PISA AS A LEGITIMACY TOOL  
DURING EDUCATION REFORM:  
CASE STUDY OF SHANGHAI

CHENJIAN ZHANG  
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No. 166

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Staatlichkeit im Wandel • Transformations of the State  
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## ***PISA as a Legitimacy Tool during China's Education Reform: Case Study of Shanghai***

### **ABSTRACT**

In this paper we examine the Chinese domestic discourse centering on Shanghai's participation in the PISA study and interpretations of the 2009 results. The main focus is to examine why local education authority took part in the PISA project and how actors from the education authority use PISA as a tool to legitimize their reform stance. We adopted discourse and rhetorical analysis techniques and analyzed the data collected from newspapers and official documents. The analysis shows that the local education authority and PISA team used PISA as an external assessment tool to legitimate the pre-existing education reform measures, confirm its leadership, and appeal for the collective actions from other social groups in future reform agenda. Different interpretations of the test results by independent educators and overseas professors are demonstrated to contrast officials' framings and shed light on the rationales behind these framings. This study contributes to the theoretical discussion of how local actors use PISA to respond to domestic and international pressures on education reform and at the same time pursue local political interests.

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## **PISA as a Legitimacy Tool during China's Education Reform: Case Study of Shanghai**

*“While the Chinese have been highly conservative, and their educational system has reflected this, their conservatism has its limits. Slow in making a departure, once its practicability is demonstrated, they do not hesitate at radical changes nor are they discouraged by difficulties.” – Edmunds 1919*

### **1 INTRODUCTION**

Shanghai's 2010 test results at the Programme for International Student Assessment (PISA) caught the world's attention - not only did Shanghai participate for the first time in this project hosted by the Organization for Economic Co-operation and Development (OECD), but also, consequently, outperformed students from 75 countries and regions by scoring the leading figures in mathematics, reading literacy and sciences. These results stunned international journalists, educators, and politicians, who reacted by giving rivaling interpretations of Shanghai's achievement. Some viewed the dramatic improvement of China's education system as a rising challenge to the US,<sup>1</sup> causing another “Sputnik Moment”<sup>2</sup>, others ascribed China's success to the education reform aimed at the larger inclusion of ethnic minorities,<sup>3</sup> while still others considered the results to be the logical conclusion of China's obsession with test-taking.<sup>4</sup> Evidently, PISA has turned China's education system into a widely discussed topic, even though the international discourse is mixed with different voices.

However, while the international discourse on Shanghai's results was extraordinary, China's domestic discourse regarding this remains largely unknown to outsiders. While Shanghai's local authority's interpretation of the results has been introduced and translated in some news reports and commentaries, other voices and opinions from independent educators were less presented or invisible. To fill this gap, we present the domestic discourse on Shanghai's PISA results for the international audience in this study. In this context, we do not focus on presenting these different stances and voices in the

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<sup>1</sup> Kristof, Nicholas. (2011. January 15). China's Education System. The New York Times. <http://kristof.blogs.nytimes.com/tag/pisa-test/>

<sup>2</sup> Dillon, Sam. (2010. December 7). Top Test Scores From Shanghai Stun Educators. The New York Times. <http://www.nytimes.com/2010/12/07/education/07education.html?pagewanted=all>

<sup>3</sup> Ibid.

<sup>4</sup> Strauss, Valerie (2010. December 14). How Shanghai topped PISA rankings -- and why it's not big news in China. The Washington Post. <http://voices.washingtonpost.com/answer-sheet/standardized-tests/how-shanghai-topped-pisa-ranki.html>



discourse, but rather on the local education authority's framing and interpretations of the PISA project and 2009 results, and comparing these to the interpretations from other social groups, such as independent educators and overseas professors.

By conducting a case study of Shanghai's participation in the 2009 PISA study and the domestic discourse on the results, we also aim to contribute to the theoretical discussion on local actors' use of PISA in order to legitimize their policy agenda (Rautalin & Alasuutari, 2009). In existing literature, the actual process and mechanisms through which the OECD and in specific the PISA principles and ideas are used and transformed at individual nation-state level remain unclear (Rautalin & Alasuutari, 2009). Indeed, extant research has given much attention to Western countries (Ertl, 2006; Grek, 2009; Sadler & Zeidler, 2009), while only few researchers attempted to explore how Asian countries have responded to PISA (Ninomiya & Urabe, 2011). With China's PISA debut, examining the domestic discourse has become an important research agenda.<sup>5</sup>

Moreover, previous studies have examined how OECD's policy recommendations are accepted within the individual member countries and how public discourse centering on PISA is constructed and reconstructed at the national level, without giving much attention to local power constellations. In East Asian countries, as part of the current decentralization policy, local governments have substantial autonomy in developing their own education reform and policy agenda (Bjork, 2010). Thus, the autonomy of local governments should be considered when examining the nation-states' response to the PISA study, because national and local governments may adopt different strategies in response to pressures generated by globalization (Mok, 2003). Since mainland China was only represented by Shanghai in the PISA study, the role of Shanghai's government and education authority as well as their response to the results needs to be scrutinized: Why did Shanghai participate in the PISA study? How did they respond and interpret the test results? What can we learn from this public discourse?

In this paper, we draw on discourse and rhetorical analysis to answer these questions. Our analysis of 42 documents demonstrates how local government actors used PISA to legitimate pre-existing education reform policy and justify their leadership in future reform. We will present this study in three steps: First, we place China's education system in a broader cultural and historical context as well as introduce its organizational structure. The cultural and political background in which China is embedded in is essential for understanding the introduction of PISA and the debate surrounding the results. We then analyze the rationales behind Shanghai's participation in the PISA project and

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<sup>5</sup> It should be noted that Hong Kong and China-Macao have already been participating in PISA since 2003. However, their education system, the cultural and political contexts, and the problems they face are incomparable to that of China (OECD 2010c). Shanghai presents a special case, because it is the first region in this strongly centralized state, with its historical, cultural and political context, that has participated in PISA.

identify the major themes and debates that have emerged from the discourse following the publication of the results. We categorize two main actor groups and outline their different views and stances in interpreting the test results. Our analysis shows that the local education authority and PISA team used the study as an external assessment tool to legitimate the pre-existing education reform measures and reconfirm their future reform agenda. Finally, we conclude our study and propose a theoretical assessment for future exploration.

## **2 PUTTING CHINA’S EDUCATION SYSTEM INTO CONTEXT**

China’s educational system in general and Shanghai’s in particular can only be understood in light of the cultural significance attached to it and through a historical perspective that has predominantly taken the economic reforms since the 1980s into account. Therefore, this section begins with an assessment of China’s cultural heritage, which primarily stresses the high value attached to education within the Chinese population as well as the persistency of exam-oriented learning. Furthermore, China’s rather recent history displays the efforts of moving beyond its Confucian heir and expanding the educational system throughout China. Here we can see on the one hand the decentralization of the financial autonomy of the educational system within, on the other hand, a strict centralist setting of the curriculum standards and performance assessment. The process of decentralization has led to competition among the regions for financial means and student excellence, which can explain the persistence of examination-based education and huge regional inequalities in terms of equality and quality of education. Only in this context can the role of Shanghai in China’s education system be understood. This section ends with an overview of the organizational structure of Shanghai’s educational system. We will present it in contrast to China’s system in order to emphasize Shanghai’s peculiarities and the role the city takes in China’s overall reformatory processes.

### **High Social Expectations: The Role of Education in the Cultural Context**

China has a long tradition of valuing education. For over 1000 years in imperial China, education was seen as the major path to climb the social ladder and obtain power. Examination-oriented education has long been entrenched in Chinese society and culture (Dello-Iacovo, 2009). In this educational system, rote memorization and recitation have been regarded as the standard learning methods and students’ learning has mainly focused on future examination (Pepper, 1996). This education orientation has been widely criticized within the public and by educators, leading to attempts of reforming this system to educate well-rounded individuals (Dello-Iacovo, 2009).

However, despite these reform efforts, the cultural role of education has remained steadfast in China. Juxtaposing this perception with Nagel et al.'s typology of different guidelines of education (Nagel, Martens, & Windzio, 2010) shows how education in China was primarily perceived to be an instrument of social mobility particularly for the lower classes. This is important since reform efforts are constrained by the country's ideational background; thus, some reforms are more likely to be carried out than others. Furthermore, these guiding principles influence the possible impact of policy proposals from international organizations (Nagel, Martens, & Windzio, 2010). From this point of view, it is unlikely that the importance of examinations will be marginalized solely by internal efforts, nor by international actors, but rather by a combination of both.

From the beginning of the sixth century onwards, a system was in place which selected state officials solely based on the students' examination performances at the Civil Service exams conducted every three years (this is known as the Keju system (科举)). Other criteria, like their societal extraction, were largely ignored (Yu & Suen, 2005; OECD, 2010c).<sup>6</sup> It should be noted that the role of government servants was considered to be the most honorable and worthwhile occupation, providing office holders with diverse benefits, such as high salary, prestige, and power (Schirokauer, 1981). Unsurprisingly, the stakes to pass the exams were considerably high. Thus, a very competitive educational system – open to all – was established that fixated the importance of exams as the principal instrument for social mobility.<sup>7</sup>

The Keju system employed a three-tiered system of exams at the local district/prefectural, the provincial, and the “joint” exams. At the local district/prefectural level, the so-called tongshi (童试/院试), the first level of exams, were conducted once every two years. The xiangshi (乡试) – the exams at the provincial level – were conducted every three years at the provincial palace. Finally, the joint exams consisted of the huishi (会试) – at the metropolitan level - and dianshi (殿试) – the palace examinations - took place in the national capital and marked the last of these tests. Whereas the huishi was in content rather similar to the test at the provincial level, the candidates reaching the dianshi exam were placed in front of the emperor for the final testing. The first and last exams lasted for only one day, while the provincial one was far more strenuous and lasted 9 days and nights, in which the candidates were placed in an exam-

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<sup>6</sup> Gender, however, played a crucial role, meaning that girls were deterred from participating at the exams. Indeed, in this sense, girls were considered worthless and “a man who had no sons was considered childless” (Miyazaki, 1981). Interestingly, the gender question has still not been addressed in China's education discourse (see Peng, 2010).

<sup>7</sup> There were no entry level requirements for these tests. However, wealthy families, unlike the poor ones, were able to advance the prospects of their children by hiring private tutors.

ination cell, supplied with food and tested upon their knowledge of mostly Confucian themes as well as their writing skills (Elman, 1991; Yu & Suen, 2005).

Parents' and social expectations contributed to the high motivation of students in education. The implications for parents were that in order to provide for the wellbeing of their children, it was necessary to massively invest in their child's education.<sup>8</sup> Indeed, the preparation for the child's future success began early – before the child's birth, pregnant women were prescribed rules of proper behavior that were supposed to effect the child future development favorably (see Miyazaki, 1981). This could also be observed on account of average household spending on education. It is, however, best encompassed in the saying that “all pursuits are of low value; only studying the book is high” (万般皆下品，唯有读书高) (Yu & Suen, 2004).

Parents' and social expectations are now usually labeled “education fever” in China and still noticeable in current figures, with households spending more on educating their child than on both housing and clothing. China's One Child Policy puts pressure on students and increases the willingness of parents to invest in their child's education. Having only one child not only implies that parents will have more means to spend on its future, but also that the pressure and expectations on the child, as a future caretaker of the family, have risen (Yu & Suen, 2005).

Describing the role of the Keju system helps us to place China's educational system within a broader cultural context and explains the prevalence of standardized testing as an intrinsic characteristic of the educational system, in which the motivation to study remains extrinsic. The Civil Service examinations were abolished in 1905<sup>9</sup> and replaced by the National College Entrance Exam (NCEE), known as Gaokao (高考) (Yu & Suen, 2005). Based on the test scores at the NCEE, students are allocated into four types of colleges and universities. Of course, it is difficult to compare both systems with one another, primarily because one is an entry-level exam for a state service, and the other is one for universities. Nevertheless, the perceived role of education, as the principal allocator of social status, the fixation on examinations, and the large investments of families on their children's education are deeply-rooted in China's tradition, value, and educational system.

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<sup>8</sup> As we will explain later in this paper, this has currently considerable implications for the Chinese education system and is addressed by China's new 10-year-plan for national education.

<sup>9</sup> The abolition of the civil examination system was the conclusion of processes starting in 1842 with the forceful opening of Chinese ports to foreign trade as well as the realization that after losing the war with Japan (1894-1895), China wanted to modernize its system in order to build the strength of the country. Thus, China realized the need of education for economic (and military) performance (Edmunds, 1919; Zhao, 2007).

## **Responding to Global Standards: China's Education Reforms since 1976**

China's current reforms in the education system are motivated by the objects of decentralization and as a response to global pressures, while being under close supervision by the central state authority. Indeed, the central authority has realized that education needed to be improved in order to meet the demands of the global market (Dello-Iacovo, 2009). In the following chapter, we provide an overview of the reformatory efforts of the state to initiate change and the role governments at the local level play.

In 1980, China paid tribute to peasants' desire to build local schools in their villages, which paved the way for further decentralization measures in 1986; the same reform called for a universal nine-year education<sup>10</sup> (OECD, 2010c), with different timetables for geographic areas to achieve this goal (Ming, 1986). Thus, the 'Compulsory Education Law of the People's Republic of China' (Ministry of Education of the People's Republic of China, 1986) - the formalization of the decree 'Decision on the Reform of the Educational Structure' in 1985 - served as the basis for all further reforms. Indeed, this law created the framework in which even today the education system operates and reforms are pursued. Next to establishing the compulsory framework for nine-year long education, it made important signals towards decentralization, limiting the role of the government to supervise regional developments and set up guidelines. It set the stage for further reforms, which aimed at fiscally relieving the state, while at the same time empowering local authorities to respond more rapidly and better to the market forces that China exposed itself to since its ongoing market liberalization. Thus, it reflected the view that China's educational system was completely inadequate to cope with the rising challenges. Indeed, the economic reforms (e.g. the often quoted 'globalization with Chinese characteristics') had a multi-dimensional impact on the Chinese educational system (Liu & Fang, 2009).

Since then, a series of reforms have been pursued that were aimed at decentralization of local school finance and management authority. Primarily fueled by fiscal considerations - and not by the aim of increasing the quality of the educational system as such - governments at the local level needed to secure the funding of their schools through various means (Hawkins, 2000). Thus, they had control over the tuition fees for their students, but had to find more ways to raise donations, being only modestly supported by the central government. This led to the situation that the economically strong regions had a significantly higher quality in teaching than poor areas, creating large regional disparity through this process. Marking a shift to re-centralization again, the "Revised

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<sup>10</sup> This universal education aimed at including minorities and socially disadvantaged groups, such as the rural poor (Lam, 2010).

Law of Compulsory Education” (Ministry of Education of the People's Republic of China, 2006) aimed at alleviating this regional disparity.

At the same time, the central authorities have maintained the function of guiding and monitoring the realization of the education reforms, the guidelines of education, teacher education, and first and foremost the content of the school curriculum. Indeed, the central authorities have initiated reforms in these areas such as the fundamental shift in teaching from basic knowledge and skills to “critical thinking, problem solving and creativity” (Ryan, Kang, Mitchell, & Erickson, 2009), refocusing from teacher-centered to student-centered teaching approaches, promoting a greater variety of textbooks, and establishing an assessment system to promote students’ development (Ryan, 2010). Additionally, starting with the 1986 reforms, the social status of teachers has been endorsed and increased.<sup>11</sup> Moreover, it should be emphasized that China undertook tremendous efforts to raise the quality of teaching (Ministry of Education of the People's Republic of China, 2009).

These two characteristics can be exemplified by the role of private educational providers. The financial considerations help to explain the rise of private schools (minban)<sup>12</sup>, which provided especially poorer regions the possibility to save means. On the one hand, they offered poor regions the possibility to provide higher quality education, and on the other, help China realize its target of nation-wide nine-year compulsory education. Indeed, a look at the numbers shows the increasing impact these schools have on China’s educational landscape. Between 1994 and 2006, the number of schools has increased from 1,280 to 10,366 - or even more impressive in terms of school graduates from 35,416 to 2,204,290 at the secondary educational level (Chan & Wang, 2009). The central government has endorsed the development of private schools, but with the limitation that they are not allowed to deviate from the state set school curriculum (Hawkins, 2000).

China experiences continuing decentralization of its educational system, which is embedded in a broader, centrally established framework. The peculiarities of the Chinese system have led to a redefinition of the government at the local level as “the real entrepreneurs and change agents” (Hawkins, 2000). Indeed, regions need to find creative ways to finance their education sectors and at the same time have considerable autonomy over the implementation of nationwide curriculum. Thus, each region is fiscally independent and expected to maximize its performance. In this light, it is unsurprising

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<sup>11</sup> Indeed, the occupation of teacher has, despite average pay, “risen up the ladder of preferred occupations” (OECD, 2010c).

<sup>12</sup> For further discussion on the term minban, see Mok (1997), who discusses different kinds of private institutions.

that the richer regions perform better than the poorer, leading to huge regional disparities.<sup>13</sup>

## China’s Current Education System

The striking characteristic of China’s education system is the endurance of examinations as the gatekeeper for reaching the next, higher academic level. Curriculum reforms, often labeled *suzhi jiaoyu*<sup>14</sup> have proved to be little than effective and so far only short-lived in diminishing the role of examination-oriented education - *yingshi jiaoyu* (Dello-Iacovo, 2009). In this section, we will illustrate the prevalence of examinations in China’s current education system by depicting its organizational structure.

Figure 1: Organizational Structure of Chinese Education System (OECD, 2010c)

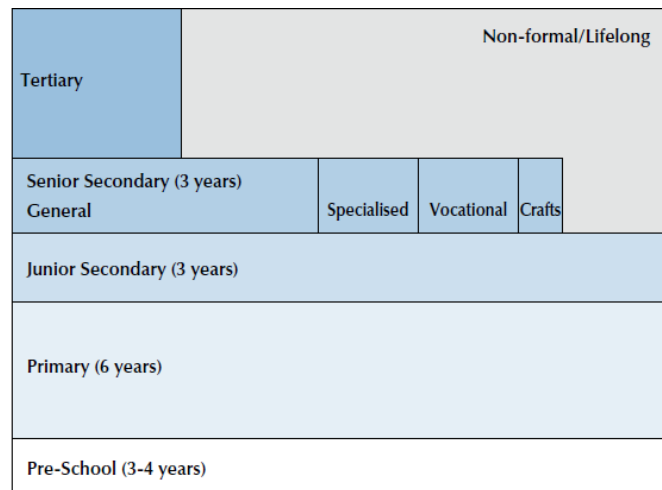


Figure 1 illustrates China’s current education system. Compulsory education covers six years of primary and three years of secondary education.<sup>15</sup> Due to the already mentioned culturally ascribed importance of education, it is however fairly common for children to attend three to four years of pre-school education. Following the compulsory years, students can continue a three-year long ‘Senior Secondary’ education, which is divided

<sup>13</sup> To illustrate this argument: while “the average yearly government funding per student was 77 Yuan per junior secondary student and 277 Yuan per senior secondary student [...] in Xi’an it was 28 Yuan for both junior and secondary student” (Dello-Iacovo, 2009).

<sup>14</sup> “Common translations currently used for *suzhi jiaoyu* are ‘competence education’, ‘quality education’, ‘essential qualities oriented education’, and ‘character education’” (Dello-Iacovo, 2009). These definitions demonstrate a shift of focus in education, from the student learning only by memorization and recitation to students developing their character through education.

<sup>15</sup> However, the daily compulsory education time for students aged 7 to 14 is relatively low, comprising a total of 5.279 hours compared to the OECD average of 6.497(OECD, 2011).

into four types, namely general, specialized, vocational, and crafts education. Regarding these four types, general education is experiencing an increase, while vocational a decreasing number of enrolments. What is missing in this overview is however the tertiary system and the offers of non-formal/lifelong learning, such as evening programs or self-study examinations. Particularly tertiary education has come under increasing reform pressure, which explains why the new national education reform plan for the years 2010 until 2020 focuses primarily on university education (Ministry of Education of the People's Republic of China, 2010).

In order to continue school education after junior secondary the student has to pass the High School Examination (Zhongkao), which assesses six subject areas, namely Chinese, mathematics, a foreign language, political education, physics, and chemistry (Lam, 2010) as well as physical education requirements. Following the guidelines established by the Ministry of Education (Ministry of Education of the People's Republic of China, 2012) local education departments can set up these tests accordingly. Senior secondary education also culminates with an examination, either with the Joint Graduation Exam (Huikao) or the High School Academic Proficiency Test (Xuéyè shuipíng césì). However, Huikao is expected to be stopped and be completely replaced with the Academic Proficiency Test. These test results are rarely made public or ranked according to school. Nevertheless, Chinese Universities usually have their own private and independent ranking of secondary schools, out of which they decide who gets admitted to their programs (Slethaug, 2010).

### **From China to Shanghai: Characteristics of Shanghai's Education System**

However, despite the same organizational structure of the educational system, Shanghai is evidently not a representative case for the whole of China. As emphasized above, regional disparities are great in China, and Shanghai's historical, cultural and political background makes it a special case. It will be exhibited on account of the city's historical background and of comparable numbers such as class size, or universality and quality of education.

Commonly, Shanghai is considered to be the most international city in China. After the opening of China's economy, Shanghai established itself as the frontrunner of economic, and later, education reforms (OECD, 2010c). Being exposed to globalization earlier and stronger than many other regions in China<sup>16</sup>, it underwent rapid and funda-

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<sup>16</sup> However, it should be noted that Shanghai was not included as one of the four special economic zones (Shantou, Shenzhen, Zhuhai, and Xiamen), which were granted special measures to economic policies (Yeung, Lee, & Kee, 2009).



mental urban restructuring – from the once ‘Paris of the East’ to a cosmopolitan city, such as New York or London. It has become the central trading hub and ultimately the financial center of China (Huang, 2009). Also, it draws parts of its character from a rich, primarily British, expats tradition (Farrer, 2010). This special status is also reflected in Shanghai’s educational achievements. Among them is its achievement as one of the first Chinese cities to provide universal education at primary and secondary (junior and senior) level. Next to the coverage of education, Shanghai has also attained an overall high quality of education. One of the reasons for this is that the city is host to experimental projects to boost the overall quality of education as well as to particularly improve low performing schools. Among the goals of these projects was the strengthening of weak schools, establishing the so-called neighborhood attendance, and developing projects aimed at helping migrant children.<sup>17</sup>

Shanghai’s history is not the only factor contributing to its great performance at the 2009 PISA study. As the director of the UNESCO office in Beijing Wang Peng notes “per student expenditure on junior middle schools is 18 times higher in Beijing and Shanghai than in the poorest provinces” (2010), which also contributes to the huge differences between Shanghai and some of the other regions in terms of class size and teacher-student-ratio. While the national norm is 50 students per class, it is up to 100 in the poorest regions (OECD, 2010c). Yet, being confronted with a declining population<sup>18</sup> and the still high number of teachers, it is highly likely that the average class size will decrease in the future. Shanghai’s average class size was 46 students per teacher in 2003 (Chan, Mok, & Anguo, 2004), so even below the national norm. The reduction of students per class has not only reduced the work load of teachers and gave them more time for individual students, but also made student activities during lessons possible that could not otherwise have been done in large classes.

Thus, the role of Shanghai’s teachers has seminally altered. Overall in China, but particularly in Shanghai, an increase of the social reputation of teachers and the introduction of new methods for their training were realized. Now, teachers may be observed during lessons by peers, new teachers, or the school principal, so that exemplary teach-

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<sup>17</sup> The term “migrant children” refers to the children of workers that moved from rural to urban areas. Due to the huge migration flows, the integration of these children is a huge problem for many of China’s cities.

<sup>18</sup> In 1979 China introduced the so-called “One Child Policy” in order to reduce the growth of the population. An increase of the average age in the population, decrease of the fertility rate (about 1.7 children born per woman) as well as of the ratio of boys and girls in favor of boys resulted out of this policy (Hesketh, Lu, & Wei Xing, 2005). Moreover, the “One Child Policy” is expected to lead to a reduction of the work force starting in 2015 (Hao, 2012) and an increase of the average age of the working population. Considering China’s economic growth, linked with the demand for highly skilled workers, and the reduction of the working population in the foreseeable future, China’s educational system is required to increase its performance.

ers may function as role models and exchange their teaching experience with others or are otherwise given feedback on their teaching techniques. One of those successful techniques is the so-called “success education” (OECD, 2010c), which aims at improving particularly low-performing students to improve their abilities by boosting their confidence.

### **3 PISA IN SHANGHAI**

The PISA results of 2009 reflect the general success education reforms had in China and particularly in Shanghai (see table 1). With its first participation at PISA, Shanghai managed to surprise experts and outperformed international competitors in every category. As noted earlier, these results triggered shocking reactions from outside of China. Among them was US Secretary of Education Arne Duncan, who described Shanghai’s performance as “wake-up call” for the traditionally weak performing US education system.

*Table 1: PISA Results 2009 (OECD, 2010c)*

<b>PISA 2009</b>	<b>Reading Literacy</b>	<b>Mathematics</b>	<b>Science</b>
China (Ranking 1 <sup>st</sup> )	556	600	575
USA	500	487	502
OECD Average	493	496	501

The PISA results unveiled a variety of reasons why Shanghai’s education system performed so well. For instance, principals in Shanghai’s schools enjoy greater autonomy, greater decision-making responsibility and more freedom in deciding on budget allocations within the school, than in many other countries (OECD, 2010b).<sup>19</sup> PISA revealed that schools with a higher degree of accountability to students, parents, and the public at large perform better than those with a higher degree of autonomy over resource allocation. In many aspects, Shanghai can be considered a typical case and well in line with findings of well performing nations, such as Finland and Korea. A characteristic of over-performance in PISA is the low level of discrepancy between low and high performing students. As the OECD notes “among the high-performing countries and economies, Shanghai-China, Korea, Finland, Hong Kong-China and Canada all show gentle slopes of the socio-economic gradients, suggesting that even large differences in the socioeconomic backgrounds of students are, on average, not associated with large performance differences among students” (OECD, 2010b).

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<sup>19</sup> The range between the top and lower quarter is considerably high here, which is however not surprising, given for instance the strategies Shanghai devised to strengthen weak schools.

Given the overall positive findings of PISA, we will now turn to assessing the reasons for introducing PISA in Shanghai. This assessment will not only include the reasoning for introducing PISA, but also the reaction to Shanghai's strong performance. As we will see, despite the good numbers, there was strong criticism voiced towards China's education system from various groups within China.

## **Methods of Data Analysis**

In this study, we draw on discourse and rhetorical analysis in order to explain how local government actors used PISA to legitimate pre-existing education reform policy and justify their leadership in future reform. Researchers regard the debate around PISA as a discursive space where competing social groups articulate and disseminate their versions of truth (Takayama, 2010). Indeed, discourse analysis allows us to ask “why, at a given time [...] only certain things were said” (Ball, 1990). It focuses on the “intersection among language, meanings, power and the construction of the truth” (Takayama, 2010: 56). Moreover, researchers use rhetorical analysis of texts to examine how actors use their language to create credibility, convince others to accept their argumentations, and elicit the desired actions (Perelman, 1982; Rautalin & Alasuutari, 2009). Media coverage and official documents regarding PISA provide us with the opportunity to examine how discourse is involved in creating and legitimating social structures (Stack, 2006).

We used the Google and Baidu search engines to locate Chinese-language writings on Shanghai's participation in the PISA study and on the interpretation of the 2009 results. On December 7, 2010, the OECD released the 2009 results. The next day the Shanghai Municipal Education Commission (SMEC) debriefed Shanghai's results. These results aroused considerable reactions from diverse social groups. Their comments (compliments, critiques, and skeptical remarks) continued for several months, and gradually calmed down in March 2011. Accordingly, we collected these comments that were published from December 2010 through March 2011. We found that major reports were listed in the website of Shanghai Academy of Education Sciences.<sup>20</sup> This pool has 56 titles in total, including domestic reports and translations of some international press releases. We only included the domestic and Chinese-language reports in the analysis, with a total of 33 documents. We also checked other sources and found out that although this list was provided by the official website, the collection also included the titles of reports, containing different voices and opinions published in newspapers. Since this list mainly includes news reports, interviews, and commentaries, we also searched

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<sup>20</sup> Shanghai PISA 2009 results: Media report. <http://www.cnsaes.org/homepage/html/SHPISA/SHPISANews/5699.html>

and collected other official reports and presentations regarding the 2009 Shanghai PISA test. In total, 42 documents are included in our analysis.

In our study, we focused on the tactic augmentations of local education authorities and described the different voices and opinions from other social groups to contrast with the argumentation of the political actors. This is similar to a case study by Rautalin and Alasuutari (2009), who demonstrate how Finnish officials in the central government defend their initial interests by imposing their interpretations on the PISA results, and how that framing transforms the views of both themselves and other actors. In responding to Shanghai's PISA results, different social groups were involved in discussion and debate. We coded data and conducted discourse and rhetorical analysis via Atlas.ti – a qualitative data analysis software. In our analysis, we first identified how the Shanghai education department and the PISA team used rhetorical strategies to rationalize their participation in the PISA program and to enhance the credibility of the 2009 results. We then constantly compared the contrasting views of different social groups in interpreting and reflecting on the results. Based on their arguments and reasoning for PISA results, we categorized two groups of actors: Group A actors, which include the local education authorities, the Shanghai PISA team and journalists affiliated to government agencies; Group B actors include independent educators and overseas researchers. Both groups display distinctive argumentations.

### **The Introduction of PISA: Problematization and Rationalization**

China's educational system has been criticized for its examination-oriented culture that drives memorizing facts rather than focusing on knowledge-based learning and developing students' real-life skills. This becomes even more critical considering that the nation strives to prepare the students for the increasing global competition. As the most internationalized city in China, Shanghai has always been sensitive to global tides. Confronting the increasing global competition of the 21<sup>st</sup> century, Shanghai has been seeking to build “first class education” in order to achieve its goal of being a “first-class metropolis” (Ngok & Chan David, 2004). As elaborated, since 1978, Shanghai has constantly been standing at the forefront of China's socioeconomic reform. Here, the local government faced the pressure to move away from exam-based forms of assessment to quality-based assessment of learning (Shi & Neubauer, 2009). Moreover, preparing “human capital” for the global competition is another major task the SMEC faces. PISA, representing these ideals, offered an opportunity for the Shanghai local government to seek solutions to deal with these two challenges.

As Bohl (2004) argues, incorporating new international standards (e.g., PISA) is not easy given the tradition of general didactics. According to the government actors' narration, two major steps and elements were employed to legitimize the entrance to the

PISA project. The first step is problematization. When explaining the reasons why Shanghai participated in PISA, officials from the SMEC and members from the PISA team came to expose the problems of China's current education system. They emphasized the increasing global challenges and expressed dissatisfaction with existent assessment tools, which are based on ideological grounds. This is confirmed by Mingyang Xue, the director of the SMEC, when he discussed the challenges confronting Shanghai:

*During the time when Shanghai takes the lead in reform, we face new challenges: the balanced development of equity and quality; the demands for reforming the educational goals, content, and method posed by times, etc...The party, government and people entitle us with greater responsibility for reform and development...This is the background for propelling the reform, of course it is also the background for launching the PISA program.<sup>21</sup>*

The second step is rationalization, which is “legitimizing by reference to the utility or function of specific actions or practices” (Vaara, Tienari, & Laurila, 2006). In our context, the rationalization focuses on the purpose and benefits of introducing the PISA project. Testing Shanghai's education reform has been first framed as a primary rationale for introducing the PISA project. In March 2006, Jun Qu, a deputy of SMEC addressed this in a meeting, hoping to collect international experience in educational assessment and apply it on testing the effects of Shanghai's education reform, thus helping to assess whether the “basic education in Shanghai was good or bad”.<sup>22</sup>

Adopting international standards and developing a new assessment system is argued as another rationale. The lack of an effective assessment system and accountability system has been blamed for the persistence of exam-oriented education (Zhong, 2006). The local education authority realized the necessity of “educational borrowing and lending” (Steiner-Khamsi, 2004) and introduced international education standards to break away from the obstacles of traditional assessment, measure reform results, and establish new guiding principles for the administration of education (Ertl, 2006). Mingxuan Zhang, the deputy of SMEC, acting as the director of the Shanghai PISA team, framed it as “checking our education via international perspective”, and explained that through “par-

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<sup>21</sup> Fu, Lujian and Zuyun Shen. 傅禄建, 沈祖芸. (2010. December). *PISA 2009: The Quality of Shanghai Compulsory Education in A Global Perspective*. PISA 2009: 国际视野中的上海义务教育质量. Shanghai Education. 上海教育. Pp.22-23, 12B.

<sup>22</sup> Chen, Xiao and Luo Yangjia. 陈晓, 罗阳佳. (2010. December). *A Practice from Ideas to Actions: A Documentary on the Implementation of Shanghai PISA Program*. 一次理念到行为的历练—上海实施 PISA 项目研究纪实. Shanghai Education. 上海教育. Pp.19-21, 12B.

ticipating in the assessment, we could know our distance from advanced world levels, discover shortages in our education policies, and then boost reform”.<sup>23</sup>

The third rationale is strongly policy orientated. In the featured report devoted to explain Shanghai’s participation in the PISA project and to interpret the results, journalists interviewed the PISA team members and reported this policy direction as follows:

*Almost all members who have experienced PISA have a common feeling, that is to probe into world leading concepts and practices through this PISA program...Combining Shanghai’s actual conditions, we could establish our own scientific monitoring system of education quality, as an empirical study to improve the education policy and advance the scientific decision making.*<sup>24</sup>

### **Legitimizing the Test Results: Differentiation and Authorization**

The top scores of Shanghai’s students at the PISA 2009 test not only stunned the world, but also China itself; however, skeptics immediately appeared one after another. For instance, two strands of skepticism arose from the discourse concerning the PISA project and results. First, is the PISA test different from other present tests? Second, how reliable are the test results? Bingqi Xiong, a well-known Chinese educator and the associate dean of an education research institution (a Non-Governmental Organization) criticized that from the form and content, the PISA project still focuses on testing the basic knowledge and learning ability. The results are therefore not surprising, because only the strengths of Chinese students were tested. These results unfortunately represent the “achievement of China’s knowledge-based education”.<sup>25</sup> Faced with this ironic criticism, Mingxuan Zhang claimed that, “People are not familiar with PISA; many people have a misunderstanding of it.”<sup>26</sup> Jing Lu, who studied PISA and later became the secretary of the Shanghai PISA team, differentiated PISA from the traditional test system:

*The conception of PISA is not to test what the students have learned, but instead what practical problems they can solve based on their knowledge and*

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<sup>23</sup> Luo, Yanjia. 罗阳佳.(2010, December). *First Test in PISA: What Dose PISA Can Bring to Us?* 首测 PISA—PISA 带给我们什么? Shanghai Education. 上海教育. Pp.19-21, 12B.

<sup>24</sup> Ibid.

<sup>25</sup> People’s Daily. 人民日报. (2010, December 20). *Using International Standards to Examine Chinese Education.* 国际标准“体检”中国教育. Section 12.

<sup>26</sup> Lu, Jing and Xiaohu Lu. 陆璟, 朱小虎. (2011, January). How to View 2009 Shanghai PISA Result? The Review of the Reflection on Shanghai Middle School Students’ First Participation in International Test. 如何看待上海 2009 年 PISA 测评结果—中国上海中学生首次参加国际测评结果反响述评. Shanghai Research on Education. 上海教育科研. Pp.17-19.

*skills...PISA examines the whole education system of one country or one region, some aspects are not covered by school curriculum.*<sup>27</sup>

Mingsheng Zhang, the chairman of the Shanghai Education Association also contested the argument that PISA tests students' knowledge level and insisted that, "it instead tests the ability of meeting future challenges; therefore, it is a forward-looking assessment tool".<sup>28</sup> To respond to the criticism that Shanghai's performance at PISA "reflects the test-taking skills", Jing Lu stated, "the questions bear the characteristics of openness and cultural diversity;"<sup>29</sup> "it has gone through four processes of review and modification;"<sup>30</sup> "in order to correctly answer PISA questions, students just need to comprehend the basic concepts, flexibly apply the knowledge and ability. There is no need for special preparation. [...] It evaluates whether the students could apply their knowledge and skills in solving practical problems".<sup>31</sup>

How reliable are the 2009 PISA Shanghai results? This suspicion aroused out of both domestic and international voices, questioning the representativeness of the sample: Did Shanghai choose the best schools or best students to test? In many occasions, the Shanghai PISA team members tried to explain the distinctiveness of the PISA project from China's present test system and further justified the accountability of PISA; two key members (Jing Lu, Xiaohu Zhu) wrote a specific report to respond to suspects and critics. They treated the suspicion of the unscientific sampling as a deep-rooted stereotype towards China and Shanghai and started by explaining sampling procedure at length to demonstrate their scientific attitude and the reliability of the result: the sampling of schools has been conducted by the research corporation Westat, followed by the secretariat of the Shanghai PISA team randomly sampling 35 students from every se-

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<sup>27</sup> Chen, Xiao and Luo Yangjia. 陈骁, 罗阳佳. (2010. December). *A Practice from Ideas to Actions: A Documentary on the Implementation of Shanghai PISA Program*. 一次理念到行为的历练—上海实施 PISA 项目研究纪实. Shanghai Education. 上海教育. Pp.19-21, 12B

<sup>28</sup> Su, Jun. 苏军. What Does No.1 Mean? (2010, December 19). *An Interpretation of Shanghai 2009 PISA Result*. "第一名"含金量有多高—上海 2009 年国际学生评估项目 (PISA) 结果解读. Wenhui Daily. 文汇报. Section 19 D.

<sup>29</sup> Ibid.

<sup>30</sup> Lu, Jing. 陆璟. (2011, February 18). *The Primary Thing is the Balanced Development of Education*. 第一的关键是教育均衡. China Education Newspaper. 中国教育报. Section 3.

<sup>31</sup> Su, Jun. 苏军. What Does No.1 Mean? (2010, December 19). *An Interpretation of Shanghai 2009 PISA Result*. "第一名"含金量有多高—上海 2009 年国际学生评估项目 (PISA) 结果解读. Wenhui Daily. 文汇报. Section 19 D.

lected school by using the Keyquest software.<sup>32</sup> The skepticism regarding the sampling procedure expressed by The New York Times was taken more seriously.<sup>33</sup> The PISA team asked skeptics to directly interview Keith from Westat, questioning him in regards to the sampling procedure. His answer confirmed that the “Shanghai sample not only meets the sampling requirements, but actually exceeds the PISA technical standards required from OECD”.<sup>34</sup>

The evidence-based feature of PISA in this context was played in its favor. Local education authorities and the PISA team shaped a discourse based on this feature. This framing became an explanatory system, self-sufficient and obviating the skepticism posed by public critics (Mons & Pons, 2009).

### **Reasoning for Shanghai’s Top Test Scores in PISA 2009**

After justifying the accountability and reliability of the PISA 2009 results, local authorities and Shanghai PISA team members stressed that the PISA results represent the outcome of Shanghai’s successful education reforms. This reasoning was framed, reproduced, and disseminated through various channels such as conferences, journals and newspapers, which are part of the government agency. It made its first appearance one week after the OECD announced the results on December 7, 2009. In an interview, Mingyang Xue said:

*Compared to the result for being number 1, what made me more excited is that, it demonstrates that Shanghai has gained certain achievements in quality-oriented education; the direction of Shanghai curriculum reform is correct.*<sup>35</sup>

Although confronted by questions and criticism, Mingyang Xue expressed that he was not only excited about the high test scores, but also over the small discrepancy between high and low performing students, as well as the high degree of balance among districts

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<sup>32</sup> Lu, Jing and Xiaohu Lu. 陆璟, 朱小虎. (2011, January). How to View 2009 Shanghai PISA Result? The Review of the Reflection on Shanghai Middle School Students’ First Participation in the International Test. 如何看待上海 2009 年 PISA 测评结果—中国上海中学生首次参加国际测评结果反响述评. Shanghai Research on Education. 上海教育科研. Pp.17-19.

<sup>33</sup> New York Time journalists suspected that Shanghai chose the best students to participate in the PISA test.

<sup>34</sup> Lu, Jing and Xiaohu Lu. 陆璟, 朱小虎. (2011, January). How to View 2009 Shanghai PISA Result? The Review of the Reflection on Shanghai Middle School Students’ First Participation in the International Test. 如何看待上海 2009 年 PISA 测评结果—中国上海中学生首次参加国际测评结果反响述评. Shanghai Research on Education. 上海教育科研. Pp.17-19.

<sup>35</sup> Xue, Mingyang. 薛明扬. (2011, February 18). *It Is the Government’s Obligatory to Promote the Balanced Development of Compulsory Education*. 促进义务教育均衡发展是不容推卸的政府责任. China Education Newspaper. 中国教育报. Front page.



and schools. Thus, the PISA results showed that Shanghai's ongoing 20-year reforms have been successful and have addressed the challenges posed by time and social development.

*What is really exciting is not about the test score itself, but the conclusion. [...] In the last 20 years, in order to meet the demands of time and social development, Shanghai has been continuously promoting education reforms and improving education quality, sticking to the leadership of government, promoting the balanced development of compulsory education....The PISA test result demonstrates that our long-term endeavor is undoubtedly fruitful.<sup>36</sup>*

The local education authority, the Shanghai PISA team, and some local researchers and journalists affiliated with government agencies (Group A actors) sought to explain and confirm that the outstanding results were mainly due to education reforms carried out under the government's leadership. This concentration on regulative reforms was elaborated in various sources - interviews and featured reports published in newspapers, education journals, and in official documents (e.g., official reports, PowerPoint presentations). These documents analyzed the key explanatory factors for the outstanding results, narrated them in great detail, and disseminated repeatedly. We summarize them in table 2. These explanatory factors have not always been present together in the same discourse, but each contributes in its own way to praise the Shanghai education reforms.

In recent years, China has joined the international community to overcome the disparity and inequality present in educational systems (OECD, 2010c). The OECD's PISA program creates the pressure for participating countries to implement reforms to improve the quality, efficiency, and equality of their education systems (Pons, 2011). China's central government also prioritized the principles of quality and equality in education policy design (Lo, 1999). In various sources of documents, stress lays on the balanced development of quality and equality which reflects local actors' response to the state and global pressures to raise and balance education quality and equality. By attributing the outstanding performance of the PISA study to its successful implementation of state education policy and the international consensus, local political actors confirmed and legitimated their pre-existing policy stance and policy innovation as well as reaffirmed the role of government in regulating and planning for future reforms.

Local political actors also occasionally mentioned cultural aspects as the factors leading to the high test scores.<sup>37</sup> As seen in section 2, the Chinese culture has been widely

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<sup>36</sup> Ibid.

<sup>37</sup> Fu, Lujian and Zuyun Shen. 傅禄建, 沈祖芸. (2010. December). *PISA 2009: The Quality of Shanghai Compulsory Education in A Global Perspective*. PISA 2009: 国际视野中的上海义务教育质量. Shanghai Education. 上海教育. Pp.22-23, 12B.

recognized as an important factor influencing learning and school achievement – for example, high expectation from social groups (e.g., teachers, parents, and relatives) of student’s performance, meriting hard working and diligence, valuing examination results. These characteristics were framed by Group A actors as complementary factors to the outstanding test results. However, these merits are strongly subject to criticism – some state that only due to the negative effects of the current Chinese educational system (i.e., exam-oriented education) students were able to achieve these excellent results.

*Table 2: Framing the successful education reform: Balancing equality and quality (own account)*

<b>Reform Projects</b>	<b>Major Activities</b>	<b>Actors</b>
Renovation of School Buildings	250 primary and secondary schools were renovated	Government
Update Weak Schools Program	Reallocate education resources: finance, infrastructure, faculty	Government
Commissioned Administration	By purchasing service, the government appointed quality schools to administer other schools in teams with agreements	Municipal Education Commission, District Government, Leading School Headmasters
Pairing off Schools	Unify the deployment of teachers from both kinds of schools and unify the implementation of curriculum and examinations to guarantee new schools start at a high level	Government, Municipal Education Commission
Straightening Suburban Education	During the “10 <sup>th</sup> five” period, Shanghai invested 7.4 billion RMB to complete the construction of 566 educational infrastructural programs in suburban districts	Government
Status of Nonimmigrant Student is Abandoned	Students of migrant workers receive free compulsory education, teacher training program	Government, Public Schools, Private School Delegated by the Government, Headmasters and Teachers
100% effort for 0.1% of special students	Special education system to cover disabled students	Government, Local Community

The PISA results have led to strong reactions from independent researchers and overseas professors (Group B). When one compares, as in table 3, the reasoning for Shanghai’s success in the PISA test, clear distinctions can be seen between Group A and Group B actors. Group B actors mainly perceived the outstanding results as the consequence of the exam-oriented education. Haiyan Hua, an overseas Chinese professor from Harvard University commented that, “the whole system in China is elite education.[...] China emphasizes on examination, scores of college entrance examination are very important, and students from this elite education can easily get good results from

this PISA test.”<sup>38</sup> Although the appeal for quality-oriented education started in the early 1990s, the effect of its practical implementation still remains skeptically perceived by the public. These educators and professors stated that the Chinese educational system is good at preparing students for standardized test; therefore, the results are not that surprising. Bingqi Xiong commented that the PISA results represent the “achievement of China’s knowledge-based education”.<sup>39</sup>

Group B actors suggested Chinese social culture as another important factor leading to high test performance of students. They argued that Chinese students face various pressures from schools, parents, and society; therefore, they take the test more seriously than their counterparts in other non-Asian countries. Although Group A actors realized that primary school students have a heavy daily workload, they did not explicitly treat it as a factor leading to the good result. In contrast, Group B actors referred to this point very often and pointed out that the high score of primary school students is achieved at the cost of heavy workload, low social skills, and insufficient development of creativity.<sup>40</sup>

Two distinct arguments clearly emerge from the source materials. Although both groups reasoned that the education policy and implementation are the important factors contributing to Shanghai’s outstanding result, the stances are distinctive: Group A actors stressed the positive effect of reform and underlined the innovative practices of local education authority; Group B actors looked at the negative sides and underscored the persistence of China’s exam-oriented education system.

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<sup>38</sup> Li, Dajiu. 李大玖. (2010, December 16). *How to View Shanghai Students’ First Rank in PISA Test? Advices from Chinese American Educators for China’s education.* 如何看待上海学生 PISA 测评全球第一? — 美国华裔教育学家为中国教育建言. 参考消息. Reference News. Section 9.

<sup>39</sup> People’s Daily. 人民日报. (2010, December 20). *Using International Standards to Examine Chinese Education.* 国际标准“体检”中国教育. Section 12.

<sup>40</sup> Xie, Xiang. 谢湘. (2010, March 4). *What Does Shanghai PISA Test Tell Us? The Balanced Development of Education Is Not Impossible.* PISA 测试上海夺冠回答了什么—教育均衡并非可望不可. 中国青年报. China Youth Daily. Section 8. Xiong, Bingqi. 熊丙奇. (2010, December 9). *Being World No.1 in Students’ Knowledge Accomplishment Test Is Not Something to Be Proud of.* 学生知识素养世界第一未必值得骄傲. Oriental Morning Post. 东方早报. Section 22. Li, Dajiu. 李大玖. (2010, December 16). *How to View Shanghai Students’ First Rank in PISA Test? Advices from Chinese American Educators for China’s education.* 如何看待上海学生 PISA 测评全球第一? — 美国华裔教育学家为中国教育建言. 参考消息. Reference News. Section 9.

Table 3: The discrepancy of reasoning of being No.1 (own account)

<b>Reasoning</b>	<b>Group A</b> Local Authority, PISA Team Members, Local Educators and Researchers	<b>Group B</b> Independent Educations, Overseas Chinese Professors
<b>Successful Reform Policy</b> Curriculum Reform Balance Quality and Equality Teacher in-service Training Aid	<b>Dominant</b>	Seldom
<b>Social Cultural Norms</b> Diligence and Hard-Work High Social Expectations on Education	Fair	Often
<b>Developed City and Good Students</b>	Seldom	Fair
<b>Exam-Oriented Education</b> Good at test Heavy Burden Simplification	No	<b>Dominant</b>

## Reflection and Looking into the Future

Generally, the local officials and PISA team members held a very positive view of the PISA results as they reflect Shanghai’s successful education reform; however, they also emphasized the importance of calming down and reflecting on the problems. On December 8, after the PISA 2009 results had just been released, Mingxuan Zhang addressed the press, stating that “Shanghai does not represent China; we need to view the results rationally. Don’t be overjoyed by this little achievement. Don’t feel hopeless because of some weakness”.<sup>41</sup> Other actors also repeated this attitude on different occasions and stressed the importance of treating Shanghai’s high PISA scores in a cool-headed, objective manner. As Mingxuan Zhang stated, the PISA results “give us a lot of confidence and self-reflection.” Here, “confidence” lies in the persistence of Shanghai’s education reforms, “self-reflection” lies in realizing the problems and learning new ideas and method from design and practice of global assessment.<sup>42</sup>

In responding to critiques raised in domestic and international discourse, local authority and the PISA team emphasized that the PISA results should be interpreted with caution. First, Shanghai’s outstanding performance in the PISA 2009 test does not represent that of China. The following two excerpts are examples of this caution.

<sup>41</sup> Luo, Yanjia. 罗阳佳.(2010, December). *First Test in PISA: What Dose PISA Can Bring to Us?* 首测 PISA—PISA 带给我们什么? Shanghai Education. 上海教育. Pp.19-21, 12B.

<sup>42</sup> Shen, Zuyun. 沈祖芸. (2011, February 18). *Pursuing Equality and Excellence from Global View.* 追求全球视野中的公平卓越. China Education Newspaper. 中国教育报. Section 3.

After all, Shanghai is just a city, it doesn't represent whole China. The majority of other participants are countries. If you chose the best city to compare, probably Shanghai won't have such performance. (Mingyan Xue)<sup>43</sup>

*As a developed city with relative high education level, the Shanghai results are far from representing the overall level of China's education development because of the wide regional differences. (Mingxuan Zhang)<sup>44</sup>*

Shanghai's PISA results, therefore, were only linked to Shanghai itself, not to China as a whole. From officials' perspective, critiques of the results come from Group B's observations of China's current exam-oriented education system and draws from this to infer to Shanghai's condition. This, of course, is not acceptable for the local authority. Reminding the public of the better economic development and infrastructure, highlighting the wide gap between Shanghai and other regions, local officials tried to obviate the critics that used China's overall educational characteristics to attack Shanghai's education system.

Second, Shanghai's performance does not indicate that the quality of other countries' educational systems is not good. This caution mainly targeted the critiques and suspicions coming from international educators, commentators, and overseas professors that compared Shanghai's and Western (e.g. USA) students as well as China's and Western education systems. To them, it is surprising that Shanghai outperformed its counterparts in the PISA study, considering the disadvantages of China's exam-oriented education and advantages of US educational system. Indeed, this circumstance stimulated strong discussions and skepticism in the international media. For example, it was claimed that the US falling behind China in secondary education, was a sign that the Shanghai PISA results were questionable, because it concentrated on good students in Shanghai.<sup>45</sup> It indeed appears ironic that Shanghai outperformed its counterparts from whose experience the Shanghai local education authority declared to learn advanced ideas. In order to intercept these claims, Group A actors emphasized that the education systems of other countries have their own advantages. Through this framing, they showed a modest attitude, recognized the value of other education systems, and reconfirmed the stance of learning from international experience and promoting education reform.

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<sup>43</sup> Fu, Lujian and Zuyun Shen. 傅禄建, 沈祖芸. (2010. December). *PISA 2009: The Quality of Shanghai Compulsory Education in A Global Perspective*. PISA 2009: 国际视野中的上海义务教育质量. Shanghai Education. 上海教育. Pp.22-23, 12B.

<sup>44</sup> People's Daily. 人民日报. (2010, December 20). *Using International Standards to Examine Chinese Education*. 国际标准“体检”中国教育. Section 12.

<sup>45</sup> Dillon, Sam. (2010. December 7). Top Test Scores From Shanghai Stun Educators. The New York Times. <http://www.nytimes.com/2010/12/07/education/07education.html?pagewanted=all>

Third, certain problems and deficiencies need to be noted and improved in the future. One major problem noticed by Group A actors is the heavy workload of students, which was argued by Group B to be the important reason for the high school performance. Although the local education authority downplayed this factor, they pointed out the need to reduce the workload.<sup>46</sup> The second problem lies in the gender difference of test performance. In the reading test, the average score of girls is 48 points higher than boys. Mingyang Zhang noted that this result “reminds us to further study the cognitive and psychological differences between boys and girls. It is very useful for reform policy-making.”<sup>47</sup> The third problem is directed at a more technical aspect - Shanghai’s student performances at non-continuous texts reading are much lower than those on continuous texts reading<sup>48</sup>.

Pointing out the problems and deficiencies could enhance the credibility. However, framing these aspects involves selection and salience - selecting “some aspects of perceived reality” to enhance their salience and “promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation” (Entman, 1993). Local officials framed these problems in a very neutral, less political but more technical manner, and focused on the test itself, rather than relating them to problems in the education system.

Looking into the future, Group A actors highlighted the importance of “deepening the reform” and working on solving the problems.

*The idea of the outline of Shanghai’s education reform and development is “For Every Student’s Lifelong Development”. PISA has evaluated whether the students who received primary education could master problem-solving and lifelong learning skills to meet the challenges of future social changes. These two are very consistent. It proves that our goal converges with the trends of world education reform. What’s more, the goal and the trend could be implemented at the technical level.... We need more programs like PISA to explore and practice.”<sup>49</sup>*

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<sup>46</sup> The Outline of China’s National Plan for Medium and Long-term Education Reform (2010-2020) observes that “heavy schoolwork is harmful to the mental and physical well-being of youngsters and children” and that “governments at all levels shall regard reducing heavy school work burdens as a major task for education work“ (Ministry of Education of the People’s Republic of China, 2010).

<sup>47</sup> Fu, Lujian and Zuyun Shen. 傅禄建, 沈祖芸. (2010. December). *PISA 2009: The Quality of Shanghai Compulsory Education in A Global Perspective*. PISA 2009: 国际视野中的上海义务教育质量. Shanghai Education. 上海教育. Pp.22-23, 12B.

<sup>48</sup> Ibid.

<sup>49</sup> Ibid.

For Group A actors, PISA 2009 has evaluated more than two decades of Shanghai’s education reform efforts. The local education authority and PISA team used their framings to make it difficult and unjustifiable for the public to use the results to overhaul the education reforms attempts made by the government. Through the interviews, talks, and written reports, the local education authorities and PISA team developed and enhanced the legitimacy of PISA as the instrument to deepen the education reform.

*Table 4: The discrepancy of reflection on the test results (own account)*

	<b>Group A</b>	<b>Group B</b>
	Local Authority, PISA Team Members, Local Educators and Researchers	Independent Educations, Overseas Chinese Professors
<b>Major attitude</b>	Delighted, but keep a rational view	Worried
<b>Warnings</b>	PISA results represent Shanghai’s education level, but it does not represent China; Education in other countries (e.g. USA) is not bad; We need to acknowledge the problems	PISA results do not represent China, it even does not reflect Shanghai’s education; It reflects the failure of China’s education
<b>Reflecting on the problems</b>	High costs for top results, e.g. heavy workload; Gender difference in test performance; Low performance on reading non-continuous texts	Simplification of education, passive learning, no creativity; High costs for top results, e.g. heavy workload; Need to consider psychological health
<b>Looking into the future</b>	Deepen the reform, value every student	Paradox of China’s education

Compared to the reactions of Group A, Group B actors demonstrated a more negative attitude towards the test results. Table 4 illustrates the different views of these two groups when reflecting on the problems. Group B actors did not praise the accomplishments, but were generally worried about China’s education system. They even warned that the outstanding result represents the failure of China’s education. There is no doubt that the Shanghai results do not represent China as a whole, they even expressed that “these [PISA results] do not represent Shanghai”. Reflecting on the problems, Group B showed more sympathy for students who bear the daily heavy workload and face the pressure to achieve academic success, at the cost of sacrificing social life and mental health. These problems are a direct result of China’s current educational system that simplifies education, lacks developing student’s individuality and creativity. They pointed out that China’s current educational system is in a state of paradox: on one hand, the whole nation puts a lot of emphasis on developing student’s creativity and all-round development; on the other hand, students still suffer from tremendous examina-

tion pressure. Thus, for Group B actors, the education reforms are far from successful and the PISA test scores do not indicate that China outperformed other nations in education quality.<sup>50</sup>

#### **4 DISCUSSION AND CONCLUSION**

In this paper we analyzed how the Shanghai local education authority justified the introduction of the PISA program and how they used test results to legitimize the education reform stance. The analysis shows that local government actors used the PISA as an external assessment tool to impact policymaking and education reform. This result is consistent with other studies that also find that education authorities used the PISA results to justify reform stances (Gür, Çelik, & Özoğlu, 2011). Our case shows that this justification was held in silence until the test results had been released. The outstanding PISA results are framed to be the consequences of education reforms initiated and led by the Shanghai local government and the Municipal Education Commission, whereas the problems and deficiencies are related to the test itself, not to the education system. In contrast, independent educators and overseas Chinese professors expressed more concerns about China's education and they pointed out more problems inherent in the current education system. The argumentations may be more or less convincing in the eyes of the audience, but the framing lies in the realm of politics (Rautalin & Alasuutari, 2009). Through their framing, the local education authority legitimated its pre-existing reform decisions and reconfirmed their reform agenda.

Extant literature has devoted much attention to study the impact of globalization and the diffusion of international standards of education policy and practice. Recent studies have begun to pay more attention to the diffusion at the national level and explored how actors at the national level emulate the standards to increase their decision legitimacy (Tews, Busch, & Jorgens, 2003; Rautalin & Alasuutari, 2009; Bieber & Martens, 2011). China's case is different from the existing framework, since education reforms in China have led to centralization, decentralization, and recentralization (Hawkins, 2000; Hawkins, 2006). In the PISA case, actors from Shanghai's local education authority play very important roles in initiating the PISA project and responding to the results. Our case study offers a vivid example by demonstrating how the local education authority used PISA to legitimize the pre-existing policy stance and confirm its position to deepen the education reform.

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<sup>50</sup> Li, Dajiu. 李大玖. (2010, December 16). *How to View Shanghai Students' First Rank in PISA Test? Advices from Chinese American Educators for China's education.* 如何看待上海学生 PISA 测评全球第一? — 美国华裔教育学家为中国教育建言. 参考消息. Reference News. Section 9.



There are some limitations in our study. For example, we only included published views and comments in our analysis, which may limit our scope and neglect some viewpoints that were filtered and did not go public. The views and voices from other social groups such as students, parents, and teachers were not well-documented and represented in the media; therefore we could not include these important actors in our analysis. Future study could use interviews with these actors to collect more data and show a richer picture of the PISA discourse.

To conclude, our analysis of the reasoning surrounding the PISA results reveals that there is a profound discrepancy between local political actors and stakeholders on the one hand and independent researchers and overseas professors on the other. The discourse centering on the PISA 2009 results has reshaped the education discourse in China. The case of China is particularly interesting for education discourse analysis, because the pre-PISA discourse had been characterized by the criticism of the exam-oriented education and the skepticism of the effectiveness of the education reform; furthermore, there were no public discussions about the PISA study - even the officials from the education department did not talk about its decision of participation. The successful performance could be a blessing in the sense that the local education authority legitimated the pre-existing reform policies and its position in leading the future reforms. The post-PISA discourse is supposed to bring about a new consensus regarding the need to deepen reform (Ertl, 2006). It has created high expectations for the consistently strong performance of Shanghai students and high pressure for local government to maintain the leading position in the PISA test in the future, which was adopted as the barometer for the effectiveness of the continuing education reform (Rautalin & Alasuu-tari, 2009).

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