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REGULAR ARTICLE

The Education System in Shanghai: Negotiating the Nature of Education

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Abstract Shanghai has attracted widespread attention with the impressive performance of its students in the OECD PISA. Increasing efforts have been made to study Shanghai's education system, particularly the reasons for its success and the implications of Shanghai's system for other societies. This study analyses three natures of the education system in Shanghai: selection, justice and independence. Against the backdrop of Chinese social change, Shanghai's reforms in the post-Mao era are analysed, and the special features of its education system compared with those in other regions of China are discussed. An analysis of the three natures of education suggests that they are intrinsically intertwined in Shanghai's restructuring of the schooling system to cater to socioeconomic development, but how to realise justice through education remains at the core of the educational changes that are continuously negotiated between different stakeholders in the education field.

Keywords Shanghai · Education system · Justice · Selection · Autonomy

Introduction

Shanghai, as the largest metropolis and economic centre in China, plays a leading role in the modernisation process of the national economy and in social transformation. In 2009, Shanghai's gross domestic product (GDP) surpassed Hong Kong, and its economic size has been the largest among all cities of Greater China[1]. In the domain of education, the outstanding performance of Shanghai in the Organisation for Economic Cooperation and Development's (OECD) Programme for International Student Assessment (PISA 2009) has gained widespread domestic and international attention, and Shanghai's schooling system is used as a reference system both domestically and internationally (Sellar and Lingard 2013a; Zhang and Kong 2012).

Some efforts have been made to study Shanghai's education system, including a systematic analysis of the reasons for Shanghai's educational achievement in the PISA (Cheng 2011; Tan 2011, 2012, 2013; Zhang and Kong 2012): how Shanghai's performance is imposing an influence upon other nations in the global field of educational policy (Sellar and Lingard 2013a; Tucker 2011) and China's internal voices from educational researchers, local education authorities and media regarding Shanghai's success in the PISA (Zhang and Akbik 2012). Traditional cultural values and the global economic system were widely regarded as important forces shaping Shanghai's schooling system (Carney 2009). Yet, other scholars such as Bai (2010) argued that China's education system is complex, and other forces, such as neo-Confucianism and the thought of humanism originating from Renaissance Europe, also impose a profound influence. The comparative study of education systems in different types of countries by Kosack (2012) shows that governments make educational decisions based not only on economic reasons but also on political concerns. In this article, we will analyse how Shanghai built its education system through decades of reforms in terms of the three natures of education (selection, justice and independence) proposed by

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Wilson (1989). The findings in this study are based on an analysis of the educational changes made by the Shanghai municipal government and also the empirical findings of case studies conducted in Shanghai published in both the Chinese and international academic journals.

The paper begins with a theoretical exploration of the interplay between the three natures of the education system in different countries and then focuses on how they are reconciled in the context of Shanghai. We conclude with a discussion of Shanghai's educational changes against the backdrop of the Chinese society, its special features and implications for other societies.

A Tripartite Perspective on the Education System

The three natures of education systems, selection, independence and justice, are involved in a complex interplay across different societies, and the tensions between them underpin the educational reforms in the international arena. Wilson (1989, p. 286) argues that 'Selection will depend not just on what we want the groups to do, but what sort of people we want to do it'. Horn's (2009) analysis of the performance of the OECD countries participating in the PISA echoes this point. His study shows that educational stratification increases the inequality of educational opportunities but does not lead to better student performance. It is widely believed that education plays a central role in achieving a just society, but an egalitarian approach to the provision of education may not be an ideal way to cultivate each student's capacity and develop their potentials (Lee 2013; Wilson 1989). The meta-analysis by Nguyen and Pfleiderer (2013) of the empirical findings of student performance in the PISA and other international assessments across nation-states indicates that the competition arising from private schools for public education, and the autonomy that schools and teachers can enjoy, play an essential role in the better performance of students. Wilson (1989) construes the autonomy that the educators and parents can have in the education system as 'independence'. The existing studies, however, also have shown the hidden tension between school autonomy and justice. For example, research by West (2006, p. 17) on school choice in England, the USA, and New Zealand reveals that 'schools with responsibility for their own admissions are more likely than others to act in their own self-interest by "selecting in" or "creaming" particular pupils and "selecting out" others'. West (2006) argues that this kind of admissions system itself is inadequate to address equality and social justice. Similarly, Thrupp and Tomlinson (2005) argue that competition and 'choice' embraced by the market-oriented policies in a society are making obvious contradictions with the pursuit of social justice and social inclusion.

Given the complexity embedded in the three natures of education, Bates (2006) noted that public education should 'seek a degree of autonomy' from the market in which education is treated 'simply as a mechanism for producing the human capital required to respond to the increasingly competitive global economy' and also the demand of cultivating students' loyalty and belief. *The Shanghai Medium and Long Term Outline on Educational Reform and Development (2010–2020)* (hereafter, the *Outline*) proposed four guiding principles for shaping the educational reforms in Shanghai: promoting justice, pursuing excellence, fostering innovation and strengthening the role of education in serving the socioeconomic development (Shanghai Municipal Government 2010).

In the following sections, we discuss how the three natures of education are addressed in Shanghai's recent educational reforms. We begin with selection due to its long tradition in the Chinese society and then move on to justice because of its close relevance to the screening function of education. Finally, we discuss the educational changes that lead to 'independence' of the education system.

Selection

Education has been a powerful and selective means for pursuing social mobility from the times of traditional Chinese society to the present (Carney 2009; Cheng 2011; OECD 2011). The emphasis on examinations derives from the imperial examination system, which was designed by the imperial central authority to select the best officials for governing society and which has survived for centuries to form a highly competitive education tradition of elitism in China (Feng 1995). The examination is not only a means for selection but also a mechanism to 'regulate and safeguard social equality and social order' (Zhang and Kong 2012, p. 134). This kind of social institution leaves an important legacy in that the Chinese masses have high expectations of education and also form a deeply held belief of each person's ability to realise social mobility through hard work (Zhang and Kong 2012). The communist government in modern China has continued to maintain a system of elitism due to the limited educational resources, but the selectivity is often justified on the basis that it serves the needs of national development (Ngok 2007).

The central government has promoted a policy of universal basic education since the 1980s, but China's education system remains extremely examination oriented with intense competition and is committed to the pursuit of excellence (Zhang and Kong 2012). The examinations arouse intense competition among parents, teachers, students and schools for the limited quota of university places, and such an

extreme examination-oriented education system jeopardises full development of the creativity and personality of young people (Feng 1995; OECD 2011). In the mid-1980s, Shanghai was one of the first regions in the country to initiate a reformation of the examination system (Li 2013). Now, selection mechanisms in Shanghai have undergone fundamental changes and have become highly diversified. In the area of compulsory primary and junior secondary education, entrance tests for school enrolment were banned, and students can now attend neighbouring schools free of charge. At the senior secondary level, schools were required to adopt a comprehensive evaluation system (combining examination scores, overall development quality, interviews and students' school choices) and recommendation mechanism to enrol students. The admission policy for higher education is also moving towards a more diverse and flexible system: high school graduates are allowed to take college entrance examinations many times instead of once as dictated by previous regulations, methods of evaluation are diversified, and universities and colleges are enjoying greater autonomy in admitting students.

These education reforms in Shanghai do not fundamentally change the selective nature of education, but they are helpful in limiting the segregation based on students' capacities and the unbalanced distribution of education resources between schools and communities. Thus, students are provided fairer opportunities to compete with each other. For example, one of the reforms regarding enrolment mechanisms in senior secondary schools is to set up a quota for the students from the less prestigious junior secondary schools to join the prestigious ones (Zhang and Kong 2012). While reforming the higher education admission system, the municipal government is also seeking channels to allow students on a vocational track to sit in the university entrance examination (Li 2013).

The high selectivity of the education system is deeply rooted in the high demand for higher education by the general public. Compared with primary and secondary education, reforming admission reforms at the tertiary level is complicated because it not only involves complex interactions between the central and local governments, but it is also viewed by many Chinese as an issue of social equity (Li 2013). In fact, enrolment in higher education has rapidly expanded since 1999, but the pressure of competition has not been alleviated because the focus has shifted from simply attending college to competing for entry into key universities at the national or provincial level, which is viewed as critical for personal advancement and economic success in China (Yu and Suen 2005). Although China's overall educational policies have been decentralised and market oriented since the 1980s, the central government in Beijing still maintains powerful control over educational policy making and resource allocation (Chan and Ngok 2001; Su and Liu 2006). This is especially true in the higher education sector, in which the state runs and supervises most universities and colleges around the nation including those in Shanghai, particularly the prestigious ones. Although the college admissions system has sought to move away from an examination-orientated process, the central government is reluctant to abandon its traditional role as a selective mechanism to realise social equity and stability and maintain control of the Party' system in the larger society (Jiang 2009; Li 2013; OECD 2011). The pressure of college entrance examinations essentially influences both the teaching activities in the actual classes and the degree to which the curriculum reforms and other educational innovations can be achieved in reality (Jiang 2009).

Justice

There are some deep-rooted disparities in China's education system, including differences between different schools in terms of infrastructure and educational quality, the gap between rural and urban education, and restricted access to education due to the household registration system for children whose parents are migrant workers in recipient cities (Cheng 2011; OECD 2011; Postiglione 2006). Rural poor people and migrant workers constitute the 'excluded and marginalised population' in Shanghai, and how to manage them is one of the foremost issues in social justice policies (Thrupp and Tomlinson 2005, p. 549). According to an analysis by Lu (2013) of Shanghai's performance data in the PISA (2009), the performance of rural students in reading, mathematics and science lagged significantly behind that of their counterparts in the urban areas, and the achievements of the first generation of Shanghai students in the three subjects were also significantly lower than those of the second generation. Migrant workers, who constitute a majority of the first generation of Shanghai people, suffer poverty and discrimination and are also largely deprived of the chance to enjoy the benefits of social welfare such as local residence and access to public schools (Hu and Szente 2010). Shanghai has been a major destination for migrant workers in recent decades, which is pushing its government to develop initiatives to deal with the dilemma of providing educational opportunities to non-local children (Cheng 2011; OECD 2011).

Over the last decade, the educational reforms in Shanghai have moved towards narrowing the wide disparities between different schools and between urban and rural education. The strategies that the municipal government have used include, among others, waiving tuition and miscellaneous fees at the compulsory education level,

restructuring school zoning, allocating resources based upon population distribution instead of the traditional administrative divisions, and encouraging prestigious urban secondary schools to set up branch campuses in rural areas (Cheng 2011; Duan 2013; Li 2012; OECD 2011). Several measures were also undertaken to provide the same free compulsory education for migrant children in local public schools that their counterparts born into local families receive.

However, the empirical findings indicate a gap between policy and practises and complexity in remedying these long-lasting educational issues. According to Shanghai's performance data in the PISA, there was no significant difference between schools in terms of infrastructure (including the number of computers per student, the proportion of qualified teachers within schools and principals' views of educational resources), but the teaching force still matters (Lu 2013). A huge discrepancy exists between family backgrounds of the students in terms of social, economic and cultural statuses. Those who possess a higher status tend to concentrate in the schools where there are more teachers, particularly teachers with higher education degrees. Based on a case study of two primary schools in Shanghai, Wang and Holland (2011, p. 483) revealed that 'fully 40 % of the children in the case-study district were effectively being barred from enjoying a public education by admission procedures and requirements'. These researchers also discovered complex reasons, such as the high mobility of migrant children, as to why these children are deprived of the opportunity to access school. According to the estimates of some educational researchers based in Shanghai, with the sharp increase in Shanghai's migrant population over recent years, the current numbers of classes in primary and junior secondary schools are far from adequate to meet the demands in the near future (Jiang 2013).

Apart from the lack of funding from the government and the systematic national policy of protecting the right of migrant children to attend public schools, the divergent understandings of justice between the different stakeholders remain a key issue. Interviews by Wang and Holland (2011) with employees in local public schools and parents from non-migrant families showed that Shanghai residents doubt the justice of asking the recipient city to bear the main responsibility in educating migrant children, a policy made by the central government. Likewise, lying behind the debate on whether migrant students have a right to sit in the university entrance examination in Shanghai is also the issue of justice in the treatment of local and non-local residents. The root cause lies in the current education finance system, which was institutionalised by the central government in the 1990s (Lin et al. 2009; Zhao 2011). In the current system, the local governments, especially at district and county levels, are primarily responsible for local educational expenditures, which results in a large imbalance in the quality of education. It is doubtful whether the current manner of educational investment can benefit the most vulnerable population according to John Rawls's understanding of justice in which public resources should be 'directed towards the least advantaged' (Bates 2006, p. 281). Lin et al. (2009) studied the public education funding investment at the compulsory education stage between different districts and counties in Shanghai between 2000 and 2006. They found that the gap tended to expand before 2005, but some improvements have taken place after the start of a new policy of institutionalising per-student funding expenditure at the primary level. Generally, however, significant differences remain between various districts and counties under the jurisdiction of the Shanghai municipality, and the researchers contend that Shanghai still has a long way to go in achieving a balanced and equitable system.

Independence

Since the Chinese Communist Party took power in 1949, the state has established overwhelmingly tight control over the education sector and has placed the entire schooling system, from primary to tertiary education, into a centrally planned structure (Zhao 2007). While exploring the contextual factors influencing the impressive performances of students in the PISA through a comparative perspective between Shanghai and Singapore, Tan (2011, p. 158) found that 'the municipal government has invested heavily and intervened actively in education' in Shanghai. But compared with the time of Mao, the post-Mao regime tends to have relaxed its strict control over education, and the local authorities to some degree, and consequently, schools and teachers are starting to enjoy more autonomy with China's socioeconomic reforms (Ngok 2007). The emerging autonomy that is appearing in the Shanghai education system has taken place at the microlevel (curriculum, pedagogy and examination system), and also at the macrolevel, i.e. in a growing education market that has formed independent of the public education sector. One driving force for these educational changes, as argued by some writers (OECD 2011; Tan 2012), is the Shanghai municipal government's enthusiasm for using science and education as the major strategy to enhance international competitiveness and meet the challenges of globalisation. Another powerful driving force lies in the educational needs and demands of different social groups within China with the breakdown of the original social structure of central-planning.

Shanghai played a pioneering role in leading the latest round of national curriculum reform endorsed by the

Chinese central government in 1999, which emphasises active and constructive learning, as opposed to the traditional passive learning style, which relies on memorisation and regurgitation (Jiang 2009). Compared with the past, the curriculum has become much more diversified, and students can learn the national, local and school-based curricula at the same time. The teaching methods promoted by the new curriculum encourage students to engage in more active and autonomous learning, and the traditional predomination of summative and academic assessments is also being supplemented by formative and holistic assessment methods (Carney 2009; Tan 2012). In this manner, as argued by Tan (2011), the new curriculum reforms give teachers and schools more autonomy, which is still accompanied by a system of accountability. According to empirical studies conducted in Shanghai, primary and secondary school teachers actually do not enjoy a high degree of professional autonomy in their work (Lai and Lo 2007; Wong 2012). The traditional cultural expectations about teaching, concerns of schools, parents and even teachers about student performance in the tests, and the teachers' perception of strong control from the government, all these factor limiting the extent to which teachers can realise professional autonomy (Carney 2009; Lai and Lo 2007; Tan 2012; Wong 2012).

In the arena of higher education, some reforms and changes show the growing extent of independence that local authorities, universities and individuals may enjoy. Since the early 1980s, Shanghai has been encouraged by the central government to lead the reforms of the examination system and to experiment with a policy that permits some institutions of higher education to admit a certain percentage of students through their independent admissions mechanisms, and thus, Shanghai was allowed to organise college entrance examinations under its own jurisdiction (Li 2013; OECD 2011). With the rise of reforms in higher education admissions mechanisms, however, have cropped up growing concerns that the students in rural areas, from poor families, and from non-prestigious secondary schools are disadvantaged in the new admissions system (Research Team on the Effect of the Independent Admission of Higher Education Institutions on Secondary Education in Jiangsu, Zhejiang and Shanghai 2009). Moreover, Ma (2011) studied the reliability and validity of the admissions tests administered independently by the universities in Shanghai and found serious deficiencies in the design of the tests in some subjects.

At the macro level, the central government in the post-Mao regime has decentralised governance in the education sector and marketised educational services by incorporating civil social forces in running educational institutions (Ngok 2007). In The Shanghai *Outline,* the municipal government announced the exploration of an open, diversified education system in which the government further not only strengthens educational services for the general public but also allows social forces to take part in the educational reforms and development (Shanghai Municipal Government 2010). Shanghai is one of the pioneering areas to launch educational reforms in China. Focusing on the setting of private education[2], interviews by Ding (2008) with 47 government officials, school administrators, and others reveal the complex interrelationship in policy implementation between the State Ministry of Education, the Shanghai Municipal Education Commission, district governments, district educational bureaus and schools. Ding contends that loose control from the central-to-local government levels and different agendas between diverse actors in regard to policy implementation create space for some autonomy, including illegality and disobedience. Students who attend private schools occupy a considerable share of the different cohorts (20.9 % in the pre-school stage, 6.1 % at the primary level, 14.7 % at the junior secondary level, 10.8 % at the senior secondary level and 18.6 % at the tertiary level) (Wang 2010). According to Wang (2010), the number at the primary level does not include the 117,000 students in approximately 150 primary schools that are especially for students from migrant families. These schools, mostly private, have grown quickly after the mid-1990s to meet the demands for affordable education for migrant children in cities. They provide more opportunities for migrant children who are often rejected by public schools for various reasons, mainly the absence of a residence permit (Hu and Szente 2010). At the higher education level, an education market is also rapidly emerging to cater to the huge needs of the rising middle classes and is supported by Shanghai's orientation towards enhancing international collaboration. An increasing number of overseas universities have established varying collaborations in Shanghai, such as the University of Michigan-Shanghai Jiao Tong University Joint Institute and the Shanghai-New York University. These universities were set up to enrol students globally and break through the rigid examination, admission, management and curriculum design of the higher education system in China (Xinjingbao 2012).

Conclusion

Vandenberghe (1999) identified three models of institutional arrangements for education systems across nations: the market model, the bureaucratic model and the quasi-market model which tends to combine 'the bureaucratic controls' and 'the market-oriented, competition-driven approach of education' (p. 273). In the case of China, the governance of education in the post-Mao period has tended

to move from the structure of hierarchical, bureaucratic control to the adoption of a quasi-market approach (Francis 2001). Against this background, Shanghai's educational reforms provide a lens for us to understand the interplay between the political, economic and sociocultural forces that shape the schooling system in China. Of note is the huge disparity in the levels of educational development in the different regions within China. According to a comparative study of 31 provincial-level administrative units between 1997 and 2010 by Liu et al. (2013), the levels of indicators of GDP per capita, per-pupil educational expenditures in the budget, student–teacher ratios and the attainment of higher education are higher in Shanghai and Beijing than in other regions in China. Compared with other cities and areas, Shanghai displays some special features. Prior to the establishment of the communist regime in 1949, modern education had already been well developed in Shanghai, and a diversified schooling system had formed at that time, which included a large number of private and religious schools (Fu 2007). Shanghai also built its reputation as an education hub during that period, particularly at the tertiary education level. A substantial number of institutions of higher education, including comprehensive universities, were established, and some of them were highly influential in the country (see Hayhoe 1989). With the socioeconomic reforms that have occurred in China since the 1980s, Shanghai now enjoys a relatively high degree of autonomy in initiating new measures to break through traditional constraints because it is one of the four provincial-level municipalities (the other three are Beijing, Tianjin and Chongqing), is one of the most developed areas in China and has a relatively high degree of urbanisation[3]. Under communist rule, Shanghai continues to hold an incomparable advantage in the level of higher education. There are many more institutions of higher education, especially the most prestigious universities in Shanghai, than in most other Chinese cities and even the provinces. This includes one of the best universities for training teachers in China.

An analysis of Chinese educational policies by Carney (2009) indicates that both global forces and the message from the central government shaped the locality. This study shows how Shanghai integrates the educational practise and policies embraced internationally within China's institutional framework. There have been intense debates in the international community on whether education is a public good, commodity or semipublic good (Gerald 1989; Lee 2013; Ngok 2007; Vandenberghe 1999). An underlying assumption that the OECD PISA study holds is that 'all nations should be aiming for their schooling systems to be both high quality and high equity' (Sellar and Lingard 2013b, p. 17). This raises the question of what kind of education system can achieve these two standards. In this article, in light of Wilson's (1989) framework of the three natures of education (selection, justice and independence), we analyse their interplay as Shanghai seeks educational changes in China's post-Mao period. Our findings suggest that these three natures of education are closely intertwined as different stakeholders, including the central government, the Shanghai government, and different social groups, negotiate the orientation of reforms. Although educational reforms over decades have aimed at restructuring the school system by reducing the high competitiveness based on examinations and providing more autonomy to different stakeholders, how to realise justice through education remains at the core of these educational changes. Of course, there are divergent opinions as to the meaning of justice in Chinese society. In general, the reformed system is moving towards expansion and diversification of channels that allow individuals from different backgrounds to enjoy equal chances through education.

West (2006, p. 17) argues that education is not only about 'individual academic success and excellence', but involves addressing social justice and 'reinforcing social cohesion'. In a Chinese context, the notion of selection is closely intertwined with social equality. Social equality does not mean that the same quality of education is provided to all members of society but that the authorities provide an open opportunity for all to realise upward social mobility. The success of Shanghai in the PISA is increasingly attracting the interest of other societies to study Shanghai's education system (Cheng 2011; Sellar and Lingard 2013a; Tan 2013). The Shanghai system, forged in a particular historical, political and socioeconomic environment, contributes to the understanding of how the different natures of education are intrinsically connected, while being centred on the core ideal of realising justice through education. High quality of education must be achieved on the basis of high equity in the education system.

Notes

1. Greater China includes the mainland, Taiwan, Hong Kong and Macau.
2. An alternative word, '*minban* education' is usually used to denote private education in the Chinese context. See Ding (2008) and Ngok (2007).
3. According to the 2010 census, Shanghai's total population stood at 23 million, of which 20.6 million (89.3 %) were urban dwellers and 2.5 million (10.7 %) were rural dwellers (National Bureau of Statistics of China 2011).

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