IOJPE
International Online Journal of Primary Education
ISSN: 1300 – 915X
www.iojpe.org
2015, volume 4, issue 1

PEDAGOGIC REFLECTIONS ON CHINESE EQUITY ISSUES: INVESTIGATING DISPARATE PERFORMANCE OUTCOMES IN PRIMARY MATHEMATICS

Ting Liu
School of Education, The University of Newcastle, Newcastle, Australia
Ting.Liu@uon.edu.au

Professor Ronald S. Laura
School of Education, The University of Newcastle, Newcastle, Australia
Ron.Laura@newcastle.edu.au

Abstract
In recent years a considerable literature has accumulated to reveal that the education of Chinese migrant children in urban settings remains segregated predominantly in migrant schools, while migrant students with high socioeconomic status have mainly become integrated with urban students in public schools. This study is concerned to compare and contrast academic performance indicators which characterize migrant students in segregated schools, as opposed to integrated schools. Results of the study reveal that the mathematics performance levels of migrant children segregated in migrant schools exhibit an increasing gap in achievement, compared to migrant children attending public schools. The implications of these disparities and inequities are discussed, with an aim to encouraging policy makers to recognize that reform of the segregation patterns for Chinese migrant students is clearly imperative.
Keywords: China, segregation, mathematics achievement, migrant children

Introduction

In the latest 'National New-type Urbanization Plan (2014-2020)', the Chinese government has ambitiously targeted 60 percent of its people living in cities by 2020, and intends to grant 100 million migrants with what has now come to be called 'urban household designation'. During this urbanization process, the issue of the particular ways in which rural-urban migrant children's education is determined takes on a role of national importance that we believe will no doubt figure prominently in either improving or diminishing the educational outcomes and chances of academic success for Chinese migrant students. Previous studies have revealed that there exist diverse processes and disparate outcomes of assimilation for migrant students, depending upon whether these processes lead some groups to integrate successfully into mainstream urban schooling, or whether others are lead into segregated migrant schools of minimal resources and teaching skills (Portes & Zhou, 1993; Zhou, 1997). In recent years Chinese policy has been inclined to allocate placement for migrant children of higher socioeconomic status into urban public schools of advantage, while migrant students of lower socioeconomic status tend to be segregated in migrant schools of disadvantage (Chen & Feng, 2013; Lu & Zhou, 2013). Given the substantial structural barriers which ensure that a large fraction of Chinese migrant children are kept segregated in low-quality migrant schools, our paper will be concerned to explore the consequences of inequitable public school placements are similar to those predicted by studies on segmented enrolment assimilation in western countries.

Moreover, given that the Chinese educational system relies upon test scores as a primary criterion in the selection process for academic promotion, the school outcomes in mathematics for migrant children are essential conditions needing to be satisfied to secure any substantial hope for their upward mobility and opportunity for future success (Lai et al., 2014). Moreover, the level of migrant children's mathematics achievement is also vital in promoting the future success for the nation's economic development (Perry & McConney, 2013). In the following section, the brief review will focus on studies related to the education

of migrant children in urban areas, thereby addressing considerable attention on the few Chinese studies that have examined the segregated and desegregated provision of primary education, particularly in relation to migrant children's achievement in mathematics.

School segregation of migrant children in Chinese urban schools

In most developed and developing countries, the process of urbanization has significantly reinforced the rural-urban migrant movement. The successful integration of large numbers of migrants into society remains one of the greatest challenges any country will face. In North American and European countries, early school segregation seemed to be most pronounced in the largest metropolitan areas, where it has been found that public school disparities of segregation reflecting racial composition (Clotfelter, 1999), socio-economic background differences and ethnic school segregation are acutely manifest (Deshingkar & Grimm, 2005; Frankenberg, Siegel-Hawley, & Wang, 2010). Despite years of effort to institutionalise the US Civil Rights Project of School Desegregation, urban schools across America and particularly in the South have preserved ,if not intensified, the segregation and socioeconomic stratification processes which by their very nature place children in disadvantaged and academically disabling schooling contexts. Given such situations and the protracted exposure of schoolchildren to inferior educational opportunity, it should come as no surprise that the achievement gap between segregated and non-segregated schools has widened (Garcia, 2008).

Given the quite considerable array of differences amongst countries, it is understandable that the degree of school segregation and socio-cultural assimilation is likely to differ. It is a salutary reminder to note that the social phenomenon of 'internal migration' distinguishes China from many other countries. The rapid escalation of economic development in recent decades has caused a large number of peasants to seek better education and employment opportunities in urban areas (Cheng, Guo, Hugo, & Yuan, 2013). Because of the deliberate structural orientation of government policy, however, these migrant children are often segregated from urban mainstream culture and schools. In China, the historically embedded and dualistic system which fosters a hiatus between rural and urban areas divides Chinese people into agricultural and non-agricultural groups. However, as the process of urbanization continues to burgeon, it is clear that rural-urban migrant people have become the largest social class, both distinct and separated from 'rural' and 'urban' people. Moreover, the inflexible household registration system inhibits migrant people from obtaining equal allocation in welfare, employment, and public goods attainments, in comparison to urban residents (Goodburn, 2009). Correspondingly, Chinese migrant children are classified as being 'out-of-district' children seeking education in urban public schools, making it virtually impossible for them to transfer to schools of better educational opportunity (Li, Zou, & Wang, 2009).

Specifically, urban public schools are only allocated resources for urban children who hold the non-agricultural registration status within the school district (Wei & Hou, 2010). This being so, migrant children's educational funding remains allocated to their family's rural homes, even though their parents have migrated to an urban area. Consequently, the resulting shortage of educational funds in urban areas undermines the capacity of the local educational authorities to accommodate for all students, migrant and urban. Some urban public schools occasionally recruit migrant children, on the condition that they can meet the requirements of extra high tuition fees (Goodburn, 2009). Nevertheless, for the majority of migrant children who hold the agricultural household registration, fewer opportunities are doubtless available for enrolment in urban public schools than for urban children generally (Wang, 2012). To tackle these challenges, private migrant schools have been established to provide educational opportunities for children, without the limitation of household registration and expensive school admission, but at the expense of being 'quite frankly in miserable condition' as well as having 'poor equipment, and few

qualified teachers' (Xia, 2006, p. 39).

Given efforts made during the last decade, the Chinese government is gradually taking measures to ameliorate the problems which surround the integration of migrant children in urban areas. Several regulations and laws have been promulgated to guarantee the access to urban public schools for migrant children. According to government statistics, the proportion of migrant children enrolling in public school grew to about 60 percent in Beijing, the Capital of China (Wang, 2009). Despite these improvements in Beijing, the general problem has persisted and scholars are now addressing the preliminary evidence which contrasts migrant students' disadvantaged learning environments in segregated migrant schools in comparison to public schools.

Given that the Chinese educational system relies upon test scores as a primary criterion in the selection process for academic promotion, the school outcomes in mathematics of migrant children are essential conditions to be satisfied to secure any substantial hope for their upward mobility and opportunity for future success (Lai et al., 2014). Moreover, the level of migrant children's mathematics achievement is also vital in promoting the future success fort the nation's economic development. In the following section, the review will focus on studies related to the education of migrant children in urban areas, addressing our attention on the few Chinese studies that have examined the segregated and desegregated provision of primary education, particularly in relation to migrant children's achievement in mathematics.

School segregation and educational outcomes

School segregation is an important factor in explaining certain differences in educational outcomes amongst migrant individuals. Ever since Coleman (1966) published his research on the impact of ethnic and socioeconomic school composition on students' academic achievement, the effect of segregation on migrant students' academic achievement and the ambiguities surrounding the concept of 'segregation' has remained insufficiently articulated. Despite these persistent ambiguities, a general consensus has nevertheless emerged that while there are certain benefits associated with students attending diverse schools, it is also evident that, conversely, there exists an array of adverse effects for students who are segregated in schools where poor and minority students are concentrated, such as an increase of mortality (Inagami et al., 2006), a lower achievement level (Schnepf, 2007), and a sense of persecution (Thomsen, Green, & Sidanius, 2008). It is salutary to remind ourselves, however, that the problem cannot be reduced simply to the issue of 'segregated schooling'. For example, it is incontestable that 'private schools' are in essence, a form of segregation, but a considerable literature has accumulated to show that the academic performance of private school pupils is generally superior to students attending public schools (Figlio & Stone, 2012; Lubienski, Crane, & Lubienski, 2008). Similarly, there are a number of progressive, but so-called segregated schools, which focus on pupils from lower socioeconomic backgrounds, whose performance levels are outstanding. So, the problem of disparate academic performance levels does not admit of straightforward reduction to segregated schools as the causally- defining characteristic of likelihood of academic success. The analysis of these issues needs to be much more precise with regard to the peripheral variables which give sense and substance to the concept of a 'segregated school' (Fiel, 2013; Orfield & Lee, 2005). We submit that the concept of school segregation is not monolithic in interpretation, but rather, multifaceted, and we believe this is an insight of paramount importance in advancing our understanding of inequities in Chinese migrant education in particular.

It is relatively clear that migrant pupils who attend schools with a greater share of children from higher socioeconomic backgrounds were found to perform better academically (Guo, 2011). In contrast, segregated minority schools tend to produce students who have lower levels of educational attainment,

fewer job opportunities, a reluctance to pursue demographically integrated relationships later in life, and an increased likelihood of holding parochial and prejudiced attitudes (Linn & Welner, 2007). Currently, Chinese urban schools that provided educational opportunities for migrant children consist of integrated public schools and segregated migrant schools. Public schools, established by the government to provide educational opportunities for urban children, have been accessible to a proportion of migrant students. This type of school was generally equipped with qualified teachers, well-furnished environmental facilities, and adequate funding, primarily providing educational opportunities for non-migrant children (Li et al., 2009). In contrast, migrant schools, a type of private school sponsored by local communities or private business institutions, played a complementary role in providing educational opportunities for migrant children in urban areas. However, due to insufficient funding within the public educational system, these migrant schools were often poorly-resourced in terms of educational infrastructure and teaching quality (Xia, 2006).

Several studies on the mental health state of migrant children from segregated schools located in lower socioeconomic backgrounds have revealed that Chinese migrant children in these circumstances are likely to suffer slight psychological health problems (Tao, Xu, Zhang, Gu, & Hong, 2004) and develop poor learning habits (Liu, 2007). In contrast, the adaptive capacity of migrant children in public schools is better than that of migrant children in segregated migrant schools, regardless of the student's grade level (Li et al., 2009). Migrant children enrolled in public schools display more satisfaction with their academic experience than do migrant school students in segregated schools (Xie, 2007). Other studies have focused on migrant children's mathematics achievement and indicated that migrant children in public schools perform better in academic achievement than migrant students in segregated migrant schools. Interestingly, no significant difference in mathematics achievement was found in circumstances where migrant children were integrated with urban children in public schools. Comparative studies of school segregation have revealed that children from migrant families of higher socioeconomic backgrounds serve to increase the likelihood that their children will attend public schools (Lu, 2012). In a later study it has been postulated that socioeconomic differences in family background may in part explain the achievement gap between students attending public schools, compared to segregated migrant schools (Guo, 2011; Lai et al., 2012). However, others have argued that school segregation is in itself likely to be a sufficiently important contributing factor in explaining the comparatively lower levels of performance in mathematics exhibited by migrant students (Chen & Feng, 2013), but we have suggested that the subtle variables which would substantiate this conclusion unequivocally have not yet been teased out.

Given the racially isolated contexts of many migrant schools in China, it is crucial to examine closely the potential for harmful outcomes associated with the current convention of focusing exclusively on test score-related dimensions of examination. We submit that new legislation is sorely needed to ensure that mechanisms are instituted which ensure that migrant students who were enrolled in segregated schools are afforded equal opportunities for access to quality education capable of maximizing their true potential, as assuredly as happens in urban public schools. This being so, it is critical that disparities in performance outcomes in segregated and integrated schools are accurately reflected, in order to better understand how best to foster social integration and achieve equality within Chinese education.

Objectives and research question

With a view to improving academic achievement for all migrant children, both in segregated migrant schools and in urban public schools, this study will endeavor to provide sufficient empirical findings on the disparities which characterize the experience of migrant students in situations of school segregation and desegregation, with special reference to the academic performance of migrant students in terms of

mathematics achievement. This study therefore critically examines the disparities which exist in the levels of mathematics achievement displayed by migrant children in segregated schools, on the one hand, and migrant children in urban public schools on the other, with an aim to advance our present understanding of the respective roles played in achieving academic success by school types. Consistent with this objective, and as a guide to developing this study, we have framed the following specifically directed research question of 'What are the differences in the levels of mathematics achievement displayed by migrant children enrolled in segregated schools, in contrast to integrated public schools?'

Method

This study is in alignment with the National Bureau of Statistics of China (2011) that defines migrant workers as people who have left their rural regions, but maintain their agricultural household registration for working in urban areas for more than six months continuously. Their children who have been brought into urban schools for transient education are called migrant workers' children, or 'migrant children'. In this study, we shall focus on these two types of schools in which migrant children have been placed in urban areas. These include: private migrant children's schools (migrant schools) and public integrated schools (public schools).

This study was conducted in four primary schools in Shanghai in 2013. The ethical approval of this study was granted by Australia Human Research Ethics Committee (HREC) (No.H-2012-0355). All participant students are children enrolled in years 2 to 5. The age of participant students varied from 8 (year 2) to 11 years old (year 5) on average. In order to control for educational differences between central and peripheral districts in Shanghai, all of the participant schools were selected within one of the suburban districts. The same mathematics test was conducted within the primary schools as the final examination of the semester. Students' scores were collected and evaluated by the local Ministry of Education.

The mathematics test scores of all participants were provided by participating schools. In this study, the mathematics test set is in accordance with the Shanghai curriculum standards and has been designed to satisfy the requirements as stipulated by the State Education Commission for each corresponding grade level. The tests varied by grade level to accommodate different curriculum requirements for each semester. The examination process consists of three sections: the first being devoted to number and computing (20%); the second to concepts comprehension (40%); and the third to problem-solving (40%). Each grade level employs the mathematics test separately. The math test score scale is 0-100 points. To assess students' mastery of mathematics across grade levels, scores of 60 points or above is the level required to pass the exam. Below 60 points signifies failing in the exam, and 80 points or above represents an excellent result.

Results

Summaries of Demographics

In the sample of 1808 children, there were 839 migrant children, and 969 urban children, accounting for 46.4% and 53.6% of the sample respectively (see Table 1). In total, 478 students in migrant schools and 1330 children in public schools participated in the study. The participants were categorized into three categories: migrant school children (26.4%, n=478), migrant children in public schools (20%, n=361), and urban children in public schools (53.6%, n=969). In total, 1048 boys (58.2%) and 760 girls (41.8%) participated in the study.

IOJPE
ISSN: 1300 – 915X
www.iojpe.org
International Online Journal of Primary Education
2015, volume 4, issue 1

Table 1 Descriptive statistics of participant sample

Grade	Migrant school	Public school		N	Percentage
	Migrant children	Migrant children	Urban children		
Year 2	174	122	275	571	31.6
Year 3	104	89	261	454	25.1
Year 4	108	70	230	408	22.6
Year 5	92	80	203	375	20.7
Total (N/%)	478 (26.4%)	361 (20%)	969 (53.6%)	1808	100.0

Mathematics Achievement Levels

The mathematics achievement levels of migrant school students, migrant children in public school and urban children in public school were compared. In years 2-5, the mean levels of children's mathematics scores were varied. Among the three types of students, urban children in public schools scored the highest level of test scores in years 2-5, followed by the migrant children in public schools, but the achievement gap was very small. However, migrant children in migrant schools achieved the lowest mathematics achievement levels among the three types, and the achievement gap was larger. As illustrated in Chart 1, the pattern displayed clearly revealed that migrant children and urban children in public schools achieved a similar mathematics performance level in year 2-5, but migrant school students fell behind systematically.

Specifically, the achievement outcome of migrant school children in year 2 scored at the level of 86.6 points (SD=9.7), while migrant children in public schools achieved a higher average level of 94.7 points (SD=4.3). In year 3, urban children achieved a higher level (0.15 points) (SD=4.2) than the achievement level of migrant children in public schools (SD=5.1). Migrant children in migrant schools scored at the lowest level of 78.5 points (SD=13.6). In year 4, the achievement gap was as large as 14.5 points between migrant children in migrant schools (77.5 points) (SD=7.1) and migrant children in public schools (91.9 points) (SD=15.4), but the gap was only 0.4 points between urban children and migrant children in public schools. Similarly, year 5 migrant school students performed at the level of 69.5 points (SD=21.3), while migrant children and urban children in public schools scored 89.7 points (SD=7.1) and 91 points (SD=6.3) respectively.

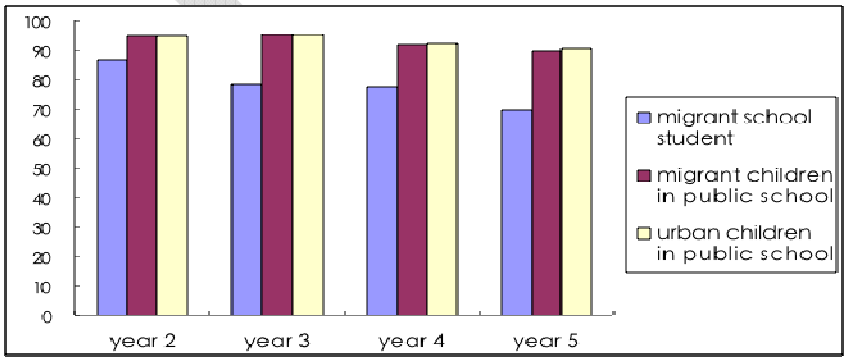

Chart 1 Mathematics test score in years 2-5 in three types of children

IOJPE
ISSN: 1300 – 915X
www.iojpe.org
International Online Journal of Primary Education
2015, volume 4, issue 1

In both types of schools, the failure rate increased as the grade level increased. However, public school students had a steady increase in the failure rate from years 3 to year 5, whereas there was a sharp increase of the failure rate from years 2 to 5 in migrant schools (see chart 2 and chart 3).

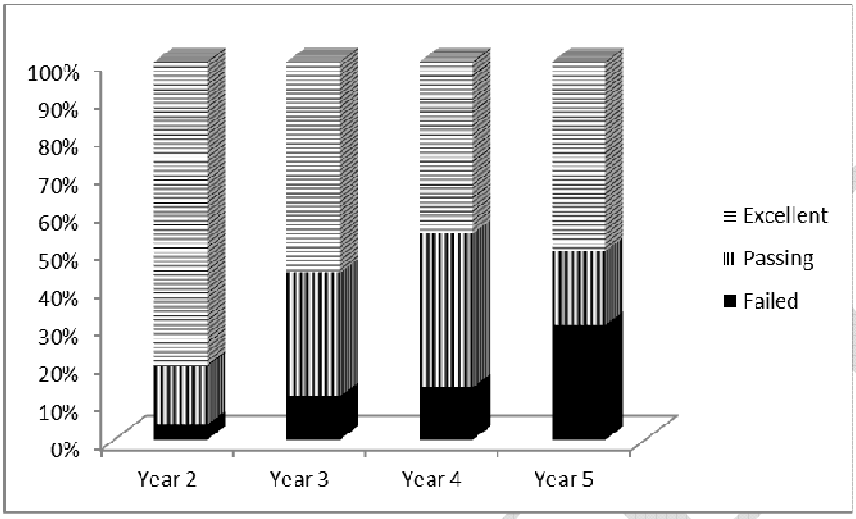

Chart 2 Rate of mathematics achievement levels in migrant schools

In contrast, in public schools the failure rate for migrant children was much lower than that in migrant schools. A statistically significant difference was found between the categories of mathematics achievement levels and school type: χ^2 (4, N=839) = 307.9, p< .001, and between mathematics achievements categories and the grade levels: χ^2 (6, N=839) = 76.1, p< .001.

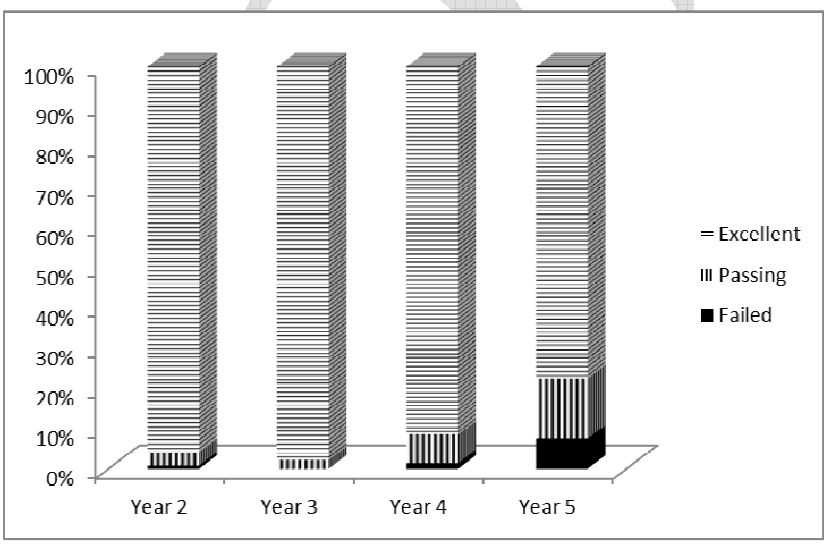

Chart 3 Rate of mathematics achievement levels in public schools

Discussion

This study investigates the equity implications of disparities in mathematics performance outcomes as they arise in contexts of the segregated education of rural-urban migrant students in Chinese urban schools. The present study achieves this objective through a comparison of significant differences in achievement outcomes between these different groups, across several specific mathematics achievement levels. Overall, we have been able to document the adverse consequence of school segregation by examining the disparities which arise for migrant children in different types of schools, within a particular domain of academic achievement. The concept of 'segmented assimilation' has accordingly been applied to facilitate a statistical strategy for developing a typology of vulnerability and inequity affecting differentially diminished outcomes for Chinese migrant groups (Lu & Zhou, 2013). The outcome of segmented assimilation has been employed in western countries, where children of non-white immigrants may not be afforded an equal opportunity for gaining access to the benefits of middle class white society, no matter how acculturated they become (Portes, Fernandez-Kelly, & Haller, 2005; Vermeulen, 2010; Zhou, 1997). Not being able to assimilate themselves into these sociocultural enclaves, or privileged social circles which deny them access, has in many cases proved to represent a form of cultural incarceration which condemns them to permanent subordination and disadvantage (Orfield & Lee, 2005). Within the USA the deplorable disadvantage and alienation which results from such inequities is being acknowledged, addressed, and rectified (Fiel, 2013; Lee, 2004). By parity of reasoning we have similarly applied the mechanism of segmented assimilation theory in the context of Chinese internal migration to reveal that the same sort of educational inequities are also manifesting in the Chinese situation (Lu & Zhou, 2013). We have endeavored to show, in other words, that there are similar problems facing migrant students in China. It is clear that their diminished academic performance outcomes result predominantly from their inability to gain access to urban public schools with better physical and human resources than is available in the segregated migrant schools in which they currently find themselves. Chinese society is now diverse and segmented, with an underclass residing in urban areas comprising a large portion of rural-urban migrant families (Cheng et al., 2013). This is a situation, we believe, that represents an egregious impediment to educational equity.

We submit that the goal of school integration, not school segregation, should become a far more determinate and resolute policy of educational equity than it currently is within the Chinese government, particularly, if it wants to improve the quality of education nationwide. The problem of segregated migrant students also sheds light on the drawbacks of the inflexible household registration system in the Chinese educational context (Goodburn, 2009; Wang, 2009; Yuan & Hou, 2012). This system not only serves as an impediment to the school performance of migrant children, but it also serves to divide Chinese society into two distinct cultural groups, one of which is urban and the other of which is rural. Part of the equity problem arises because the chance of genuine upward mobility for those who are culturally defined by the limitations of migrant education is institutionally dissipated by the inferior quality of its being segregated. Notwithstanding the latest policy for household registration reform, there remains a huge cadre of 200 million migrant people- roughly two-thirds of whom are excluded from city- resident status by 2020 (Li & Shi, 2014). The resulting shortage of educational funds by local government undermines the capacity of educational authorities to accommodate all students, migrant and urban. The disadvantages experienced by migrant children, as a consequence of school segregation, may impact so comprehensively that its negative influence will be felt irrevocably on the next generation across the entire nation.

Considerable evidence has now accumulated to confirm that there exists divergent assimilation paths for these new migrant groups in China with high socioeconomic and low socioeconomic, one of which is disposed towards upward assimilation and the other of is disposed towards downward assimilation (Lu &

Zhou, 2013). During their period of segregated education from urban mainstream schools, migrant students in urban areas integrate only peripherally and cosmetically into urban society. This is reflected not only the achievement level hiatus which exists between the two migrant groups, but is exemplified in the ever growing gap between segregated migrant students and urban children. As we witnessed in the body of the text above, the fact that migrant students in desegregated schools achieved as favorable test results as did urban children, should suffice to illustrate that they have the intellectual gifts and motivation to adapt effectively to urban culture. We believe that our own study has palpably indicated that given access to public school education, migrant school students should in principle be sufficiently able to improve their mathematics performance to a level of achievement which makes negligible the difference in their test outcomes from those of public school students.

Recently, China has unveiled its landmark blueprint to expand urbanization, and the target it has set for the completion of its ambitious plan is 2020. Therefore, the huge numbers of migrant children need to be educationally accommodated to achieve this goal. It is evident that the problem betrays a deeper truth that the local government of Shanghai has not yet come to comprehend the educational inequities, which inevitably arise in trying to accommodate migrant children by segregating them from the arena of public educational resource. Growing awareness of this issue has been reflected to some extent in the latest plan, where the new policy will give priority to small- and medium-sized cities by providing an opportunity to attract migrant populations in order to relieve the burden of expanded urbanization in the larger cities (Guan, 2014). In the meantime, there persists the equity problem of the increasing gap in the mathematics performance outcomes of migrant students in segregated schools, in contrast to urban public schools. Similarly, it is clear that the gap will additionally be widened as the length of migrant residency increases in urban areas. In any case, today's small and medium cities may in the near future also be confronted with the same problems of segregation in education for migrant children, as long as the migrant population continues to increase (Su, Fan, Fu, Liu, & Yang, 2014).

In the final analysis, it is evident that despite the government's noble efforts in improving migrant students' access to public schools, and gradually fostering a new awareness of the potentially negative influence of segregated education on migrant youth, the current situation of sequestering migrant students into segregated schools still exposes them to inequity and disadvantage (Chen, Wang, & Wang, 2009). One hope for amelioration emerging amongst some scholars and policy makers is that it is the goal of comprehensive integration of migrants into schools of quality that marks the most effective route towards the preservation of educational equality and equal access to educational resources across rural and urban groups (Wei & Hou, 2010). Of paramount importance also is the fact that migrant students who attend desegregated schools have access to social networks and personal friendships that are likely to have both an auspicious and beneficial socioeconomic influence on their lives.

Conclusion

This paper examines the ramifications of school segregation on migrant children's school performance by investigating the perspective of mathematics achievement in a Chinese urban setting. The results indicate that the influence of segregation school policy on the migrant population has been negative and has engendered inequities in academic performance, which could plausibly have been avoided. Our study reveals that the Chinese government's current policy of migrant segregation does not effectively deliver high quality mathematics education to migrant children in comparison to the delivery available in urban public schools. The disparities in the present segregated school structure remain an especially formidable barrier to the educational outcomes of migrant students. In order to better support social integration for migrant children, this paper suggests that the amelioration of the growing problem of inequity and the

improvement of migrant student's academic achievement levels, particularly in mathematics, could be brought to fruition simply by enlarging the opportunities for migrants to study in urban public schools, rather than merely implementing segregation policy to sequester them in migrant schools. However, the deeper point made by our paper is that the educational quality of segregated schools should be improved to better balance the distribution of educational resources amongst urban schools equally, be they migrant or public.

Meanwhile, it is important to recognize certain limitations of this study. It should be noted that our data are restricted to Shanghai City, though it does represent one of the largest primary migration destination cities in China, affecting a huge population of migrant children. Despite the fact that the situation in Shanghai exhibits a considerable array of similarities to other large Chinese cities with a high concentration of migrants, the generalizability of certain aspects of our results could arguably be regarded as problematic. This being so, we suggest that our conclusions can reliably be restricted to the context of the Shanghai analysis provided, and given its massive migrant population, the conclusions we draw should nevertheless be regarded as significant. Although the sampling procedure yields a probability sample up to the class level, it does not provide a strict probability sample for all children. Nonetheless, this study has explicitly been designed to address the equity achievement issue by reference to mathematics performance, and has for this reason, not ventured to comment on other important subjects in primary schools such as science, and Chinese reading/literacy. We do not reckon that this is a flaw in our analysis, but only a necessary limitation we have ourselves imposed to keep the paper and its argument within manageable bounds. A venture of the envisaged magnitude described here would obviously require a comprehensive investigation of monumental resources time, and space, so must thus remain a research task for yet another occasion.

Reference

Chen, X., Wang, L., & Wang, Z. (2009). Shyness-Sensitivity and Social, School, and Psychological Adjustment in Rural Migrant and Urban Children in China. *Child Development, 80*(5), 1499-1513.

Chen, Y., & Feng, S. (2013). Access to public schools and the education of migrant children in China. *China Economic Review, 26*, 75-88.

Cheng, Z., Guo, F., Hugo, G., & Yuan, X. (2013). Employment and wage discrimination in the Chinese cities: A comparative study of migrants and locals. *Habitat International, 39*, 246-255.

Clotfelter, C. T. (1999). Public school segregation in metropolitan areas. *Land Economics, 75*(4), 487-504.

Deshingkar, P., & Grimm, S. (2005). *Internal migration and development: A global perspective*: United Nations Publications.

Fiel, J. E. (2013). Decomposing School Resegregation: Social Closure, Racial Imbalance, and Racial Isolation. *American Sociological Review, 78*(5), 828–848.

Figlio, D. N., & Stone, J. A. (2012). Are private schools really better? *Research in labor economics, 35*, 219-244.

Frankenberg, E., Siegel-Hawley, G., & Wang, J. (2010). Choice without Equity: Charter School Segregation and the Need for Civil Rights Standards. *Civil Rights Project/Proyecto Derechos Civiles*.

Garcia, D. R. (2008). The Impact of School Choice on Racial Segregation in Charter Schools. *Educational Policy, 22*(6), 805-829.

Goodburn, C. (2009). Learning from migrant education: A case study of the schooling of rural migrant children in Beijing. *International Journal of Educational Development, 29*(5), 495-504.

Guan, M. (2014). Temporal and spatial process: urbanisation driven by rural–urban migration in China, 1949–2010. *International Journal of Migration and Residential Mobility, 1*(1), 50-71.

Guo, J. (2011). Family and Parent Correlates of Educational Achievement: Migrant Children in China. *Asian Social Work & Policy Review, 5*(2), 123-137.

Inagami, S., Borrell, L. N., Wong, M. D., Fang, J., Shapiro, M. F., & Asch, S. M. (2006). Residential segregation and Latino, black and white mortality in New York City. *Journal of Urban Health, 83*(3), 406-420.

Lai, F., Liu, C., Luo, R., Zhang, L., Ma, X., Bai, Y., . . . Rozelle, S. (2012). Private migrant schools or rural/urban public schools: where should China educate its migrant children *Working Paper no. 224*: Stanford University.

Lai, F., Liu, C., Luo, R., Zhang, L., Ma, X., Bai, Y., . . . Rozelle, S. (2014). The education of China's migrant children: The missing link in China's education system. *International Journal of Educational Development, 37*(0), 68-77. doi: http://dx.doi.org/10.1016/j.ijedudev.2013.11.006

Lee, C. (2004). Racial segregation and educational outcomes in metropolitan Boston *The Civil Rights Project at Harvard University*. Cambridge.
Li, L., & Shi, A. (2014). China: Implications of the "New-type" Urbanization Plan *Markets Research Special Report*. HongKong: Deutsche Bank
Li, X., Zou, H., & Wang, L. (2009). A comparartive study on school adjustment between migrant children in public school and those in migrant worker children's school. *Chinese journal of special education, 119*(9), 81-86.
Linn, R. L., & Welner, K. G. (2007). Race-Conscious Policies for Assigning Students to Schools: Social Science Research and the Supreme Court Cases. Committee on Social Science Research Evidence on Racial Diversity in Schools. *National Academy of Education (NJ1)*.
Liu, Q. (2007). *Study on the psychological status and the countermeasure of the farm workers' children in city.* Nanchang Univeristy.
Lu, Y. (2012). Education of Children Left Behind in Rural China. *Journal of Marriage & Family, 74*(2), 328-341.
Lu, Y., & Zhou, H. (2013). Academic Achievement and Loneliness of Migrant Children in China: School Segregation and Segmented Assimilation. *Comparative education review, 57*(1), 85-116.
Lubienski, C., Crane, C., & Lubienski, S. T. (2008). What Do We Know about School Effectiveness? Academic Gains in Public and Private Schools. *Phi Delta Kappan, 89*(9), 689-695.
Orfield, G., & Lee, C. (2005). Why segregation matters: Poverty and educational inequality. *Civil Rights Project at Harvard University*, 1-47.
Perry, L. B., & McConney, A. (2013). School Socioeconomic Status and Student Outcomes in Reading and Mathematics: A Comparison of Australia and Canada *Australian Journal of Education, 57*(2).
Portes, A., Fernandez-Kelly, P., & Haller, W. (2005). Segmented assimilation on the ground: The new second generation in early adulthood. *Ethnic and Racial Studies, 28*(6), 1000-1040.
Portes, A., & Zhou, M. (1993). The new second generation: Segmented assimilation and its variants. *The ANNALS of the American Academy of Political and Social Science, 530*(1), 74-96.
Schnepf, S. V. (2007). Immigrants' educational disadvantage: an examination across ten countries and three surveys. *Journal of Population Economics, 20*(3), 527-545.
Su, Y., Fan, G., Fu, H., Liu, Y., & Yang, S. (2014). Study of Configuration and Use of Public Facilities in Villages and Towns against New-Type Urbanization Background. *Bridges, 10*, 9780784413135.9780784413129.
Tao, H., Xu, Y., Zhang, X., Gu, L., & Hong, J. (2004). Comparison of the mental health status between migrant and local high school students in Beijing. *Chinese Journal of Special Education, 51*(9).
Thomsen, L., Green, E. G., & Sidanius, J. (2008). We will hunt them down: How social dominance orientation and right-wing authoritarianism fuel ethnic persecution of immigrants in fundamentally different ways. *Journal of Experimental Social Psychology, 44*(6), 1455-1464.
Vermeulen, H. (2010). Segmented assimilation and cross-national comparative research on the integration of immigrants and their children. *Ethnic and Racial Studies, 33*(7), 1214-1230.
Wang, L. (2012). Social exclusion and education inequality: towards an integrated analytical framework for the urban–rural divide in China. *British journal of sociology of education, 33*(3), 409-430.
Wang, Z. (2009). Systematic barriers to schooling of migrant workers' children and policy recommendations. *Frontiers of Education in China, 4*(2), 298-311.
Wei, J., & Hou, J. (2010). The Household Registration System, Education System, and Inequalities in Education for Migrant Children. *Chinese Education & Society, 43*(5).
Xia, C. (2006). Migrant Children and the Right To Compulsory Education in China. *Asia-Pacific Journal on Human Rights & the Law, 7*(2), 29-74.
Xie, Y. (2007). A Survey Report on the Growth Education of the Migrant W orkers'Children in Wuhan. *Journal of Hubei University (Philosophy and Social Science), 34*(6), 13-17.
Yuan, Y., & Hou, J. (2012). Family as a Determinant of School Choice Outcome of Migrant Children' s Parents. *Population Research, 36*(2), 106-112.
Zhou, M. (1997). Segmented assimilation: Issues, controversies, and recent research on the new second generation. *International migration review*, 975-1008.