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Implementing the National Curriculum Reform In China: A Review of the Decade

Abstract In China, the eighth round of national curriculum reform (NCR) is the most serious, systematic, and ambitious attempt to transform the basic education curriculum system since 1949. Through a review of the contexts, processes and outcomes of the implementation of the NCR from 2001–2011, this paper provides a further discussion on three pairs of apparently conflicting aspects: policy borrowing or policy learning; revolution or evolution; success or failure. It enriches our understanding of the implementation of large-scale reform in a non-western context like China in the following ways: Firstly, the NCR is China's reaction against as well as response to the requirements of the current era of globalization; secondly, the debates and setbacks during the implementation of the NCR are not necessarily destructive, and a more integrative view should be adopted by the NCR on the balance between tradition and innovation, between localized concerns and global perspectives; thirdly, it is not wise to make a rash judgment on the reform outcomes of the NCR, especially the invisible and profound cultural changes. All those who are concerned about the evaluation of the NCR may need to rethink and clarify their views and positions on the purpose of education.

Keywords curriculum implementation, national curriculum reform, basic education, China

The National Curriculum Reform in China

Curriculum reform has played a central role in the educational changes in contemporary China. The government of the People's Republic of China, being at the helm of the centralized educational administration system, assumes the responsibility for designing and organizing systemic reform initiatives. This is especially the case for events since the end of the 1990s. At the turn of the

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millennium, the Chinese government initiated a new round of national curriculum reform (NCR) for basic education which was the eighth round of nationwide curriculum reform since the founding of the Peoples' Republic of China in 1949.

Educational change usually comprises three phases; namely, initiation, implementation, and institutionalization (Fullan, 2007). In the case of the NCR in China, the period between 2001 and 2011 can be seen as the second phase, that of curriculum implementation. In June 2001, the most important policy document of the NCR, the *Compendium of Curriculum Reform for Basic Education (Experimental)* (referred to henceforth as the “*Compendium*”), was published by the Ministry of Education (MOE) along with 22 curriculum standards for compulsory education. It stated that the new curriculum covers all three stages of basic education, i.e., preschool education, compulsory education (Grade 1 to 9) and general senior secondary education (Grade 10 to 12), and described the plan for the reform in terms of the following nine aspects: reform goals, curriculum structure, curriculum standards, teaching and learning, the development of teaching materials, curriculum evaluation, curriculum management, teacher training and the organization of the curriculum reform. The *Compendium* called for a curriculum to establish a new system of basic education consistent with the requirements of quality-oriented education (*suzhi jiaoyu*), with the aim of cultivating among students, the spirit of patriotism, collectivism and love for socialism as well as inheriting and carrying forward fine Chinese traditions. In addition, students are encouraged to develop an innovative spirit, capability for action, life-long learning skills, and to acquire scientific and artistic literacy together with environmental awareness.

Specifically, the *Compendium* defined the six goals of the curriculum reform as follows (MOE, 2001):

- to change the emphasis from simply knowledge transmission, as in past curricula, to a stress on learning process;
- to change the discipline-centered curriculum structure, and make it integrated and adaptable to the various needs of pupils in different regions;
- to renew the “hard, complicated, biased, and out-dated” curriculum content, and strengthen the relevance of curricula to students’ lives, society, and the development of science and technology;
- to change the emphasis of teaching and curriculum implementation from heavily drilled rote learning, to more emphasis on active learning and inquiry ability;
- to change the emphasis of curriculum assessment on screening, and stress the value of assessment in promoting the development of students, teachers, and schools;
- to replace the centralized curriculum management with a three-tier system

of national, local, and school curriculum management to render the curricula adaptable to local areas, schools, and students (Art.1.2).

In September 2001, the NCR formally entered the stage of curriculum implementation when the new curricula for compulsory education were put into practice in 38 experimental areas, and these experimental areas were gradually added to in the next few years. By September 2005, as the MOE had planned, all new students entering primary (Grade 1 to 6) and junior secondary (Grade 7 to 9) schools nationwide were studying under the new curricula.

For senior secondary education, the MOE issued the *Program on the Curriculum of General Senior Secondary Schools (Experimental)* (hereafter referred to as “*Program*”) and the new curriculum standards for 15 subjects in March 2003. The *Program* attempted to bring about a systemic change to the senior secondary education curriculum by emphasizing the following aspects (MOE, 2003):

- replacement of the existing subject-based curriculum structure with an integrative, three-level structure consisting of learning fields, subjects, and modules;
- decentralization of the educational system and encouraging school-based curriculum development;
- granting students the opportunity or freedom to choose courses, and adopting an elective course and credit system;
- adoption of new approaches to teaching and learning, such as cooperative learning, self-regulated learning, and inquiry-based learning;
- cultivation of students’ generic skills, such as communication, problem-solving, teamwork, and creative thinking;
- establishment of a formative student evaluation system and use of growth portfolios to assess students’ learning in schools.

In September 2004, the curriculum reform of senior secondary education was implemented in four selected provinces (i.e., Guangdong, Shandong, Hainan and Ningxia) and was gradually rolled out across other provinces starting with Jiangsu, Fujian, Tianjin, Liaoning, Anhui, and Zhejiang. Although the MOE’s original plan was to carry out the senior secondary education curriculum reform throughout the nation in four years, i.e., by 2007, it was not until September 2011 that all 31 provinces, municipalities and autonomous regions of China had adopted the new senior secondary curriculum¹.

¹ Shanghai is included too. However, Shanghai is an independent experimental area of curriculum reform which was set up by the Ministry of Education in the late-1980s. In Shanghai, the first term of basic education curriculum reform was initiated in 1988. Since 1998 the second term of the reform has been implemented, and the curriculum reform of senior secondary education has been implemented since 2004. The reform initiatives in Shanghai are mostly similar to those of the NCR.

The effort of the NCR reform remains an on-going process. In December 2011, the MOE issued the revised version of 19 curriculum standards for compulsory education. These revised curriculum standards had been adopted nationwide by September 2012.

The NCR, which had been implemented for ten years in some locations by 2011, is definitely one of China's most serious and ambitious attempts for the transformation of the whole curriculum system of basic education. This paper attempts a thorough review of the implementation of the NCR in China. To achieve this purpose, the content of this paper is organized along the lines suggested by the CIPP Evaluation Model (Stufflebeam, 2000). According to the Model, a comprehensive framework for conducting evaluations contains four aspects: *context evaluation* that assesses needs, problems, assets, and opportunities to help decision-makers define goals and priorities, aiming at answering the question of "what can we do?"; *input evaluation* that assesses alternative approaches to meeting needs as a means of planning programs and allocating resources, providing answers to the question of "how can we do it?"; *process evaluation* that assesses the implementation of plans to guide activities and later to help explain outcomes, aiming at answering the question of "are we doing it as planned?"; and *product evaluation* that assesses intended and unintended, short-term and long-term outcomes both to help keep the process on track and determine effectiveness, providing answers to the question of "did it work?" Since the *input evaluation* has been covered in the introduction section about the goals, strategies and general arrangements of the NCR, the rest of this paper will first deal with the other three aspects of evaluation in sequence, i.e., sketching the international and national context of NCR (*context evaluation*); depicting the twists and turns as well as the stages in the implementation processes (*process evaluation*); and providing a preliminary evaluation of reform outcomes based on existing literature and evidence (*product evaluation*). Based on this review, the implications will then be discussed, followed by some concluding remarks.

This paper does not intend to provide a detailed, faithful linear chronicle of the NCR. Rather, it aims to facilitate the understanding of the challenges and opportunities which arise along with the implementation of a systematic, large-scale, reform in a non-Western context like China. Hence, the evidence, literature and critical incidents which are helpful to such an understanding will be discussed at some length, while other aspects which do not fulfill this very specific role will be side-lined.

Sketching the International and National Context of the NCR

As suggested by Leithwood, Jantzi, and Mascal (2002), the international and

national context in which educational change unfolds inevitably has a significant bearing on the nature and implementation of the reform initiatives. In the case of the NCR, it is important to note the influence of globalization on education and the return of large-scale reform across the world which has fueled the national emphasis on quality-oriented education and the strategy of reinvigorating China through science and education.

International Context

Today, “there is no greater context for educational change than that of globalization, nor grander way of conceptualizing what educational change is about” (Wells et al., 2005, p. 322). Globalization can be defined as “a concept which refers both to the compression of the world and the intensification of consciousness of the world as a whole” (Robertson, 1992, p. 8). In the field of education, globalization often refers to reforms, structures, and policies that transcend national borders (Astiz, Wiseman, & Baker, 2002), or implies the export of theory, policy, and practice from some systems, usually the developed Anglo-American world, into others, particularly oriental and developing countries (Dimmock & Walker, 2000).

Globalization has a profound impact on educational reforms across the world. As Carnoy and Rhoten (2002) pointed out,

the combination of economic restructuring in the world economy and the powerful ideological conceptions of how educational delivery needs to be changed, spread by international institutions as a consequence of the globalization process, is having a significant impact on educational systems worldwide (p. 2).

The influence of globalization on education is manifested in at least two aspects. One is the tendency for educational change to be framed in economic terms, for example the development of human resources (B. Levin, 1998). Based on the investigation of high productivity workplaces across countries, Henry Levin (1998) identified 12 personality traits desirable for these high productivity workplaces. These are: initiative, cooperation, working in groups, peer training, evaluation, reasoning, problem-solving, decision-making, obtaining and using information, planning, learning skills, and multicultural skills. However, the cultivation of these personality traits has been, more or less, neglected by previous education systems. In order to maintain national competitiveness in the global market, the world’s nations in general have tended to restructure their education systems to accommodate the demands of global economic competition for certain human qualities. As a result, the cultivation of generic skills (such as cooperation, communication, and critical thinking) and the ways which are

usually seen as conducive to the cultivation of these qualities (e.g., curriculum integration, constructivist teaching, inquiry-based learning, and formative assessment) are similarly advocated in the reform policies and initiatives in various countries. These reform ideas and practices also exist in China's NCR.

Another salient effect of globalization is that countries have tended to initiate fundamental and systemic reforms rather than incremental and piecemeal educational changes during the past decade (Waks, 2003). At the beginning of the new millennium, Fullan (2000) made the keen observation that, at the end of 1990s, a growing intensity in the efforts at large-scale reform had been witnessed globally, and he named this trend as "the return of large-scale reform." These reform initiatives are recognized for their efforts to bring quality improvement throughout the whole school system and for their large scale. A case in point is England's *National Language and Numeracy Strategy* in 1997. A decade later, Fullan (2009) came back to this issue again to confirm that "large-scale reform has already come of age." From the late-1990s onwards, a relatively large number of countries initiated national or territory-wide educational reforms which resulted in simultaneous transformations at school, district and national levels. This global wave of reform includes: The USA's *No Child Left Behind* in 2002 and *Race to the Top* in 2009, Norway's national curriculum reform of compulsory education in 1997 and 2006; Finland's national reform of core curriculum for basic education in 1994 and 2004. In the Asia Pacific region, many countries and regions, including Japan, Korea, Singapore, Thailand, Indonesia, and the Philippines, successively initiated national curriculum reforms after 1997 (Kennedy, 2007). Very recently, in March 2010, Australia issued its first national curriculum plan for four subjects: English, mathematics, science, and history. Seen from a global perspective, the NCR in China has been part of this global return to large-scale reform since the late-1990s (Yin & Lee, 2012).

National Context

For many years, China's basic education and its curriculum system were identified, usually in a negative manner, as being "examination-oriented" with a series of problems, including outmoded educational ideas, curriculum structures that were narrow and dominated by academic courses; curriculum content that was out-of-date and of little relevance to students' life experiences and social reality; learning approaches that emphasized drilling and memorization; the persistent tradition of teaching-to-the-test; student assessment that attached too much importance to students' marks and the function of selection for the next level of education (Liu & Kang, 2011). These problems have been seen as the chief reasons for the failure of cultivating enough qualified graduates for the current needs of society.

Since 1985, “quality-oriented education,” an idea put forward by Deng Xiaoping at the First National Conference on Education, has been increasingly used as a general guide to basic education in China. At the Second National Conference on Education in 1994, Li Lanqing, the Deputy for the Prime Minister of the time, stated that China’s basic education had to be re-routed from the track of “examination-oriented education” to that of “quality-oriented education.” Since then, “quality-oriented education” has been officially adopted as the watchword to direct the reforms of basic education.

The NCR can be historically identified as the product of the transformation to “quality-oriented education.” Before the issuing of the *Compendium* in 2001, two important policy documents had paved the way for the implementation of the NCR. One was the *Action Plan toward the Revitalization of Education in the Twenty-First Century* (hereafter referred to as “*The Action Plan*”) in 1998, and the other was the *Decision on Deepening Reform in Education and Developing Quality-Oriented Education in an All-Round Way* (hereafter referred to as “*The Decision*”) in 1999. Both documents claimed to use “quality-oriented education” to guide the subsequent NCR.

In December 1998, the MOE issued *The Action Plan*, suggesting the “Cross-century Quality-oriented Education Project.” This project was intended to comprehensively promote quality-oriented education, and targeted the formulation of a new curriculum framework for basic education in 2000. It was planned to “implement the curriculum system which accords with the requirements of basic education in the 21st century through trials and experiments across the country within about ten years” (MOE, 1998, Art. 1.2). At the Third National Conference of Education in June 1999, the State Council, the top administrative organ in China, issued *The Decision*, insisting on the development of quality-oriented education to raise the educational quality of the entire population and cultivate students’ creative spirit and practical abilities (State Council, 1999). Accordingly, a decision was made by the State Council to initiate a new round of nationwide basic education curriculum reform covering all aspects of the curriculum system.

In addition to the call for promoting quality-oriented education, the Strategy of Reinvigorating China through Science and Education (hereafter referred to as “*The Strategy*”) also exerted a strong influence on the NCR. In May 1995, President Jiang Zemin suggested the implementation of *The Strategy* nationwide. *The Strategy* insisted that China’s social and economic development necessarily should depend on the improvement of scientific and technological ability and the enhancement of people’s quality of education. In March 1996, with the endorsement of the National People’s Congress, *The Strategy* was confirmed as a basic state policy.

Seen from a global perspective, *The Strategy* echoes the trend of globalization and the international tendency for educational change to be framed in economic terms, especially the development of “educated humans” as a resource. With the rise of knowledge based economies, countries are required to invest in the production of human resources with more desirable generic skills such as initiative, cooperation, and problem-solving. However, according to a recent McKinsey study, although China produces 3.1 million college graduates and 600,000 engineers annually, only 10% of Chinese graduates are eligible for global job market competition as a result of the neglected cultivation of these qualities in China’s education system. There is a huge talent shortage for innovation-driven jobs such as designers and researchers (Farrell & Grant, 2005). Since the mid-1990s, China has put a lot of effort into converting her vast population into a huge human resource pool through implementing *The Strategy*.

The impact of *The Strategy* is manifested in the two policy documents leading to the NCR. Both *The Action Plan* and *The Decision* called for broadening the education reform to lay a solid intellectual foundation for implementing *The Strategy*. Specifically, *The Action Plan* initiated a comprehensive reform in response to the challenges of cultivating creative talent and reinforcing the national competitiveness of China in the 21st century, because “the revitalization of our nation’s education is an objective requirement for the realization of the goals of socialist modernization and the great renaissance of the Chinese nation” (MOE, 1998, Para. 3). *The Decision* clearly stated that “whether a country’s national strength is great or not depends increasingly on the overall quality of its population and the quality as well as number of talented people in various fields,” which urgently required the cultivation of a more highly talented generation to increase the national competitive strength in the 21st century (State Council, 1999, Para. 1). Insisting on the promotion of quality-oriented education and the cultivation of well rounded and talented individuals, the NCR is therefore a product of *The Strategy*, which, in turn, is a response to the intensification of global economic competition.

Recapturing the Implementation Processes of the NCR

Although the period of 2001–2011 can be regarded as the implementation phase of the NCR as a whole, there are some intermediate stages which can be identified within this decade, because of China being a vast country and the “experiment before dissemination” principle adopted for the NCR (MOE, 2001). This section will introduce these stages and then summarize the debates and setbacks which arose during the implementation of the NCR.

The Intermediate Stages of Implementing the NCR

Two classifications of the intermediate stages of the implementation of the NCR were put forward, both by people highly influential in initiating or facilitating the NCR. One, suggested by Liu and Kang (2011), combines the reform implementation at the two levels of compulsory and senior secondary education together into one. The other classification, introduced by Ma (2009), takes an opposing view that the reform implementation at the level of compulsory education and senior secondary education should be separated.

From the viewpoint of Liu and Kang (2011), two key initiators and organizers of the NCR, the implementation phase from 2001 to 2011 can be classified into three stages as follows:

- Compulsory education curriculum pilot and finalization of the curriculum program for senior secondary education (2001–2004). In addition to the issue of the *Compendium* and the *Program*, the curriculum reform of compulsory education was put into practice in pilot districts and gradually scaled up. A system of teacher professional development that combined research on teaching and a school-based inquiry approach was also introduced.
- Finalization of compulsory education curriculum, nationwide implementation, and the new secondary curriculum pilot (2004–2007). The curriculum reform of compulsory education was implemented nationwide, and the curriculum reform of senior secondary education was piloted. This stage also saw the introduction of a more systematic approach to professional support for teachers nationwide through research seminars and online resources for teachers.
- Reflection, reinterpretation, and further implementation (after August 2007). The curriculum reform of senior secondary education was gradually extended to all provinces in China. The college entrance examination system underwent some changes, especially in the first batch of four pilot provinces. Substantial progress was made, but a number of significant challenges were also identified.

In contrast to the overall picture of the implementation of the NCR provided by Liu and Kang's (2011) classification, Ma (2009), the leading expert of the national evaluation team for the implementation of the NCR, suggested a more detailed and differentiated classification which made a distinction between the implementation of the reform of compulsory education and senior secondary education. Ma suggested that the implementation of the NCR at the level of compulsory education be classified into four stages:

- The initiation and extension of national experimental districts (2001–2002): The curriculum reform was first put into practice in 38 national

experimental districts, and later the number of national experimental districts was expanded to 42.

- The initiation and extension of provincial experimental districts (2002–2003): In 2002, a total of 520 provincial experimental districts were established, and in 2003 the curriculum reform was extended to at least another 910 provincial experimental districts. By 2003, half of the counties or districts across China had adopted the new curriculum.
- The rapid expansion of curriculum reform (2004–2005). By 2004, about 90% counties and districts in China had entered the implementation stage of the NCR. By September 2005, with the exception of very few areas, all starting grade students were following the new curriculum.
- Consolidation and fine tuning (2005–2011). In this period, it was noted that the NCR began to be accepted as routine in some schools and areas. To resolve the problems which emerged from the implementation processes, the MOE organized experts to fine-tune the mathematics curriculum standards in 2005, and set out to adjust the curriculum standards of other subjects in 2007.

Now, with the benefit of hindsight, the actual implementation of the NCR at the level of senior secondary education starting from September 2004, can be classified as:

- The preliminary experimentation (2004). In September 2004 the NCR was implemented in four selected provinces.
- The bottleneck period (2005). Though the MOE originally planned to extend the NCR to another four provinces, only one province (i.e., Jiangsu) adopted the new curriculum in September 2005.
- Rapid and smooth expansion (2006–2011). From 2006 to 2010, four or five more provinces were included in the implementation of the NCR each year. In September 2011, the new curriculum was adopted by the last two provinces (i.e., Guizhou and Qinghai). The NCR was implemented throughout the country as planned.

It is worth noting that contrary to Ma's (2009) suggestion which combined the years of 2004 and 2005 together, the later classification highlights the importance of the year 2005, which will be discussed in more detail in the following section.

The Debates and Setbacks during the Implementation of the NCR

Although the NCR appeared well planned and implemented in a regular sequence, the implementation processes was by no means entirely trouble-free. One can readily identify debates, disputes, or even resistance which the implementation of the NCR in China had to confront.

Classification of the stages of the NCR's implementation shows that 2005 was

an important period, because apart from being “the bottleneck period” of the NCR at the level of senior secondary education, it was also the time when the MOE set out to revise the mathematics curriculum standard for compulsory education. Looking back on the whole process of NCR implementation, 2005 was clearly an eventful year in which NCR implementation suffered its most significant setbacks.

These setbacks were the result of at least three important elements. The first two involved academic debates among education scholars on the nature and direction of the NCR. These were the so-called “Wang-Zhong Debate” and the debate on the theoretical foundation of the NCR. The third one refers to the sharp critique by some Chinese Academics of the Sciences at the *Lianghui* in 2005, i.e., the National People’s Congress (NPC) and the Chinese People’s Political Consultative Conference (CPPCC), which directly slowed the progress of the NCR.

The Wang-Zhong Debate is named after two influential scholars, Wang Cesan at Beijing Normal University, and Zhong Qiquan at East China Normal University who was also the leader of the “Consultant Expert Team of NCR.” In July 2004, Wang Cesan initiated the debate by publishing the paper “*Taking the Thought of Despising Knowledge Seriously*” (Wang, 2004). He advocated that the proposition to transfer from examination-oriented education to quality-oriented education must be abandoned because it resulted in an inappropriate trend of despising knowledge in the NCR. Very soon, Zhong Qiquan published two papers in response to Wang’s article (e.g., Zhong, 2005; Zhong & You, 2004). Zhong and You (2004) considered Wang’s opinions to be a reflection of the outdated tradition of Kairov’s pedagogical thought, which lagged dramatically behind the times regarding the needs of current society. In contrast with Wang’s opinion that the NCR imported too many ideas and practices from the West which are unsuitable in the context of China, Zhong (2005) suggested that the NCR had to follow the principle of “global perspective, local action,” and redefined a series of fundamental concepts about knowledge, curriculum, and instruction according to the changed requirements of current society. The debate was soon expanded by quite a number of scholars of education, such as Zhang Zhengjiang, Ying Xuejun, Liu Li, Wang Benlu, Zha Youliang, etc., and the debate did not fully subside until the later period of NCR implementation (e.g., Huang & Liu, 2009; Wang, 2008; Zhong, 2009).

Comparatively, the time span and scope of another debate in academia was much smaller, but it targeted another important issue in the NCR: What precisely is the theoretical foundation of the NCR? In May 2005, the debate was initiated by Jin and Ai with their published views in the *China Education Daily*. Their views aroused the attention of other scholars and practitioners. Using the *China Education Daily*, as a platform, a stream of scholars and front-line practitioners

joined the discussion which continued until the end of 2005. In this debate, one side upheld the Marxist epistemology and all-round development theory as the foundation of the reform (e.g., Jin & Ai, 2005, May 28), while the other suggested an updating or reinterpretation of the connotation of these Marxist viewpoints in the current context (e.g., Gao, 2005, August 13).

The influence of these two debates was mainly confined within academia. For the practice of NCR's implementation, the truly powerful influence comes from the critiques of two mathematicians and Chinese Academicians of Science at the *Lianghui* in March 2005. On March 12, Liu Yingming, a member of the CPPCC, submitted a proposal, jointly signed by 45 members of the CPPCC, for revising the mathematics curriculum standard of compulsory education (Fan & Zhong, 2005, March 12). On March 16, Jiang Boju, a delegate of the NPC, appealed to stop the implementation of the mathematics curriculum standard (Cai, 2005, March 16). Both mathematicians considered that there were significant damaging deviations in the direction of the NCR. Taking mathematics as an example, the new curriculum standard completely abandoned the precious tradition of Chinese secondary education which emphasized students' mastery of basic knowledge and basic skills. These deviations, it was suggested, would lead to chaos and disorderliness in front-line teaching, and possibly impede the cultivation of students' ability in thinking and reasoning. They concluded that it was not appropriate for the NCR to discard China's tradition by blindly following foreign forms of education. The opinions of Chinese Academicians of Science and representatives of *Lianghui* exerted a dramatic influence on the implementation of the NCR. Several months later, the MOE suspended their original schedule of reform implementation, and set up a taskforce charged with the review of the mathematics curriculum standard of compulsory education. In September 2005, only one province, instead of four as previously planned, implemented the NCR at the level of senior secondary education (Yu, 2005).

As argued by Yin (2011), the debates and setbacks in 2005 should be considered a necessary and inevitable step in reform rather than merely an accidental blip in the implementation of the NCR. When the NCR started at the level of senior secondary education, the reform entered its most crucial stage. Because of the high expectations of Chinese people of education and the entrenched tradition of preparing students for the college entrance examination, any reform initiative was an extremely high stakes game for all stakeholders involved, especially students and their parents. More importantly, due to the global exchange around reform policies and practices, some of which were apparent in the NCR, it was inevitably seen as something "exotic" or "alien" by the frontline practitioners, generating dramatic conflict between the local traditions and the newly arrived reform ideas. Such tensions and conflicts may lie dormant, but accumulate over time until the right time for them to break out. In

the case of the NCR in China, the time was right in the year 2005. These debates and disputes at that time were directed towards the same core problem: How should those who were responsible for implementing the NCR balance the relationship between inheriting Chinese traditions and innovating for a changing society, or the relationship between localized concerns and global perspectives? The setback in 2005 was the product of this struggle.

Evaluating the Outcomes of the NCR from Multiple Perspectives

The evaluation of reform outcomes or consequences has always been an important issue in research into educational change (e.g., Hall & Hord, 2006; Hopmann, 2003; House, 1996; Leithwood et al., 2002; Yin & Lee, 2008). Furthermore, it may also be the most complicated issue, because many different stakeholders affected by the educational change may have different criteria and different demands and different views on such evaluation.

After a decade of reform implementation, the evaluation of the reform outcomes became an increasingly urgent and unavoidable issue for all those who are concerned about the NCR in China. As articles and papers started to appear in local and international journals, increasing evidence was offered about the impact of the NCR on students' learning, teachers' professional growth and curriculum development in schools and beyond, which provided a convenient source for the researcher to develop preliminary questions regarding the consequences and possible benefits of the NCR. Without underestimating the complexity of evaluating curriculum reform, the following sections will discuss this issue from the perspectives of cross-cultural comparative studies, official investigations and empirical studies conducted by researchers unfettered by holding an official position, who are most likely to be independent and objective.

Reform Outcomes from a Perspective of International Comparisons

As already stated, under the influence of globalization, the NCR in China adopted many Western ideas and policies, such as decentralization, curriculum integration, constructivist teaching, inquiry-based learning, formative assessment, and cultivation of generic skills, etc. This caused heated debates on the nature and theoretical foundation of the NCR over the years. The focus of international comparative studies is to answer the following question: Is the NCR in China very similar to recent and current reform initiatives in Western countries?

Some recently published international comparative studies indicate that China's NCR differs distinctly from the reform initiatives in other countries.

When comparing educational trends in China and the USA, Preus (2007) found that to meet the demands of globalization, Chinese education is becoming increasingly decentralized and learner-centered, which is precisely the opposite direction to that of recent reforms in the USA. Specifically, the reform in China moved the Chinese education system toward decentralization of basic education and a “quality-oriented” education with an emphasis on learner-centered teaching methods, while the reform in the USA made the education system more centralized, “test-oriented” and placed more emphasis on the method of direct instruction. The contrast was also found in Halpin’s (2010) comparative study of the national curriculum reform in China and that in England. Specifically, China’s NCR emphasizes the importance of local implementation, inviting teachers to play a crucial role in interpreting at the local school sites, within a broad centrally determined curricular framework, including modes of formative student assessment. However, the national curriculum reform in England chiefly requires schools to teach centrally prescribed subject-derived curricular content, the learning of which is periodically monitored through teacher administered pre-specified standardized tests.

In view of these differences, the nature and features of the NCR in China have been defined in some recent studies. For example, in Tan’s (2012) study on the curriculum reform in Shanghai, although Shanghai was found to justify the second-term curriculum reform on the basis of the global imperative, the reform could be seen as a “global assemblage,” a collection ideas and practices arising from the interplay between a global form and in-situ socio-cultural elements which are important to the success of reform implementation. In a special issue of *Asia Pacific Journal of Education* (2009, Vol. 29, No. 4) on basic education reform in China after 1997, the guest editors concluded that, though the reform is in many ways in line with global educational changes, the practitioners in China, rather than fully embracing these global trends, struggle over, reflect and give their own voices to the reform. Therefore, they suggested viewing the NCR in China as “globalization with Chinese characteristics” (Liu & Fang, 2009).

Reform Outcomes from the Perspective of Official Investigations

One of the primary goals of the NCR is to transcend the “subject-centeredness” of the previous basic education curriculum system (MOE, 2001, 2003). In this respect, Zhu Muju (2007), the Director-General of the National Center for School Curriculum and Textbook Development and one of the chief designers of the NCR, summarized the changes brought by the new curriculum in four aspects: (1) revising academic courses and connecting them to student experience and social development; (2) adding integrated practice activity courses, including inquiry-based studies, community service and hands-on work experience; (3)

diversifying curriculum with locality- and school-based courses; and (4) providing elective courses for all students.

In a chronological review of the NCR, Liu and Kang (2011) recorded a one-year national investigation in 2005 organized by the MOE, together with the Central Propaganda Ministry, the Human Resources Ministry and the Social Science Institute. The final report of this national investigation stated that the NCR has brought about fundamental transformation of school education, resulting in positive and profound changes in terms of teachers' teaching and students' approaches to learning.

At the level of school practice, Yu Wensen (2003), a leading scholar of the MOE's taskforce in charge of teacher professional development, reported the results of a national investigation into the implementation of the NCR at the level of compulsory education in 42 experimental areas in 2003. Though the new curriculum had been implemented for only two years, the investigation showed the changes resulted in some major achievements: (1) students were more motivated to learn and their academic quality had been improved; (2) the traditional, knowledge-focused teaching mode was, as intended, changing towards a quality-oriented one; and (3) teachers' professional growth was largely facilitated. Besides, he also addressed some problems existing in the reform implementation, among which the most common one was that teachers only had a superficial understanding of new teaching approaches, e.g., self-regulated learning, cooperative learning, and inquiry-based learning. Hence the effectiveness of these approaches was limited.

Based on the results of four rounds of national investigation on the implementation of the NCR, Ma (2009) found that teachers consistently showed high receptivity to the NCR, and their capacity to accommodate the requirements of NCR has been growing. The NCR has also brought desirable and significant changes to administrators' and teachers' concepts about curriculum, teaching and student learning. Moreover, most schools had set up mechanisms for school-based teaching research and curriculum development consistent in response to the requirements of the NCR. However, these national investigations also revealed some common challenges and difficulties, including (1) significant geographic discrepancies existing at regional (i.e., urban and rural) and school level (i.e., primary and secondary); (2) limited supporting resources for schools, especially for rural schools; (3) unsatisfactory professional support for teachers; and (4) questionable effectiveness of classroom teaching, which was consistent with the shortfall in teachers' knowledge of some methodologies observed by Yu Wensen (2003) at the early stage of reform implementation.

Reform Outcomes from the Perspective of Independent Empirical Studies

An increasing number of empirical studies conducted by independent researchers

have involved the evaluation of the outcomes of the NCR in China to varying degrees. Differing from the above summary of the state-sponsored national investigations, these empirical studies adopted a variety of research methodologies and designs, ranging from questionnaire survey to ethnographic case study, and from longitudinal inquiry to quasi-experimental study. These studies collected data from multiple sources, including a survey of informants' perceptions, observation of classroom practice and data about students' learning achievements. Undoubtedly, incorporating the results of these independent studies can contribute to a more comprehensive evaluation of the outcomes of the NCR in China.

One important goal of the NCR is to change students' passive learning style to an active one by the introduction of some innovative learning methods, e.g., self-regulated learning, cooperative learning and inquiry-based learning (MOE, 2001, 2003). After a one-year investigation into the transformation of learning and teaching in the context of the NCR, Sun and his colleagues found that although there were already some desirable changes in students' approaches to learning, the use of different learning modes was unbalanced. Specifically, the changes in two learning modes which were particularly advocated by the NCR, inquiry-based learning and cooperative learning, were less satisfactory than those in mechanical receptive learning, meaningful receptive learning, and discovery learning. They concluded that these two learning modes had not been fully implemented in the NCR (Sun et al., 2011).

In 2011, the 21st Century Education Research Institute, a non-government organization which is committed to research into education and public policy, conducted an online survey eliciting teachers' evaluation of the NCR. An analysis of 3,740 teachers' responses to this online survey produced both negative and positive findings (Dong, 2011; Cheng, 2011). Major positive results indicated that: (1) 74% of the teachers agreed with the new approaches to teaching and learning, i.e., self-regulated learning, cooperative learning, and inquiry-based learning; (2) 83% of the teachers considered that they had changed their way of classroom teaching, the degree of change ranging from "a certain degree" to "a large degree"; and (3) 63% of the teachers considered that the NCR had been actively adopted in their schools. Significant negative results suggested that: (1) 75.4% of the teachers were dissatisfied with the implementation of the NCR; (2) 73% of the teachers considered that the knowledge structure of the new curriculum was not coherent and systematic; (3) 62% of the teachers considered that the implementation of the NCR in urban schools was much better than that in rural schools; and (4) 47% of the teachers thought that students' schoolwork burden was increased after the implementation of the NCR. Considering these complicated or even contradictory results, the online survey suggested that a simple "success or not" evaluation was an unsuitable method to evaluate the

ten-year implementation of NCR (Dong, 2011).

Based on Sun et al.'s (2011) investigation and the online survey conducted by the 21st Century Education Research Institute, Zha (2012) recently concluded that the NCR in China has, by and large, failed to achieve its goals. His judgment on the reform outcomes is apparently supported by the findings of some in-depth case studies. For example, based on an ethnographic study of three English language teachers, a significant gap was identified by Yan (2012) between the implementation of the new curriculum requirements and the teachers' actual classroom practices, despite their common endorsement of the goals and pedagogies of the NCR. Specifically, the instruction of these teachers was still predominantly authoritarian and textbook-based; student learning was reproductive; and assessment was judgmental rather than focused on improving performance. Similar findings, which were discovered by Sargent and her colleagues (2011) with their analysis of six Chinese language demonstration lessons, suggested that although there were some desirable albeit limited changes in students' learning, the nature of student participation was still highly constrained and limited. There still existed the use of the content-based methods of the traditional classroom in which students were drilled in textual content and trained to produce one correct answer. Therefore, some researchers adopted the analogy of "wearing new shoes to walk the old road" to describe the current situation of reform implementation (e.g., Guo, 2010; Sargent et al., 2011).

Not all findings of these independent studies are as negative as those summarized above. Some studies led to a positive evaluation of the outcomes of the NCR in China. In a series of questionnaire surveys on teachers, mainly from southwest China, Yin and his colleagues found that teachers had a strong intention to implement the new curriculum in their classrooms, and showed a positive evaluation of the perceived changes in teaching and learning after the implementation of the NCR. Comparatively, primary teachers were more positive than their counterparts in secondary schools in both the behavioral intention to implement the new curriculum and the perceived reform outcomes (Lee, Yin, Zhang, & Jin, 2011; Yin, Lee, & Jin, 2011). In Sargent's (2009) mixed-method study on the effects of the NCR in Gansu, a poor interior province in northwest China, she found that teachers in traditional classrooms focused on transmitting textual content to the students through lecture and drill, while teachers who adopted the teaching mode advocated by the new curriculum were more likely to integrate student experiences and opinions into classrooms discussions. Teachers in schools where the NCR is being implemented to a great extent lectured less and were more likely to create an enjoyable classroom environment for students.

According to a longitudinal survey which consisted of three rounds of data collection in Gansu, Adams and Sargent (2012) found that teaching practices had shifted over time in Chinese primary schools. Specifically, students reported

significant changes related to increased classroom discussion and decreased teacher lecturing between 2000 and 2007. These changes reflected the new curriculum ideal of more active, engaged student-centered learning. Moreover, students reported significantly higher levels of happiness at school and participation in classroom activities in 2007 compared with 2000, and significantly lower levels of negative feelings such as anxiety, stress, boredom, and disaffection with schooling during the same period. Based on the findings about student engagement that far fewer students reported boredom at school in 2007 than 2000, Sargent (2011) argued that “if the new curriculum reforms have really succeeded in raising the level of students’ interest in schooling, this can certainly be considered an important success of the reforms” (p. 70).

Up to now, the longitudinal, quasi-experimental research project conducted by Ni Yujing and her colleagues may be the most rigorous and systematic study on the outcomes of the NCR in China (Ni, Li, Li, & Zhang, 2011; Ni, Li, Li, & Zou, 2011; Li & Ni, 2011). Their study investigated the influence of the NCR on primary students’ mathematics achievement as well as teachers’ classroom practices by tracking two groups of students and teachers who adopted either the new curriculum or the conventional curriculum over a period of 18 months. Findings of the project provided the consistent evidence that the NCR had resulted in some of the expected changes. In this project, student achievement was measured by relationship with computation, routine problem solving, and complex problem solving. They found that although the non-reform group showed a faster growth in proficiency in computation and outperformed the reform group in this respect, the reform group had a better performance in complex problem solving, and achieved a more balanced development over-all in the three areas of mathematics achievement (Ni, Li, Li, & Zhang, 2011; Ni, Li, Li, & Zou, 2011). In conclusion, they clearly stated that “there was no evidence to support the claim that the new curriculum is weakening the students’ proficiency in the basic mathematics skills and not benefiting their competence in solving mathematics problems, particularly non-routine problems” (Ni, Li, Li, & Zhang, 2011, p. 113).

As for the influence of the NCR on teaching practices, after comparing about 150 videotaped class sessions taught by 58 teachers from 20 schools, Ni and her colleagues found that a greater proportion of high cognitive level tasks were implemented in the reform classrooms than in the non-reform classrooms. Although numerical symbolic representation and single-solution strategies were dominant in the instructional tasks for both groups, a higher proportion of instructional tasks, including visual illustrations, hands-on manipulation, and multiple-solution strategies were used in the reform classrooms. In addition, though most of the teachers’ questions were related to memorizing exercises and explanations of answers, teachers of the reform classrooms were more likely to

ask students to describe the procedure leading to their answer and to inquire further into students' responses (Ni, Li, Li, & Zou, 2011; Li & Ni, 2011). In short, the results indicated positive changes in classroom practice resulting from the implementation of NCR.

Discussion

As previously stated, this paper not only aims at providing a review of the implementation of the NCR from 2001 to 2011, but also attempts to enrich the understanding about how implementing a systematic, large-scale reform in China can be undertaken. Following the above review of the contexts, processes, and outcomes of the NCR, the insights drawn from the experiences of the NCR in China elicit a further discussion on the following three questions: Was the NCR policy borrowing or policy learning, revolution or evolution, and a success or failure?

Policy Borrowing or Policy Learning?

This question concerns the understanding of the nature of the NCR in an era of globalization. Today, the migration of education policies has become a universal characteristic of educational reforms. This is manifested in the NCR in China which apparently “borrowed” or “imported” many theories and practices from Western education systems which may result in a process of educational isomorphism within and around the world (Carnoy & Rhoten, 2002; Priestley, 2002). In the process of educational isomorphism, the cultural and educational traditions in each country are marginalized to some extent, and this can lead to dramatic conflict between the local traditions and the newly arrived “exotic” educational ideas and practices. The significant setback of the NCR in 2005 is illustrative of China's resistance to the tendency of educational isomorphism brought by global reform waves.

However, is the NCR in China only a kind of policy borrowing? Can policy borrowing be a successful way of reforming a nation's education system? A negative answer to both questions can indeed be put forward. As some researchers have pointed out (Cheng, 1998; Dimmock & Walker, 2000), education values can seldom be borrowed because of the mediation of the cultural and educational contexts in a specific country. Therefore, globalization does not necessarily produce homogeneity and simple isomorphism. It creates heterogeneity through local adaptation as well (Carnoy & Rhoten, 2002). This argument is supported by a large body of empirical evidence. For example, Astiz and his colleagues' (2002) study, which qualitatively examined four nations and

quantitatively examined 39 nations, found that the different ways in which nations responded to the decentralization of curricular control led to a mix of centralized and decentralized models of curricular administration in national educational systems. After comparing the educational reforms in European and Asian states, Green (1999) suggested that even though there is considerable convergence at the level of policy rhetoric and reform objectives, “there is less evidence of any systemic convergence at the level of structures and processes in different countries” (p. 69). These studies highlighted the significance of local context and adaptation resulting from traditions, cultural imperatives, historical legacy, and national political circumstances that have the potential to produce cross-national modification to reform policies and initiatives (Astiz et al., 2002). Local adaptation causes the education reform in a specific country to have a dual character: It can simultaneously be a reaction against as well as a response to the globalized rhetoric of education reform (Priestley, 2002).

The recognition of the heterogeneity through local adaptation explains why these international comparative studies argue that China’s NCR is different from the reforms in England and the US (Halpin, 2010; Preus, 2007), and why the NCR is viewed as a “global assemblage” (Tan, 2012) or “globalization with Chinese characteristics” (Liu & Fang, 2009). These studies illustrated that the NCR in China is not just a “policy borrowing” or a simple “copy and paste” exercise, even though it advocated many seemingly “Anglo-American” ideas and policies.

This paper argues that the NCR in China should be treated as an attempt at “policy learning.” In contrast to policy borrowing which highlights searching the international experience for transferable “best practices,” policy learning uses this experience for a wider range of purposes, including understanding one’s own system better, identifying common trends and pressures that affect all systems and clarifying alternative policy strategies (Raffe, 2011). Policy learning supports processes for looking outwards, particularly through international peer learning, whilst retaining an emphasis on the national context. It attaches a strong importance to the development of international capacities to lead the design and implementation of curriculum reform in the globalization era (Chakroun, 2010). Following the principle of policy learning, the NCR in China, to be effective, must take account of inquiry on the effects of the imported policy in the source system, learning from that and then actively adapting that knowledge to the local system through careful consideration of national histories, cultures, and conditions (Lingard, 2010).

Revolution or Evolution?

This question relates to the understanding of the implementation strategy of the

NCR. In the context of the global return of large-scale reform, the NCR is a nationwide curriculum reform aiming at a systematic transformation of the whole curriculum system of basic education in China. Initiating such a systematic, large-scale reform in China is definitely the product of careful deliberation among reform designers. Just as Liu and Kang (2011) pointed out:

Nearly every round of curriculum reform since the foundation of the People's Republic of China has put more focus on physical changes (...) All of the material changes that resulted from these previous "new" reforms have made us realize the limited impact of these reform programs. In the current curriculum reform programme, however, there is a concern to deal with much deeper and more fundamental questions (pp. 33–34).

Cuban (1992) differentiated two types of changes in schools, namely, incremental and fundamental. Incremental change is the intentional effort to enhance the existing system by correcting deficiencies in policies and practices. It assumes that the goals and structures of schooling are adequate and desirable. By contrast, fundamental change seeks to alter the essential ways that an organization is put together. It introduces new goals, structure and roles that transform familiar ways of performing duties into novel solutions. The NCR in China expressly attempts to bring a fundamental change which transcends the level of school organization to the level of the whole curriculum system. In Waks' (2007) terms, the NCR, as a fundamental educational change, is primarily about the change in educational ideas, norms, organizational arrangements and frameworks that constitute education as a social institution.

Teachers in schools are the ultimate implementers of all curriculum reforms. For them, implementing an incremental change usually means a refinement but continuation of their past experiences. This is quite different from implementing a fundamental educational change which often means abandonment of teachers' previous educational beliefs and values, and a complete reconstruction of their teaching experiences (Yin & Lee, 2007). During the implementation of the NCR, there was a popular phrase among teachers that "previously I knew how to teach, but now I do not know it anymore" (author's translation from Zha, 2012), which reflected the huge impact of fundamental change in teachers' perceptions and feelings. Therefore, the NCR often created an impression among teachers that China's government had adopted a revolutionary approach to reform implementation. This impression was strengthened by the all-inclusive manner in which the MOE's specification of the nine aspects of reform (MOE, 2001), and the State Council's decision to shorten the original schedule of reform implementation from ten to five years, was imposed (China to complete curriculum reform in five years, 2001).

Although the NCR is a fundamental educational change aiming at bringing

all-inclusive changes to the way of teaching and schooling, this paper argues that the NCR should adopt an evolutionary approach to reform implementation at the school level. Instead of requiring teachers to throw away their previous beliefs, values, and teaching experiences, the NCR should encourage teachers to change gradually and treat their past as a resource, rather than a burden, of change. This evolutionary approach reminds the reformers and researchers of the legitimacy of the so-called “wearing new shoes to walk the old road” in the NCR. This sort of mixed practice is inevitable in teachers’ implementation of curriculum reform, because for them “the past is their path to the future” (Cohen, 1990, p. 323). Moreover, the reformers and researchers should not underestimate the significance and difficulty of teacher change in curriculum reform. Just as Cohen (1990) pointed out, “what reformers might see as trivial, such teachers would estimate as a grand revolution, especially as they were just beginning to change” (p. 325).

This evolutionary approach to reform implementation also encourages teachers to make a workable compromise between the old and the new, the local and the global. In one study on the change leadership of NCR in China, Yin, Lee, and Wang (in press) found that if teachers and school leaders discovered the “bonding point” of their past experiences and the requirements of the new curriculum, the implementation of NCR would go more smoothly at the school level. Interestingly, the frontline practitioners used the Confucian tradition of “golden mean” (*zhongyong*) to describe this workable compromise, which was reflected in practitioners’ words such as “reform is not revolution. Now there are some compromises on what the reform emphasized at the beginning, with a ‘golden mean’ as the result.”

Success or Failure?

This question concerns the understanding about the evaluation of the NCR’s outcomes, and it is the most complicated issue in research into educational change. Firstly, there are three fundamental orientations towards curriculum implementation, i.e., fidelity, mutual adaptation, and curriculum enactment (Snyder, Bolin, & Zumwalt, 1992). For researchers holding different orientations, the focus and criteria of the evaluation could be greatly divergent. Hence the judgment on the reform outcomes might be contradictory. Secondly, whatever the orientation held by the researcher, it is extremely difficult, if not impossible, to establish a set of criteria which will be commonly and equally well accepted by various stakeholders. Just as Cuban (1998) observed, when evaluating the success or failure of a reform, the criteria adopted by policymakers usually include effectiveness, popularity, and fidelity, but the practitioners are usually concerned about the adaptability and longevity of the reform. Thirdly, it is also

logistically difficult for researchers to obtain all information and evidence necessary for a comprehensive evaluation of reform outcomes, particularly for systematic, large-scale reforms like the NCR in China. Fourthly, considering the hysteretic nature of schooling, it often takes time for educational reform to show its long-term, powerful impact on students' development, as evidenced by the "Eight-Year Study" in the 1930s (Aikin, 1942; Kridel & Bullough, 2007). In consideration of these complexities and difficulties, it would be rash to make a strong final judgment on the outcomes of the NCR after such a short elapse of time.

Nevertheless, after ten years of reform implementation, it is necessary to confront the issue of evaluating the NCR directly. When examining the existing evidence provided by the empirical research on the outcomes of the NCR, three observations can be drawn as follows: (1) Although the official investigations, in general, held a relatively more positive evaluation of the reform outcomes, they did not overwhelmingly praise the NCR. Instead, they recognized the existence of some problems also revealed by independent studies, such as the inadequate professional support for teachers, the unsatisfactory effectiveness of classroom teaching, and the difference between urban and rural schools. (2) In general, the consistency among the results of different official investigations was higher than that of the independent studies. The results of different independent studies were often found to be contradictory. Even if they were based on the same facts, their conclusions could be entirely different. For example, although the online survey conducted by the 21st Century Education Research Institute suggested the avoidance of making a simple dichotomous judgment of success (Dong, 2011), Zha (2012) argued that the research must give a specific answer to this issue, and he made a negative evaluation on the reform outcomes which was based upon the results of the online survey. (3) The NCR attempted to bring changes to various aspects of the basic education curriculum system, such as textbooks and teaching materials, curriculum structure and standards, teaching and learning, curriculum management. It was found that the impact of the NCR on these aspects was not common. The dispute among different studies mainly focused on those "profound" aspects, e.g., the operation of new approaches to teaching and learning in classrooms, the impact of the new curriculum on student development. By contrast, there was less divergence on the reform outcomes in those relatively "superficial" aspects, such as teaching materials, curriculum structure and mechanisms of curriculum management.

In view of these inconsistencies and contradictions, how should the outcomes of NCR be evaluated? Can it be judged with the answer of "success or failure"? It depends on the nature of the NCR's outcomes which are evaluated. Roughly speaking, the outcomes of curriculum reform can be classified into two types: visible and invisible. Visible outcomes mainly include those physical and

structural changes, such as changes in textbooks and school organizations, rules and regulations, and teaching behaviors and student achievements. Invisible outcomes mainly refer to those cultural changes, such as changes in people's beliefs and values about education, or changes in their way of thinking and doing. The visible outcomes are much easier to be evaluated than invisible ones. For the visible outcomes, the researchers can make a specific judgment using "success or failure" based on their analysis of the current situation of curriculum reform. For the invisible outcomes, it may be inappropriate for the researchers to evaluate using "success or failure," because this kind of clear-cut answer seems oversimplified.

To date, most studies evaluating the reform outcomes of the NCR in China have mainly focused on the visible outcomes. Although the results of these studies or investigations vary, and there is no evidence indicating that the NCR has achieved its expected outcomes, it is worth noting that there is insufficient evidence to support the claim that the NCR is impairing student learning, or it fails to influence teachers' classroom teaching.

However, the NCR was much more ambitious than just changing the curricula, methodology, and student achievements. It aimed at the invisible outcomes, attempting to bring a fundamental cultural change to China's basic education (Li, 2008; Liu & Kang, 2011; Yu, 2012; Zhong, 2004). In the words of the reform designers, the ultimate goal of the NCR is to erase the "examination culture" and transform the previous "inhuman" curriculum (Zhong, 2004), and to produce fundamental changes to curriculum culture, classroom culture, teacher research culture, and the administrative culture in China (Liu & Kang, 2011). It may take years or even decades to realize these outcomes, because cultural changes are much more difficult to bring about than physical and structural changes (Zhao & Qiu, 2010). If so, is it fair to conclude that the ten-year implementation of the NCR has failed because these cultural changes have not been completely achieved? As for the evaluation of those invisible reform outcomes, researchers need to carefully examine the subtle changes in teachers' and other stakeholders' beliefs and in the values behind their behaviors. Meanwhile, researchers should come back to the starting point: What kind of student do we wish to cultivate in contemporary society? If these subtle changes are consistent with the answer to this question, then the researcher should appreciate the efforts of curriculum reform and recognize the value of the NCR.

Concluding Remarks

The NCR is China's most serious and ambitious attempt to transform the curriculum system of basic education since the foundation of the People's

Republic of China. Just like systematic education reforms in any other country, the implementation of the NCR has been neither smooth nor completely successful. This paper, through a review of the contexts, processes and outcomes of the NCR from 2001–2011, enriches our understanding of how large-scale reform is implemented in China in several ways. Firstly, the NCR is not only a response to the current era of globalization, but also a reaction against this globalized tendency because of China's unique cultural, societal and educational context. Secondly, the debates, disputes and setbacks during the implementation of NCR are not necessarily destructive. They reflect China's local adaptation of the globalized rhetoric about education reform. Therefore, the reformers and researchers should adopt a more pragmatic and integrated view of the balance between the old and the new, the local and the global, tradition and innovation. Thirdly, it is not wise to make a rash judgment on the reform outcomes of NCR, especially the invisible and profound cultural changes. All those who are concerned about the evaluation of the NCR should rethink and clarify their views, positions and beliefs about the purpose of education.

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