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## Education for Sustainable Development in Ethnic Autonomous Areas of China: A Comparison of Two Curriculum Initiatives and Their Educational Implications

**Abstract** This paper examines the educational implications of two curriculum initiatives in China that have produced curricular materials promoting education for sustainable development (ESD) in minority-populated ethnic autonomous areas in China. The two curriculum projects present distinctive discourses, conceptions, models, frameworks and scopes of ESD in the country. Nonetheless, there is a likelihood that the actual implementation of the curriculum initiatives, especially the enactment of the curriculum materials produced, might be thwarted due to structural and systemic educational constraints, an anthropocentric approach to sustainable development, poor teacher support and teacher training, omissions of the affective learning components in curricular contents, as well as loopholes and weaknesses in the development of the curriculum materials themselves.

**Keywords** education for sustainable development (ESD), minority education in China, Sunan Yugur, Honghe Hani

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### Introduction

Since the 1987 United Nations (UN) release of the Brundtland Report entitled *Our Common Future*, the concept of “sustainable development” has entered mainstream global development discourse. According to the report, sustainable development is defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”

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(United Nations, 1987). It is concerned with how the world, alongside various local communities, can continue to develop economically without surpassing its natural capacity, which would place the well-being of humans in jeopardy. In other words, sustainable development requires balancing economic development with environmental protection while simultaneously maintaining a socially equitable system intra-generationally and inter-generationally (Maragia, 2006, p. 201).

While the late 1980s are often considered the official start of the use of “sustainable development,” the origin of the term can be traced back to its roots during the environmental movement in the 1960s and 1970s. Indeed, it was the heightened environmental awareness during the 1960s and 1970s that paved the way for the contemporary development of the idea of sustainable development. Subsequently in 1992, the concept “Education for Sustainable Development” was born at the UN Conference on Environment and Development in Rio de Janeiro. At this high-level meeting, Agenda 21 was introduced with Chapter 36 affirming the critical role of education in promoting sustainability and improving individuals’ capacity to address the complexity and interdependence of the environmental, sociocultural and economic issues. The same document introduced the term education for sustainable development (ESD) as a policy perspective and kick-started a series of global and national discussions on ESD.

In China, ESD has a relatively prominent history and its development is greatly influenced by the international trends in environmental education and ESD (Lee & Williams, 2009). In fact, since the Chinese government’s participation in the 1972 UN Conference on the Human Environment, the first of a series of UN conferences on environment and development, the government has been paying increasing attention to the delivery of environmental education and ESD in schools (Lee & Huang, 2009, p. 115). Many stakeholders are involved in institutionalizing and pushing forward the UN’s ESD agenda in China. Among them, the Education for Sustainable Development National Working Committee (ESD-NWC) under the supervision of the Chinese National Commission for UNESCO has played an important role in localizing the UN’s ESD discourse in China through reinterpreting and redefining the concept of ESD to make it more relevant to educational authorities and teachers working across the country. This process involves conceptualizing ESD based on the Chinese government’s “scientific development view” (*kexue fazhanguan*, 科学发展观), which stresses

that human wellbeing should be the priority concern in any economic development effort. It also includes theorizing ESD using Chinese educational philosophies and human development perspectives.

In 2010, eight years after the 2002 declaration of the *United Nations' Decade of Education for Sustainable Development* (DESD, 2005–2014), the Chinese government issued a ten-year education sector plan—*National Outline for Long and Mid-Term Educational Reform and Development (2010–2020)*—declaring sustainable development education (*kechixu fazhan jiaoyu*, 可持续发展教育) as a main theme in the country's educational reform and development strategies (Wang, 2011). The government's policy decision shows that ESD is no longer merely a UN concept but an integral part of China's educational system and reform trajectory.

The enormous amount of effort that has been put into mainstreaming ESD in China is remarkable but not without loopholes. First, while investment into ESD in China continues to occur in relatively well-resourced cities, little is known about the development of ESD in under-resourced and culturally plural rural and ethnic minority areas of the country. Second, there is a tendency for ESD in China to turn itself into an educational label which hinders those individuals who work within its labeling boundary from interacting and sharing insights with others who work outside the boundary. Third, existing research and policy-making around ESD in China demonstrate an inclination towards reproducing the UN's ESD discourse, which could discourage alternative educational strategies, pedagogies and knowledge that promote sustainability. Critics of the UN's ESD initiative have argued that “environment and sustainable development are changing concepts and constantly vary over time and place” (Gough as cited in Lundegård & Wickman, 2009, p. 461). It is important to encourage local participation and inter-subjectivity in defining ESD in different context. Plurality, ongoing dialogues, negotiation and reinterpretation need to become central elements of ESD (Lundegård & Wickman, 2009).

In fact, when one observes the local educational scene in China, one can notice other forms of education that also promote sustainability but do not call themselves ESD. Native soil education or Chinese place-based education (*xiangtu jiaoyu*, 乡土教育) is one of such examples. Li and Teng (2010) claim that Chinese place-based education was a borrowed idea from Japan and Germany; it entered China in the early 1900s at the end of the Qing dynasty (1644–1912) as China was

building its modern education system. Since then, place-based education has been developing and adapting its curricular content and strategies in response to various sociopolitical events and policy changes happening in the country (Li & Teng, 2010). In recent years, it has undergone another round of revival in China, in particular attracting the interest of educators and development workers working in rural and ethnic minority areas. There are four main approaches to Chinese place-based education currently existing in the country (Liang, 2009). The first approach highlights the learning of ecological ethics and is by far the most popular approach to place-based education in China. The second approach focuses on poverty reduction and is largely found in the poverty-stricken Northwestern and Southwestern areas of the country. The third approach puts emphasis on the development of school-community partnership. Finally, the fourth approach takes on a multicultural/cultural preservation spin. It focuses on the issue of ethnic cultural preservation and knowledge transmission in China, believing that the rich and diverse traditional cultures in China contain wisdom that can contribute to the sustainability of human civilization. Recently, this fourth approach to Chinese place-based education has also strived to combine cultural, environmental and livelihood considerations in the development of curricula. It puts great weight on using cultural knowledge as the basis for sustainable development, especially in the ethnic minority areas of the country.

This essay attempts to broaden the intellectual discussion of ESD in China through comparing a curriculum initiative that integrates the discourse of UN's ESD with a curriculum initiative that adopts the fourth approach to Chinese place-based education mentioned above. These two curriculum initiatives have produced curricular materials that promote ESD in two ethnic autonomous areas in China: the Honghe Hani and Yi Autonomous Prefecture of Yunnan (Honghe in brief) and the Sunan Yugur Autonomous County of Gansu (Sunan in brief). The first initiative, led by experts affiliated with UNESCO-Beijing, has developed and implemented a series of regional-level ESD curricular materials that educate for the sustainable development of the Hani Terraced Fields located in Honghe. The second initiative, spearheaded by experts from the Minzu University of China, has created and delivered a series of school-level place-based curricular materials in a primary-junior secondary school in Huangcheng township of Sunan guided by the anthropological idea of economic-cultural type. Unlike the Honghe project that explicitly names itself as an ESD project, the Sunan project does not call itself an

ESD initiative although it does promote a vision of sustainable development. By comparing and contrasting the Honghe and Sunan curricular initiatives, this paper intends to go beyond the ESD labeling and understand how the UN-influenced Honghe ESD project and the Minzu University-championed Sunan ESD project complement each other in promoting (or not) sustainable development visions through education in China. In particular, the paper asks: What are the prospects of these two curricular initiatives in improving educational quality for the sustainable development of their respective ethnic autonomous regions?

Before proceeding further, it is important to note that this paper is not an empirical study about the actual implementation of the Honghe and Sunan curriculum initiatives and their curricular materials. This paper mainly uses evidence from secondary sources to surmise to what extent the two society-centered curricular initiatives were able to catalyze educational change and sustainable development in their local communities under the policy and educational conditions illuminated by various scholars. As such, it hopes to stimulate future empirical research endeavors that study sustainable development-oriented curriculum initiatives in ethnic autonomous regions of China and their implications on promoting quality ESD.

In what follows, this paper will lay out the conceptual framework from which it analyzes the Honghe and Sunan curricular projects' prospects in promoting education for sustainability. Then, it will discuss the educational development and policy contexts in which the two projects are situated. Next, it will examine the two curricular initiatives in greater details, illuminating their ESD rationales, approaches and curriculum materials' contents and frameworks. In the discussion and conclusion section, the paper will compare the Honghe and Sunan curricular projects and discuss their curriculum materials in terms of their practical consequences, usefulness, and ability to challenge the status quo and transform students' learning for sustainable development.

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## **Conceptual Framework**

To further examine the extent to which the Honghe and Sunan curricular initiatives have affected the educational quality and sustainable development of their respective localities, this paper employs the conceptual framework of "sustainable education" brought forward by Sterling (2001, 2010), and the idea of

“sustainability as a frame of mind” proposed by Bonnett (2002, 2007, 2013). Sterling came up with the notion of sustainable education in response to the problem of ESD labeling which tends to make actors outside the ESD boundaries assume that ESD is just another irrelevant add-on or of sectoral interest to particular groups of people. By rethinking ESD in terms of “sustainable education” (Sterling, 2001), Sterling envisions an education that brings out the essential values and philosophy underlying ESD. Sustainable education differs from education *for* sustainable development in that it has to first happen *in* a system that values and models sustainable development (Sterling, 2001). As such, sustainable education must attend to the larger system of policies, structures, perspectives, and pedagogical and curricular contexts in which it occurs (Sterling, 2001). It has to respond to local educational realities and remain relevant to local educational and developmental needs (Sterling, 2001). In terms of curriculum and pedagogy, sustainable education is sustaining, durable, ecological and relational. It involves learners’ spirit, mind and body in the process of learning. It is not transmissive, but rather inherently constructivist as well as transformative, adopting a participatory worldview from which a strong ecological educational paradigm and culture can be developed (Sterling, 2010). In short, sustainable education must not only reorient educational *content*, but also transform educational *practices* and *contexts* (Sterling, 2001).

While Sterling broadens the conceptual boundary of ESD, Bonnett (2007) interrogates the UN-type policy definition of “sustainable development,” pointing out that the term can appear to be highly attractive yet masking its “anthropocentric and economic motives that lead to nature being seen essentially as a resource, an object to be intellectually possessed and physically manipulated and exploited in whatever ways” perceived to be most suitable to human needs and wants (p. 710). In Bonnett’s view, it is these anthropocentric and economic motives alongside their underlying metaphysics of mastery that are the root causes of contemporary ecological crisis and unsustainable development. As such, ESD needs to engage students in inquiries that unearth the underlying motives at play in society and embedded in our thinking about ourselves and the world (Bonnett, 2002, 2007). What is more, it ought to foreground an idea of sustainability as a *frame of mind* that identifies inherent normativity of natural places and the intrinsic values of its inhabitants (Bonnett, 2007). This sense of sustainability as a frame of mind roots itself in “celebrating of what is, relatively unshattered by

external instrumental motive, [its] pure sustaining nature is also the essence of sustainability as a concern to let things be (as they are in themselves)—to safeguard, to preserve, to conserve” (Bonnett, 2002, p. 18).

In this paper, the concept of “sustainable education” and “sustainability as a frame of mind” will be used to explore the educational and sustainability implications of the Honghe and Sunan curricular projects by drawing attention to their impacts within their educational, policy, sustainable development and curricular and contexts. It will also be used to discuss the projects in relation to their transformative capacity to promote new ways of thinking and behaving for sustainable development in the current Chinese educational system. To enable better understanding and discussions of the implications of the Honghe and Sunan projects on local education and sustainable development vis-à-vis their context and transformative capacity, a brief overview of the educational contexts and realities in ethnic autonomous areas of China is presented in the following section.

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## **Educational Contexts and Realities in Ethnic Autonomous Areas of China**

Since the formation of the People’s Republic of China in 1949, the Chinese government has viewed education as an indispensable political and economic mechanism in nation-building and development (Thogerson, 2002). In ethnic autonomous areas of China where most ethnic minority members reside, education is largely administered by the central government through state schooling. While all school-aged children are required to attend schools under the jurisdiction of the Compulsory Education Law, many of the children from ethnic minority groups are still excluded or underserved by the formal educational system; only ten of 55 minority groups in China have educational levels that are above the national average (Postiglione, 2006, p. 12).

Various factors have contributed to the educational marginalization of minority students in China. For instance, poor infrastructure, inadequate funding, weak curriculum resource development and low teachers qualification have all led to inferior educational attainment among minority students, especially those who live in rural areas where rural-urban divide, poor economic development and geographical isolation prevail (Wang & Zhao, 2011). In Honghe for example, poor educational quality has especially generated high dropout rates

among secondary students in the region (Li, 2009).

In addition, culturally irrelevant curricula and pedagogy that do not reflect diverse learning needs of minority students have also led to low enrolment, low completion rates, and low learning performance and motivation among students (Teng, Ba, & Ou, 2012). Under state schooling, minority students have little chance to learn about local knowledge and skills that allow them to engage with their communities. What is being taught in schools is mostly universal and aims to enhance national pride and economic modernization. It is geared towards university-entrance exam preparation and urban Han-Chinese lifestyle, and therefore can be disconnected from minority students' life worlds. In some cases, school classes are not delivered in minority students' mother tongue, making it hard for students to absorb knowledge and follow class instructions. Additionally, the classes rarely reflect the cultural-ecological and materialistic dimensions of students' lives, doing little to help students develop meaning from their realities (Liu & Zhang, 2010; Teng et al., 2012). The cultural discontinuity between schools, learners, local communities as well as the larger society could lead to unsustainable education for many minority students. It could result in cultural loss and subsequently a loss of local ecological knowledge. It could also give rise to a weak source of human capital for local economic development, reproducing educational and economic inequity in minority areas which further marginalizes the students (Teng et al., 2012). In short, the fact that education in ethnic autonomous regions of China has not paid adequate attention to sustaining positive interactions between learners and their cultural, ecological and economic contexts has historically led to its poor quality, generating not only negative impacts on students' wellbeing but also an unsustainable future for the local communities.

In recent years, the Chinese government has introduced several rounds of curriculum reforms that aim to promote quality education (*suzhi jiaoyu*, 素质教育) across the country. The latest round of curriculum reform allows greater freedom for schools in minority areas to incorporate their regional and cultural local characteristics into teaching and learning. According to the *Outline of Basic Education Curriculum Reform (Implementation)* put forward by the Ministry of Education in 2001, three transformations were at the center of the new curriculum reform strategy: "the transformation from 'centralization' to 'decentralization' in curriculum policy, the transformation from 'scientific



discipline-centered curriculum’ to ‘society construction-centered curriculum’ in curriculum paradigm, and the transformation from ‘transmission-centered teaching’ to ‘inquiry-centered teaching’ in teaching paradigm” (Zhong, 2006, p. 375). Additionally, the new curriculum policy would not only promote three levels of curricular management —national, regional and school-based—but also reform the exam-oriented educational system (Zhong, 2006).

Ideally, the new curriculum reform would give teachers in ethnic autonomous areas of China the opportunity to adopt and develop curriculum and teaching practices that reflect local ecology, cultural diversity and promote sustainable development. It would also provide more educational possibilities for cultural sharing among ethnic groups nationwide, and therefore make state schooling more appealing to minority groups (Postiglione, 2009). However, at present, the implementation of curricular reforms remains largely inconclusive in many ethnic autonomous areas of China. State schooling in ethnic autonomous regions of China continues to struggle with several functional dilemmas which include, but are not limited to, the need to promote ethnic minorities’ cultural autonomy, to improve minority students’ low academic achievement, to cultivate a sense of national patriotism among minority students, and to prepare minority students to contribute to and participate in the globalizing world as well as in China’s growing market economy (Postiglione, 2009).

Given all the educational realities and policy conundrums mentioned above, one wonders in what ways do the Honghe and Sunan curriculum initiatives promote sustainable development in their respective ethnic autonomous areas? The next section will explore Honghe and Sunan project’s approaches to promoting sustainable development by examining the projects’ rationales, conceptual backgrounds and the sustainability-focused curriculum materials they have produced.

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## **The Honghe and the Sunan Curriculum Initiatives**

### **The Honghe Project**

The Honghe Hani and Yi Autonomous Prefecture is situated in southeastern Yunnan. It is a mountainous prefecture characterized by a rich diversity of cultures and peoples. Among them, 10 ethnic autonomous groups, including the

Hani, the Yi, the Miao, the Dai, and the Zhuang account for 58% of the prefecture's population (Honghe Hani, 2013); the rest of the population consists of the Han people. Given its hilly landscape, the socioeconomic development of Honghe is slow and uneven.

Honghe is famous for its spectacular rice terraced fields, which have increasingly become the spotlight of local tourism. These terraces are known as Hani Terraces because they reflect the talents and wisdom of the Hani people in developing a sophisticated farming system that adapts to the landscape of the Ailao Mountains in Honghe. For generations, the Hani people, who are scattered across the Ailao Mountains, have shared their ecological ways of living and production with other minority groups such as the Yi and the Miao. They have also created a cultural system that allows them to better co-exist with their ecological environment and sustain the productivity of the terraced fields (Li, 2002). However, with the intensification of modernization and globalization, the cultural-ecological knowledge of the Hani people face unprecedented challenges due to poverty, elders passing away and youngsters having little opportunities and interests to continue their traditional ways of living in the mountains. Many young people choose to leave their impoverished lives for urban employment. Coupled with the failure of modern schooling to inculcate cultural traditional knowledge and values, the younger Hani generation is becoming more estranged from their cultural-ecological ways of knowing and living, demonstrating less capacity to safeguard and sustain their community's heritage.

Seeing the importance of Hani Terraces in supporting local sustainable development, which includes economic development, tourism, cultural and identity preservation, the Honghe regional government decided to take measures to protect the terraces, especially the indigenous wisdom and knowledge that underlie terraced farming and living. In 2010, a group of heritage experts and educators from Yunnan and Beijing were invited to develop a local curriculum focusing on the sustainability of the Hani Terraced Fields (Wang, 2012). Consequently, a series of curricular material entitled *Sustainable Future: Hani Terraced Fields and Youth* was created to serve four grade-categories: Grades 1–3, Grades 4–6, Junior Secondary and Senior Secondary (Wang, 2012). These curricular materials had a strong mandate to educate for the sustainable development of the Hani Terraces, and they focused on transmitting Hani

cultural-ecological knowledge to the younger generation residing across the Honghe prefecture.

In fact, under the rubric of the new curriculum reform, the Hani Terraces curriculum is considered as a region-based curriculum (as compared to the national and school-based curriculum). Such regional curriculum has an important function in complementing the standardized national curriculum that normally does not attend to local characteristics and students' cultural diverse needs. It is implemented at a regional/prefecture level and consists of developing courses and teaching materials that reflect students' lives and local realities. It allows teaching and learning to be more integrated, flexible, inquiry-oriented and society-based. Having been developed for the entire region of Honghe, the curriculum material is meant to be used by *all* schools, teachers, and student in the Honghe prefecture; however, teachers and schools often have the freedom to choose whether or not to incorporate the curriculum into their daily teaching routines.

Given that the Hani curricular initiative has also received considerable support from Education for Sustainable Development National Working Committee under Chinese National Commission of UNESCO, its conception largely reflects the UN's ESD principles and educational framework. For instance, it promotes the idea of four respects: 1) respect for present and future generations; 2) respect for differences and diversities; 3) respect for the environment; and 4) respect for the planet and what it provides for us (resources, fauna, flora; UNESCO, 2009, p. 1). It emphasizes "learning to know, learning to do, learning to live together with others and learning to be" (UNESCO, 2005, p. 27). It "views the learner as an individual, family member, community member and a global citizen, and educates to create individual competency in all four roles" (UNESCO, 2005, p. 27). It "takes into consideration the social, economic, and environmental contexts of a particular place and shapes the curriculum or programme to reflect these unique conditions" (UNESCO, 2005, p. 27). It is "informed by the past (e.g., indigenous and traditional knowledge), is relevant to the present, and prepares individuals for the future" (UNESCO, 2005, p. 27). By instilling a sense of pride in and deep understanding of the Hani Terraces, it attempts to promote the sustainable development of the terraces' cultural-ecology.

Table 1 shows the general framework of the Honghe curricular materials. We can see that Grades 1–3 students are required to learn about themselves and their

families' histories to establish a sense of place and a greater confidence about who they are and where they come from. Grades 4–6 and junior secondary students are to become familiar with their villages, the ecosystem of the terraced fields, their agricultural system, and the interdependence between human, environment, culture and economy. They are to learn about the challenges posed by modernization and globalization and to take action to promote the sustainability of the terraced fields. Finally, senior secondary students are encouraged to have a deeper understanding of sustainable development ethics and acquire a global perspective about different terraced fields around the world. By examining local realities and critically reflecting upon international developmental trends, the students are encouraged to think globally and act locally and demonstrate interest, courage, and willingness to devise innovative and sensible local solutions for a more sustainable future. All in all, the Honghe curricular materials, influenced by the UN's ESD discourses, have conveyed serious intentions to nurture culturally conscious and cosmopolitan citizens who

**Table 1** The Framework of the Honghe Curricular Material *Sustainable Future: Hani Terraced Fields and Youth*

	Unit 1: Characteristics of Hani Terraced Culture	Unit 2: Hani Terraces: Towards Sustainable Development	Unit 3: We are the Future of Hani Terraces: Youth Action on Cultural Sustainability
Grades 1–3	Terraced household	Changes in my family	Youth action for cultural transmission
Grades 4–6	Villages around the terraced fields	Changes in the village	Youth action for cultural transmission
Junior Secondary	Hani terraced: The national wonder	Tensions between traditions and modernity	Youth action for cultural transmission
Senior Secondary	Hani terraced: Entering global civilizations	Envisioning the Futures using Sustainable Development Values	Youth action for cultural transmission

Source: Q. L. Wang (2012). 可持续发展教育：开放课程的开发与实施。以北京市，黑龙江省，云南省红河哈尼彝族自治州课程建设经验为例 [*Education for sustainable development: The development and implementation of regional curriculum: Curriculum development experiences from Beijing, Heilongjiang, and Yunnan Honghe Hani and Yi Autonomous Prefecture*]. 北京，中国：北京科学技术出版社 [Beijing, China: Beijing Science & Technology Press].

are familiar with universal sustainable development ethics and local knowledge as well as development realities.

### **The Sunan Project**

The other project, the Sunan curricular project, was carried out in the Sunan Yugur Autonomous County situated in the Zhangye prefecture of Gansu province. Sunan county is relatively high in altitude, comprising mountains and plateau grasslands. Almost 60% of the county's population is from a minority nationality background (Teng et al., 2012). Besides Tibetan and Hui people, Yugur people account for more than half of this minority population, giving the county its name.

From 2006 to 2008, a curricular project led by a team of professors and doctoral students from the Minzu University of China was implemented in the Huangcheng township of Sunan to explore models of school-based curriculum suitable for culturally diverse areas of China (Teng et al., 2012). Unlike the Honghe curricular project which had a regional focus and was developed by a team of experts and educators from Beijing and Yunnan, the Sunan curricular initiative was *school-based*, involving mostly the administrators, teachers, parents and students of one local high school: Huangcheng No. 2 Primary-Junior Secondary School (Huangcheng No. 2 School in short). In particular, the project demanded the teachers of Huangcheng No. 2 School to be in charge of developing and delivering a set of school-based materials for their Grades 7, 8 and 9 students.

In terms of its theoretical approach to sustainable education, the Sunan curricular initiative adopted a theoretical standpoint that was not UN-based; rather, it employed the economic-cultural typological framework (*jingji wenhua leixing*, 经济文化类型) developed by two Soviet ethnologists Levin and Cheboksarov (1955). Essentially, economic-cultural type refers to a common economic-cultural complex historically shared by members of an ethnic group who possess a certain kind of livelihood pattern under the same ecological environment (Teng et al., 2012). Because the idea of economic-cultural type addresses the cultural, economic and ecological aspects of a minority region, its integration into curriculum generates potentials to educate for the three interconnected pillars of sustainable development, cultural, economic, and

ecological sustainability.

In the points of view of the Sunan curricular project team, the fact that modern Chinese schooling rarely takes into consideration the diverse economic-cultural types existing in the country has led to its irrelevance and ineffectiveness especially in many ethnic autonomous areas of China. School education not only has to reflect the economic-cultural type of a region but also educate the students about it and for it. During the early conception of the curricular initiative therefore, the Sunan project team spent time understanding the current economic-cultural characteristics of Huangcheng, which demonstrate the highland husbandry type of northwestern China. Teachers in particular, had to conduct their own community research and gather information about local ecological conditions, livelihood patterns, social organizations, cultures, customs, and belief systems of Huangcheng. Based on their findings, they compiled a set of multicultural school and place-based curricular materials for three junior-secondary grade levels at Huangcheng No. 2 School. These curricular materials were expected to help students learn about the economic, (multi)cultural and ecological aspects of their community, develop a sense of place, and acquire skills and knowledge to shape a more sustainable future that resonates with their region's economic-cultural types.

Table 2 presents the framework of the Sunan multicultural school and place-based curricular materials based on the local economic-cultural type. From the Table 2, we can see that the curricular materials are catered towards junior secondary students from three grade levels in the Huangcheng No. 2 School. Grade 7 students are to learn about their hometown Huangcheng, its geography, demography, ethnocultural make-up, religions, cultures, festivals, environment, livelihood patterns etc. Grade 8 students are required to start inquiring into local environmental problems, biological and cultural diversity, the tourism industry, and the interdependence between environmental, cultural and economic sustainability. Grade 9 students are expected to gain livelihood skills in areas like business management, animal husbandry, handicraft production, and tourism. Besides the different content areas, the Sunan Huangcheng school and place-based curriculum has integrated livelihood education, environmental education, and entrepreneurship education in its attempt to promote relevant education to foster socially responsible, sustainability-minded, culturally-aware, creative and productive citizens (Teng et al., 2012). It has also included

representations of different cultures and traditions in the hope of promoting multiculturalism within the mainstream, Han-Chinese-centered national curriculum. Overall under the multicultural school and place-based curriculum, students are expected to become creative thinkers who are capable of not only inquiring into the past, present and future of their hometown Huangcheng, but also understand their own and each others' cultures and traditions, and strategies to improve the economic, environmental, and cultural sustainable development of their community.

**Table 2** The Framework of Sunan Multicultural, School and Place-Based Curricular Materials in Huangcheng No. 2 High School

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
Grade 7	Understand our hometown	The pearl on the grassland, our hometown Huangcheng	Pasture and animals, our sources of livelihood	Cultural change in our lives	Tourism and recreation, "Welcome to the Grassland"
Grade 8	Protect our hometown	Protecting our ecological environment	Protecting cultural diversity	Tourism management	Following social rules and regulations
Grade 9	Build our hometown Animal husbandry and livestock production	Trading animal products	Marketing traditional handicrafts	The development of tourism and service industry	Our ambition and aspiration

Source: X. Teng, Z. L. Ba, & Q. H. Ou (2012). *经济文化类型与校本课程建构 [Economic-cultural type and the construction of school-based curriculum]*. 北京, 中国: 民族出版社 [Beijing, China: Ethnic Publishing House].

All in all, the Sunan curriculum initiative aims to educate students about the interdependent cultural, economic, and ecological aspects of the Huangcheng township, i.e., its sustainable development. It also aims to make learning interesting and relevant to students' current living and future livelihood (Teng et al., 2012). In addition, the project strives to promote "integrated multiculturalism" which allows students to maintain their cultural identities and learn from different ethnicities from the same local community and at the same time, acquire the national culture and contribute to nation-building (Teng, 2012).

Although the Sunan curricular project does not employ the UN-ESD framework, it, in many ways, demonstrates a practical intention to promote quality ESD in Huangcheng. Furthermore, by making education socioculturally, economically and ecologically relevant to students, it enhances minority students' academic achievement, learning motivation, social responsibility, cultural continuity and national identity. The Sunan curricular initiative also attempts to address the functional dilemmas of modern schooling in minority regions of the country.

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### **Discussion: Prospects of the Honghe and Sunan Projects in Promoting Quality Education for Sustainable Development**

Having examined the Honghe and Sunan projects' rationales, theoretical underpinnings and curricular-material frameworks, one can argue that both projects present a vision of "quality education" for ethnic autonomous areas of China that gear towards not only improving students' schooling experience, but also sustaining the contexts that the students inhabit and interact with, as well as their present and future wellbeing in relation to the wellbeing of their living environments. The two projects assumed that quality education in ethnic autonomous areas of China has to be socioculturally, ecologically and economically relevant to the students and their communities. It ought to attend to the sustainable development of the learners and their communities. To help promote such an ideal vision of education, both initiatives decided to tap into the opportunity brought forward by the decentralization of national curriculum and produce locally-based and sustainability-focused curricular materials. These materials emphasize the use of inquiry-based and action-based pedagogies to elicit students' transformative agency. They complemented the universal national curriculum in making teaching and learning more sustainability-focused and culturally relevant to students in Honghe and Sunan. Nonetheless, since the Honghe and Sunan projects approached sustainable education from different curricular levels, theoretical frameworks and rationales, their curricular materials did exhibit somewhat different approaches to educate for sustainable development. For example, the Honghe curriculum, due to its influences from the UN, leaned towards promoting global citizenship in addition to cultivating local citizenship among the students. The Sunan curriculum, given one of its goals to promote cultural diversity within national unity, given its place-based nature,



focuses more on advancing local and national citizenship. Also, the Honghe curriculum stresses the transmission and sustainability of Hani Terraces' culture and ecology with an emphasis on fostering cosmopolitan leadership. The Sunan curriculum, on the other hand, promotes the economic/ecological-cultural aspects of sustainable development and gives attention to entrepreneurship and livelihood education. Despite the differences, the curriculum materials produced by both projects all intend to help students actively contribute to the sustainable development of their local communities and hometowns' development which is socially desirable, economically viable and cultural-ecologically sustainable.

Certainly, the curriculum materials intended by the Honghe and Sunan projects could face various implementation challenges on the ground. Hereafter, I will discuss the barriers that the Honghe and Sunan curricular materials might encounter during their actual enactment in classrooms. As mentioned earlier, the notion of sustainable education suggests that any effective ESD initiatives would need to attend to local educational and developmental contexts and realities, and reorient not only the curricular contents but also educational practices and contexts (Sterling, 2001). Furthermore, the idea of sustainability as a frame of mind critiques the anthropocentric mindset inherent in the notion of sustainable development and promotes conscious awareness of and concerns for the normativity, agency and intrinsic value in nature. By examining the Honghe and Sunan projects under the light of what other scholars have found about the impediments to quality education in minority areas of China and the enactment of ESD in Chinese classrooms alongside its attitudes towards nature, this paper highlights a few challenges that might affect the prospects of the Honghe and Sunan curriculum materials in transforming educational contents, practices and contexts for sustainable development in their respective localities. These challenges are discussed below.

First of all, both the Honghe and Sunan projects were conceived under a modern Chinese national education system that reflected a social history whose underlying motives included the subordination and exploitation of nature (Bonnett, 2007). This system continues to prioritize universal knowledge, transmissive teaching, text-based learning, and high-stakes exams. Despite the fact that this educational system has undergone reforms that aimed to promote sustainability education, local knowledge, interactive, students-centered pedagogy, and a more holistic approach to education, changes were slow due to

insufficient resources, conceptual ambiguity, conservative resistance, and over-emphasis on exams (Dello-Iacovo, 2009). In this system, teachers' and students' workloads and psychological pressures were heavy (Dello-Iacovo, 2009; Lee & Yin, 2011); society-based, valued-centered, non-tested curriculum materials such as those that promote sustainable development could often be perceived as an add-on and not as an essential part of students' intellectual learning. Teachers, being charged for their responsibility to cover the dense national curricular contents and ensure students' success in high-stakes exams had little time, energy and incentives to teach local knowledge and sustainability values and attitudes that they knew will not be tested in exams. All in all, most schools, including those in minority areas of China, continued to focus their function on the production and improvement of human capital for a growth-based Chinese economy (Nordtveit, 2009). Consequently, they would spend less attention to cultivating students' attitudes and relationships to nature and their problem-solving and critical thinking skills to positively transform themselves and their society for sustainable development. Given the still-entrenched structural barriers within the current educational system in China, the Honghe and Sunan curricular initiatives may face many implementation challenges in the years to come. The Honghe initiative in particular, due to its broader regional focus, would encounter tremendous uncertainties because its adoption is not mandatory and is mainly dependable on individual schools and teachers' interests and commitment. In short, without an education environment conducive to the advancement of sustainable development visions and a non-anthropocentric sustainability frame of mind, the prospect of the Honghe and Sunan projects in promoting quality ESD might be jeopardized.

Structural barriers notwithstanding, socially-engaged and reform-oriented teachers could exist in Honghe and Sunan Huangcheng. For example, the Sunan project reports showed that numerous teachers from the Huangcheng No. 2 School had demonstrated keen awareness about the need for school and place-based education for their students from Yugur, Tibetan, Mongolian and Han backgrounds; they had taken concrete actions to create and deliver curricular materials that promote sustainable education.

Although teachers could demonstrate enthusiasm and intentions in educating for sustainable development in their classrooms, Guang and Lam (2009) and

Wang (2012) noticed that not all teachers were well-equipped to engage their students in learning for sustainable development. Already, it was found that some teachers in Honghe had distorted views about what sustainable development is (Wang, 2012); others had developed very rigid understandings about sustainable development that discouraged them in making sustainable education relevant and responsive to local development and educational contexts (Guang & Lam, 2009). In fact, the teachers' reflection pieces from the Sunan project showed that many teachers from Han Chinese backgrounds still experienced difficulties in delivering the Sunan place-based, school-based curricular materials in inclusive, culturally responsive and sustainable ways to students from different backgrounds.

One of the reasons why teachers might have limited knowledge and skills in carrying out sustainable education was because the training they had received was largely top-down and prescriptive; the training did not provide ample opportunities for teachers to critically inquire into the local meanings of sustainability and sustainable development and formulate their own sustainable development educational judgments and choices based on their teaching contexts, community realities, lived experiences, and understandings of nature. Training to streamline and restrict teachers' imagination and interpretation of sustainable development would ultimately undermine the all-inclusive goal of sustainable education in uncertain times (Gough & Stables, 2012; Hanley, 2005). This would curb teachers' capacity to engage students in inquiring into their understanding and relationship to nature and the very complex sustainable development issues that require effective solutions.

Another factor that might have restricted teachers' capacity to teach with sustainable development on mind is the quality of the curricular materials themselves. Indeed, looking closely at the Honghe curriculum materials, one could see that although the intended Honghe curriculum focuses on promoting sustainable development ethics and the continuity of Hani Terraces among *all* learners from different ethnic and socioeconomic backgrounds residing in Honghe, its design does not reflect the learners' diversity. One wonders what could non-Hani students or students who do not live at the terraced fields take away from a curriculum that solely focuses on the Hani Terraces?

In contrast, the Sunan Huangcheng school and place-based curriculum did attend to the diverse backgrounds of its learners when promoting sustainable development; however, its weakness lies in its tendency to compartmentalize

cultural, economic and environmental sustainability. Some teaching units essentialized the notion of “culture” and reduced “culture” into folklores, religions, customs, festivals, and foods. Although they had the benevolent goal to transmit cultural knowledge and help students appreciate cultural diversity, they could potentially reify a cultural category and perpetuate ethnocultural stereotypes, defeating the purpose of educating for a sustainable future.

Finally, research has shown that among the many strategies that teach sustainable behaviors, cultivating *sentiments* through direct experiences is the most critical way in transforming students’ behaviors and motivate stewardship for sustainability (Efird, 2011). If students are not involved in emotionally compelling relationships with their human and non-human world, their understanding of sustainable development will stay at an abstract level, preventing them from exercising transformative agency for sustainable development.

As in the case of the Honghe and Sunan curricular projects, although both of these sustainable educational initiatives called for the development of students’ sense of place and love towards their communities, the curriculum materials barely mentioned the need to form students’ emotional ties with nature including their local landscapes, flora and fauna. Their curricular activities focused mainly on inquiry learning, problem solving and other cognitive skills, and less on the “thinking heart,” the emotional and spiritual center in which intellectual activities are rooted (Miller, 2010, p. 30). By not encouraging students to be emotionally and intellectually present and responsive to their immediate surroundings especially their natural environments, the kind of sustainable education proposed by the Honghe and Sunan projects might end up being mere intellectualism. Without feeling deeply about the interconnectedness between human and non-human worlds and finding meanings of oneself in the world, students will have a harder time forming a right frame of mind that honors the intrinsic values of nature. Their motivation to learn and take action for a sustainable future would be further restricted.

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## Conclusion

Both the Honghe and Sunan projects showed that different discourses, conceptions, models, frameworks and scopes of educating for sustainable development are present in China. The Honghe curricular project adopted the

global ESD discourse in the regional-level educational scenes of the Honghe Hani and Yi Autonomous Prefecture. It aimed to promote the sustainable development of Honghe Hani Terraces through producing curriculum materials that foster cosmopolitan, sustainability-oriented citizenship among Honghe students, though these curriculum materials tended to give less attention to the issue of learners' cultural and socioeconomic diversity. The Sunan Huangcheng project did not regard itself as an ESD initiative per se. Yet, inspired by the anthropological theory of economic-cultural type, its approaches to curriculum development demonstrated tremendous concerns towards the sustainable development of Huangcheng culture, ecology and economy. The Sunan project also managed to involve school teachers in producing a set of place-based and school-based curriculum materials that promoted local/national citizenship which would not only engage students of diverse backgrounds in the harmonious and sustainable development of Huangcheng but also make learning more relevant and practical to the students. Overall, both the Honghe and Sunan projects had great intentions to promote quality educational development in ethnic autonomous areas through the introduction of sustainability-based curriculum materials. By giving a range of thoughts to the educational dilemmas and development realities facing students in minority areas of the country, and by promoting constructivist, ecological and relational pedagogies, both projects have attempted to re-orient China's curriculum content and transform classroom practices towards the vision of sustainability, at least in theory. Indeed, a study of the Honghe and Sunan projects suggest that both regional and school-based curricula, UN-ESD and place-based multicultural educational discourses could complement one another and support the Chinese national curriculum in making education more sustainable.

However, given that the Honghe and Sunan projects continued to operate under a rather anthropocentric/instrumental interpretation of sustainability and under broader structural and systemic constraints, their ability to transform local educational contents and practices towards the vision of sustainability is likely to remain weak. Poor teacher support and teacher training, omissions of the affective learning components in curricular contents, as well as loopholes and weaknesses in the development of the Honghe and Huangcheng curriculum materials, would further reduce the projects' effectiveness in transforming students' knowledge, attitudes and actions for a more sustainable future.

In the absence of empirical data, it is difficult to fully determine which approach—the region and UN-ESD or the school and place-based approach—to sustainable education and curriculum is more effective. Nevertheless, it does seem that given the existing educational structure, the Sunan project, with its participatory emphasis on involving, training and supporting teachers in developing sustainability oriented curricular materials, would better motivate and prepare teachers in incorporating sustainability contents, perspectives, values and pedagogies in their classroom practices. The Honghe project, due to its rather top-down design and broader curriculum scope, might have a harder time determining whether the school teachers would end up teaching the curriculum materials as intended.

Provided that an anthropocentric, exam-based educational system and teacher-centered pedagogies are still quite ingrained in China, the more important questions might be: 1) How can sustainable education flourish within such a status quo? 2) What are the roles of non-formal education, media, and family in fostering sustainable development? And 3) What kinds of incentives and assistance can we provide to educators who wish to teach for sustainable development? It is also crucial that sustainable educational initiatives in ethnic autonomous areas of China continue to critically investigate concepts like “sustainable development,” “education for sustainable development” in relation to teachers’ and students’ lived experiences and their local wisdoms and traditions in order to understand what better educational approaches could reorient quality ESD.

All in all, challenges notwithstanding, the Honghe and Sunan projects have provided us with a glimpse of how sustainable education might operate in contemporary China and especially in minority, populated regions of the country. The two projects demonstrated two approaches to ESD in China respectively at the regional and school-based levels. They managed to generate viable educational theories and practices that promote sustainable development and take into consideration local educational and developmental realities. Multiple stakeholders—local government, policy makers, university professors, principals, teachers, parents, and students—were also involved in the process of creating and envisioning a more sustainable education for students residing in ethnic autonomous regions of China. Future research might ideally be directed towards resuming the effort of comparing, contrasting, understanding and gathering

various sustainable educational approaches, models, and strategies in different parts of the country. This will help inform the future development of sustainable educational theories and practices not only in China, but also in other parts of the world.

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## References

- Bonnett, M. (2002). Education for sustainability as a frame of mind. *Environmental Education Research*, 8(1), 9–20. doi: 10.1080/13504620120109619
- Bonnett, M. (2007). Environmental education and the issue of nature. *Journal of Curriculum Studies*, 39(6), 707–721. doi: 10.1080/00220270701447149
- Bonnett, M. (2013). Sustainable development, environmental education, and the significance of being in place. *The Curriculum Journal*, 24(2), 250–271. doi: 10.1080/09585176.2013.792672
- Dello-Iacovo, B. (2009). Curriculum reform and “quality education” in China: An overview. *International Journal of Educational Development*, 29(3), 241–249. doi: 10.1016/j.ijedudev.2008.02.008
- Efird, R. (2011). Learning by heart: An anthropological perspective on environmental learning in Lijiang. In H. Kopnina & E. Shoreman-Ouimet (Eds.), *Environmental anthropology today* (pp. 253–266). New York, NY: Routledge.
- Gough, S., & Stables, A. (2012). Interpretation as adaptation: Education for survival in uncertain times. *Curriculum Inquiry*, 42(3), 368–385. doi: 10.1111/j.1467-873X.2012.00595.x
- Guang, Y., & Lam, C. C. (2009). ESD in Chinese secondary schools: Beijing’s teachers’ view. *Geography*, 94(1), 22–27.
- Hanley, P. (2005). “Holistic yet tangible”: Embracing the challenge of complexity for education for sustainable development. *Current Issues in Comparative Education*, 7(2), 85–93.
- Honghe Hani and Yi Autonomous Prefecture Government. (2013). 州域概况 [Overview of the region]. Retrieved March 14, 2015, from <http://www.hh.gov.cn/mlhh/zqjj.htm>
- Lee, J. C.-K., & Huang, Y. (2009). Education for sustainable development projects and curriculum reform in China: The EEI and the EPD. In J. C.-K. Lee & M. Williams (Eds.), *Schooling for sustainable development in Chinese communities: Experience with younger children* (pp. 115–135). Springer Science + Business Media B.V.
- Lee, J. C.-K., & Williams, M. (2009). Environmental education for sustainability in primary schools in Chinese communities. In J. C.-K. Lee & M. Williams (Eds.), *Schooling for sustainable development in Chinese communities: Experience with younger children* (pp. 1–23). Springer Science + Business Media B.V.
- Lee, J. C. K., & Yin, H. B. (2011). Teachers’ emotions and professional identity in curriculum

- reform: A Chinese perspective. *Journal of Educational Change*, 12(1), 25–46. doi: 10.1007/s10833-010-9149-3
- Levin, M. G., & Cheboksarov, N. N. (1955). Хозяйственно-культурные типы и историко-этнографические области [Economic-cultural types and historical-ethnographic regions]. *Советская этнография [Soviet Ethnography]*, (4), 3–17.
- Li, J. H. (2002). *Hani terraced fields apply for world heritage listing*. Retrieved March 14, 2015, from <http://www.china.org.cn/english/culture/36617.htm>
- Li, J. Y. (2007). 边疆民族欠发达地区基础教育发展现状分析: 云南以红河哈尼族, 彝族自治州为例 [A situation analysis of basic educational development in less developed ethnic autonomous areas of China: An example of Honghe Hani and Yi Autonomous Areas in Yunnan]. *农业考古 [Agricultural Archaeology]*, (6), 435–437. doi: 10.3969/j.issn.1006-2335.2007.06.134
- Li, S. M., & Teng, X. (2010). 我国少数民族地区乡土教材百年发展历史与文化功能述略 [The brief introduction of the history and cultural function of local teaching materials in the progress of the hundred-year development in ethnic minority regions]. *中央民族大学学报 (哲学社会科学版) [Journal of Minzu University of China (Philosophy and Social Sciences Edition)]*, 5(37), 121–127. doi: 10.15970/j.cnki.1005-8575.2010.05.022
- Liang, X. Y. (2009). 国内乡土教材编写的四个初入角度 [Four angles to approaching the compilation of place-based curriculum in the country]. In China Brooks Education Foundation (Eds.), *乡土教材的开发与时间探讨 [Place-based curriculum: Design and practice]* (p. 9). 北京, 中国: 天下溪教育咨询中心 [Beijing, China: China Brooks Education Foundation].
- Liu, Z. W., & Zhang, T. J. (2010). 重视乡土知识传承民族文化: “中国乡土知识传承与校本课程开发研讨会”综述 [Attaching importance to indigenous knowledge and inheriting ethnic culture: A review of China’s Local Knowledge and School-based Curriculum Development seminar]. *民族教育研究 [Journal of Research on Education for Ethnic Minorities]*, 21(1), 40–42.
- Lundegård, I., & Wickman, P.-O. (2009). Identity transformation in education for sustainable development: A question of location. *Scandinavian Journal of Educational Research*, 53(5), 461–479. doi: 10.1080/00313830903180752
- Maragia, B. (2006). The indigenous sustainability paradox and the quest for sustainability in post-colonial societies: Is indigenous knowledge all that is needed? *The Georgetown International Environmental Law Review*, 18, 197–247.
- Miller, J. P. (2010). *Whole child education*. Toronto, Canada: University of Toronto Press.
- Nordtveit, B. H. (2009). Western and Chinese development discourses: Education, growth and sustainability. *International Journal of Educational Development*, 29(2), 157–165. doi: 10.1016/j.ijedudev.2008.09.010
- Postiglione, G. A. (2006). Schooling and inequality in China. In G. A. Postiglione (Ed.), *Education and social change in China: Inequality in a market economy* (pp. 3–24). New York, NY: M.E. Sharpe.
- Postiglione, G. A. (2009). Education of ethnic minority groups in China. In J. A. Banks (Ed.),



- The Routledge international companion to multicultural education* (pp. 501–511). New York, NY and London, England: Routledge.
- Sterling, S. (2001). *Sustainable education: Revisioning learning and change*. Totnes, England: Green Books.
- Sterling, S. (2010). Living in the earth: Towards an education for our time. *International of Education for Sustainable Development*, 4(2), 213–218. doi: 10.1177/097340821000400208
- Teng, X. (2012). Cultural diversity and integrated multiculturalism education. *Frontiers of Education in China*, 7(2), 163–168. doi: 10.3868/s110-001-012-0008-0
- Teng, X., Ba, Z. L., & Ou, Q. H. (2012). 经济文化类型与校本课程建构 [*Economic-cultural type and the construction of school-based curriculum*]. 北京, 中国: 民族出版社 [Beijing, China: Ethnic Publishing House].
- Thorgenson, S. (2002). *A county of culture: Twentieth-century China seen from the village schools of Zouping, Shandong*. Ann Arbor, MI: University of Michigan Press.
- UNESCO. (2005) *United Nation's decade of education for sustainable development (2005–2014). International implementation scheme*. Retrieved March 15, 2015, from <http://unesdoc.unesco.org/images/0014/001486/148654e.pdf>
- UNESCO. (2009). *Education and the search for a sustainable future*. Retrieved March 15, 2015, from <http://unesdoc.unesco.org/images/0017/001791/179121e.pdf>
- United Nations. (1987). *Our common future, chapter 2: Towards sustainable development*. Retrieved March 4, 2015, from <http://www.un-documents.net/ocf-02.htm>
- Wang, J. Y., & Zhao, Z. C. (2011). Basic education curriculum reform in rural China: Achievements, problems, and solutions. *Chinese Education and Society*, 44(6), 36–46. doi: 10.2753/CED1061-1932440603
- Wang, Q. L. (2011). Characteristics of ESD: Promoting strategies in China's basic education. *Journal of Education for Sustainable Development*, 5(2), 215–223. doi: 10.1177/097340821100500211
- Wang, Q. L. (2012). 可持续发展教育: 开放课程的开发与实施. 以北京市, 黑龙江省, 云南省红河哈尼族彝族自治州课程建设经验为例 [*Education for sustainable development: The development and implementation of regional curriculum: Curriculum development experiences from Beijing, Heilongjiang, and Yunnan Honghe Hani and Yi Autonomous Prefecture*]. 北京, 中国: 北京科学技术出版社 [Beijing, China: Beijing Science & Technology Press].
- Zhong, Q. Q. (2006). Curriculum reform in China: Challenges and reflections. *Frontiers of Education in China*, 1(3), 370–382. doi: 10.1007/s11516-006-0014-3