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INTERNATIONAL & COMPARATIVE EDUCATION | RESEARCH ARTICLE

How culture matters in educational borrowing? Chinese teachers' dilemmas in a global era

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Abstract: Educational borrowing may cause numerous dilemmas that emerge from cross-cultural differences among teachers in the globalization. Through the case study on the flipped classroom introduced from the United States into Chinese middle schools, this article presents an examination of dilemmas that teachers encountered during educational borrowing in the global era. Based on the theoretical literature on cultural-historical activity theory, the study used interviews, field observations, and documents from six secondary schools in mainland China for one and a half years to understand comprehensively the dilemmas that teachers encountered when implementing the flipped classroom. The findings indicate that understandings of knowledge production, transmission, and the goal of education in mainland China differ from those in the west, which is the main reason for the teacher dilemmas. Because of the diversity in social culture, we suggest that teachers should be more culturally sensitive and improve compatibility in the process of educational borrowing.

Subjects: Educational Research; International & Comparative Education; Middle School Education; Teaching & Learning

Keywords: culture matters; educational borrowing; teacher dilemmas; mainland China; global era

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PUBLIC INTEREST STATEMENT

In the global era, educational borrowing among different countries is unprecedented. We all know that educational tradition in China is strongly dominated by Confucian Heritage Culture (CHC), which is dramatically different from western countries. Not surprisingly, Chinese teachers will encounter competing requirements which create many dilemmas for them in the process of education borrowing. This study explores teachers' dilemmas in China in the process of educational borrowing through the case of flipped classroom introduced from the United States into Chinese middle schools. After a one and a half years' qualitative research project, findings suggested that understandings of knowledge production, transmission, and purpose of education in mainland China are different from the West which lead to teachers' dilemmas. In order to promote the success of educational borrowing, we need to be more culturally sensitive and provide teachers enough support to response to the conflicting situations.

1. Introduction

In the globalization era, increasing global economic competition compels nearly all countries to regard education as an economic investment (Welmond, 2002). Thus, the pace and scope of educational exchanges among different countries are unprecedented (Hallinger, 2010). As an indelible influence, developing countries seek to introduce several educational practices from western countries to improve their education systems in the process of globalization. In addition, because of the phenomenal success of East Asian pupils in the Programme for International Student Assessment (PISA), a fervent interest is prompted in some Western countries to learn from East Asia (Forestier & Crossley, 2014). It seems strange to bring teachers and globalization together at the first glance, but as educational reform becomes more frequent in the globalization era, teachers as the implementers in the process of education reform must meet the competing requirements from outside instead of sheltering behind the classroom doors. Not surprisingly, ready acceptance of teachers in a global context is the crux to achieve success of educational reform (Hallinger, 2010; Vähäsantanen, 2013). However, the fact that cultural and institutional context between eastern and western countries are different may cause teachers' dilemmas and thus affect acceptability of teachers to the educational reform (Hallinger, 2010). Therefore, educational practitioners and researchers cannot ignore teachers' dilemmas. In fact, many educational borrowings which just remain at the level of enabling structure have proved to be few lasting effects (Engstrom, 2008).

In order to improve the educational quality, mainland China is making high-profile attempts to borrow educational practices from western countries. However, Chinese teachers are strongly dominated by Confucian Heritage Culture (CHC), which is dramatically different from western countries (Nguyen, Terlouw, & Pilot, 2006). It is not surprising that they face dilemmas, conflicts, and tensions in the process of education borrowing. Thus far, a growing number of researches on educational borrowing in a global era have been carried. However, only few researches have focused on teachers' dilemmas. To shed light on the dilemmas that Chinese teachers encounter in the process of education borrowing, we begin with a brief review of the literature on the situation that teachers are faced with in the era of globalization, and then propose the theoretical framework of cultural-historical activity theory (CHAT) to analyze the issue. The empirical data used in this study mainly consist of interviews and observations with teachers and school leaders in six Chinese secondary schools. The paper ends with a discussion that how countries with different educational cultures borrow educational practices effectively from each other.

2. Conceptual framework

2.1. Teacher dilemmas, educational borrowing, and globalization

In modern society, globalization as a real existence creates new economic, technological, political, cultural, and educational arenas that transcend national borders. It also attracts the attentions of researchers in different fields. Globalization can be briefly described as "time-space compression" (Harvey, 1989), which enables a worldwide communication and creates more opportunities of sharing ideas, policies, and experience across the different countries of the world (Rizvi & Lingard, 2000). Borrowing is a process that borrower deliberately adopts practices from other countries. Current process of globalization is not fair. The directions of theoretical and practical borrowing are largely unidirectional from the west to the east (Kannan, 2005; Nguyen, Elliott, Terlouw, & Pilot, 2009). It is almost inevitable that borrower will be influenced by ideas or even cultures from elsewhere (Phillips, 2005). This is frequently referred as cultural homogenization which is another form of colonialism (Rizvi & Lingard, 2000).

Globalization also profoundly influences education. Since exchange of ideas among different countries becomes easier and massive education reforms around the world are unavoidable in a global context. However, educational activities cannot be separated from the social culture. Educational borrowing often implies an acceptance of basic values or assumptions of educational activities (Cheng, 1998; Yin, Lee, & Wang, 2014). More and more studies have demonstrated that it is simple to overcome the technical obstacles, but cultural and social changes are complex and difficult (Richards, 2004). Simply put, social culture which significantly influences educational practices has proven to be more resistant to global

change. Not surprisingly, we can easily create the structural change and prepare the needed resources for the educational borrowing. However, cultural norms and traditions inherited in educational activities have strong resistance to the impact of globalization and remain largely untouched yet (Hallinger, 2004). Indeed, it is not uncommon that because of cultural mismatch, many educational activities introduced from western countries are famous for the cycle of “early enthusiasm, widespread dissemination, subsequent disappointment and eventual decline” (Slavin, 1989, p. 752).

In response to political demands for economic competitiveness, educational reform has become the important agenda of Chinese Government to cultivate innovative talents in global era. A massive number of educational reforms have swept across the mainland China. Most of the theories and practices are directly imported from western countries without proper consideration of cultural heritages’ compatibility. However, educational practices are also influenced by the culture of society, assessment system, and educational tradition, which cannot simply be changed or borrowed in different contexts. As the implementers of educational reform, teachers’ belief systems also reflect the educational tradition about the teaching and those, in turn, influence teachers’ teaching approaches (Handal & Herrington, 2003). Therefore, incongruent beliefs underpinning the educational practices between mainland China and western countries may cause tensions, conflicts, and dilemmas on teachers.

Actually, as implementers of educational practices, teachers’ attitudes toward educational borrowing play the vital role in success. However, few researches have focused on Chinese teachers’ dilemmas in the context of globalization, with a limited number of researches carried on other Asian countries, such as Malaysia and Singapore. Earlier researches indicate that there exist conflicts between knowledge views of construction, cooperation, and exploration advocated by the new curriculum reform and the traditional Chinese teaching methods such as rote learning, teacher-centered instruction, and focusing on examination scores. These conflicts cause the leadership dilemmas and influence the implementation effect of new curriculum reform in mainland China (Yin et al., 2014). Handal and Herrington (2003) conducted a case study to explore the impact of mathematics teachers’ beliefs on constructivist-oriented curriculum innovations introduced from the west to Malaysia. The findings suggested that mathematics teachers’ beliefs were not congruent with the beliefs underpinning the curriculum reform which influenced the effectiveness of the reform. The Knowledge Building (KB) reforms in Singapore emphasized new philosophies of teaching and assessment. Based on a case study of a child experiencing the KB reform, Lee (2009) found that students in Singapore favored succeeding in examinations and book-dominated instruction, rather than seeking the knowledge application for learning which made teachers into a dilemma. Tam (2009) investigated the implementation problems of school-based assessment in Hong Kong, and showed that assessment reform alone was incompatible with the exam-oriented teaching. It not only increased the conflicts they had with students and colleagues, but also teachers’ workload.

The remarkable academic performance of pupils of East Asian nations (China, Singapore, South Korea, and Japan) in the world’s most well-known Program for International Student Assessment (PISA) tests have increasingly turned western scholars’ attentions to the East. Teachers in western countries are also influenced by the globalization. For example, Chinese maths textbook will be introduced to Britain this summer to improve their students’ numeracy skills. Meanwhile, Britain will invite Shanghai math teachers to communicate about the teaching issue because they find that the whole-class teaching in Chinese classrooms is a more effective way to transmit the knowledge (Nguyen et al., 2006; Zhendong & Zheng, 2015). Obviously, western countries began to think about the education systems of the East Asia to improve their student performance. Recently, high-stakes testing, standards-based curriculum, and accountability system which proved to be the guarantee of good educational quality in Asian middle schools appeared in western countries’ educational reform. Dilemmas caused by cultural conflicts are the unavoidable experience for western teachers during the educational borrowing. In order to better understand the responses of teachers to the accountability system, Leithwood, Steinbach, and Jantzi (2002) conducted a study and indicated that most teachers were annoyed with the accountability policy, because they did not want to be considered as scapegoats for the failure of

education. Moreover, they believed that the accountability system threatened their professionalism. Academic success of East Asian children in PISA is ascribed to their CHC which place a high value upon education, willingness to invest in extra-class tuition, and high aspirations. Simply replicated education system or teaching method in East Asia is useless (Jerrim, 2014). However, the changeover of the educational culture is not an easy thing.

Although there are numerous researches on the topic of teachers' dilemmas in the global era, few attentions have been paid to the middle school teachers in mainland China. Moreover, most studies lack of theoretical frameworks to systematically analyze the cultural factors hidden in the dilemmas. In the global context, educational borrowing from the west to the east becomes more salient than before. Teachers in East Asian countries face the culture shock from western education. The outstanding performances of East Asian countries in international examinations (like PISA) make them recognize the advantages of traditions like rote learning, teacher-centered instruction, and exam-oriented educational goal. However, they also recognize the shortage of creative ability, cooperation consciousness, and the spirit of exploration of our students. As the implementers of education reform, teachers' beliefs and attitudes regarding the implementation of education reform are the key to success. The primary aim of this study is to shed light on the dilemmas that teacher encountered during implementation of the flipped classroom (FC) in mainland China through a one year and a half case study project.

2.2. Cultural-historical activity theory (CHAT) as the theoretical foundation

Vygotsky, who firstly proposed the tripartite concept of sociocultural theory in 1934, identified the essential role that cultural mediation plays between the subject and the object. The mediating instruments can be physical tools, cultural artifacts, or theoretical artifacts. However, study of the Vygotsky limited on individual and ignored the influence from society (Engeström, 2009). Then, his colleagues, Leont'ev systematically formulated the concept of activity. He argued that activities were motivated and object-oriented. Object dominated the direction of activity. Based on Vygotsky's ideas of cultural mediation of actions, Engeström developed the original triangular model of activity into the third generation of collective activity system model. He added the elements of community, rules, and division of labor to represent the social/collective elements. Moreover, he emphasized the contradictions caused by the structural tensions within or between activity systems. Compared with the previous researches, Engeström took the practice as the unit of analysis and interested in the contradictions within or between the activity systems. In a nutshell, activity theory provides a perspective to analyze the relationship of the elements within the activity and the connection between the environment and activity.

CHAT is selected as the theoretical-analytical framework to analyze classroom instruction mainly based on the following reasons. Firstly, classroom instruction is neither the sum of individual learning nor the outcome of just psychological process, which reflects the cultural values held by the society (Joo, 2013; Wallace, 2007). In other words, CHAT enables us to systematically understand the classroom instruction which is deeply grounded in a social-cultural context instead of the isolated unit. Its ability to explore human learning within their special socio-historical context offers us a more systematic perspective (Lord, 2009). Secondly, CHAT pays attention to both the manifest elements, latent elements, and the dynamic interaction between the different elements within or outside the activity system (Lord, 2009). It is useful to deeply understand the activity system. Thirdly, another important strength of CHAT is the ability to track the historical development and evolution of activities system.

2.3. The case of FC from the perspective of CHAT

The new buzz word of FC is gaining attention in American K-12 and college classrooms, which can be simplistically defined as "class work at home and home work at class". More specifically, it means the instructional style change from traditional lecture to a more student-centered, participative style through the discussion, experiments, and problem solving (Osman, Jamaludin, & Mokhtar, 2014; Strayer, 2007). The approach has proven to increase the amount of responsibility and motivation on students. Additionally, students feel more comfortable to ask questions and have more

opportunities to interact with their peers and teachers in class with this mode. Teachers now have time to work individually with students and give them more one-on-one feedbacks (Snowden, 2012). At first, it is just a kind of online teaching of two chemistry teachers for absent students. Then, they find all the students could learn from teaching videos prerecorded by teachers at home. FC necessitates that students manage their learning positively according to their own needs and participate in the interaction actively (Goodwin & Miller, 2013). It is also helpful to promote individual learning, develop students' higher order thinking skills (such as analysis, summary, and evaluation). As the learning designers and managers, students are responsible for their own learning.

As noted above, FC is a kind of cooperative, peer-assisted, active, and problem-based learning (Bishop & Verleger, 2013). It emphasizes learning through activity and cooperation which coincide well with Dewey's philosophy of education that education must be based on experience or learning by doing instead of listening or thinking (Dewey, 1997). Influenced by Dewey, Dale advanced these ideas by proposing the learning theory called the Cone of Experience, which advocated that learning by doing or by action is the more effective method to learn new things than reading, hearing, or watching. Bruner also considered the role of experience in intellectual development (Garrett, 1997). Theory of constructivism is the source of activity-based learning, which means that learners construct knowledge for themselves instead of "chalk and talk." Also, FC needs the support of democratic, specific, and affective organizational culture in which students can feel more comfortable to communicate directly with their teachers or classmates, instead of feeling fear of leading others to lose face or breaking the harmonious relationship. However, traditional CHC emphasizes the importance of high power distance, harmonious relationship, and face. Therefore, more cultural considerations should be emphasized when we apply the FC to mainland China.

Numerous researches report the success of FC in the west. Strayer (2007) compared the traditional lecture and FC in two different colleges. The finding showed that students in the FC experienced more innovation and cooperation in their learning process, while they felt less satisfied with the unsettledness in the FC. Kaufman (2013) conducted a study in a high school chemistry classroom in America to compare the different effects of lecture style and FC style. The results showed that after much trial and error in the FC, students' test scores were improved. In November 2013, a nationwide investigation in American conducted by Sonic Foundry and the Center for Digital Education (CDE) showed that more than half of the teachers in universities had tried the FC or planned to implement in the next year. Even if the FC needed teachers to invest the extra time and effort, still more than 97% teachers tasted the joy of success. Students who participated in the FC reported that their attitudes toward learning and academic performance were improved. More and more universities and commercial organizations began to cooperate and provide a large number of curriculum resources for the primary and secondary schools (Morris & Brown, 2013). In short, till now FC has proven to be welcome and successful in America.

In mainland China, FC is relatively new thing and has been introduced since 2011. At first, it was just a small-scale reform limited in some middle schools, such as Chongqing Jukui School and Guangzhou Haizhu No. 5 Second School (Zhang, Ma, & Liu, 2014). In September 2013, Center for the FC studies at East China Normal University (ECNU) was established to promote the pedagogical reform. Until now, 111 middle and primary schools joined the center, which come from 16 provinces. More than 2,000 teaching videos related to the FC have been published in the center's website. Those schools meet together once a month to engage in the FC teaching activities. It can be concluded that a new upsurge of pedagogical reform about the FC is carried out and deeply influenced mainland China's basic education. Now, empirical researches on the FC that conducted in mainland China are limited. In order to frame our analysis, CHAT is employed as a theoretical framework. Students' higher form of cognitive ability as the teaching **goal** motivates and leads the learning activity. **Subject** of the FC are comprised of teachers and students. The **object** of the FC could be seen as learning through interaction, collaboration, and experience which motivates the actions of the subject. Also, the subject transforms the object through the use of a variety of **mediating artifacts** that can be physical, cognitive, or symbolic. Mediating artifacts in the FC are

instructional video podcasts, network teaching management platform, collaboration with peers, one-to-one instruction, and discussion for their instruction and learning. Teacher plays the role of guider to facilitate students' learning and provide one-to-one instructions. Students as the active learners are responsible for themselves and work together to explore the unknown world. This kind of **labor division** helps us to understand the underlying rules that guide behaviors of the subject. It is obvious that they follow the **rule** of equal and democratic participation. Business institution, parents, government, and universities as the stakeholders constitute the **community** to provide abundant curriculum resources, technical supports, and fund guarantee.

3. Methodology

3.1. Data collection

The objective of this study is to understand Chinese teachers' feeling in the implementation of the FC. A qualitative research project had been carried during October 2012 to April 2014 to exam the FC in mainland China. Data were collected through field observation, brochures, lesson plan, and interviews. Interview data used in this study were provided by 4 school leaders and 32 teachers (at least 50 min per person) from six secondary schools which were the pioneers of the FC in mainland China. Except for S5, other schools are located in the southeastern part of mainland China (such as Nanjing, Guangzhou, Changzhou, Qingdao, and Fuzhou). Three rounds of in-depth, face-to-face interviews were conducted to collect data. Compared with other areas, those places are rich in educational resources which are useful for the development of the FC. All the interviewees have teaching experiences of the FC.

The main interview questions included:

- In your opinion, does the FC really work in your classroom?
- What is the biggest difficulty you have met during the implementation of the FC?
- If you have a chance to choose, will you choose to practice the FC?
- Students in your school have used to this new kind of teaching?

3.2. Sample

In each school, we selected at least one teacher leader who was responsible for teaching matters and several subject teachers with different gender, subject, years of teaching experience, and educational background to acquire information. Table 1 summarizes the background information of the interviewees.

All participants were informed about the purpose of the study to protect their confidentiality. Audio tapes were given pseudonyms and deleted after transcribed to protect their privacy. All the written records were checked by interviewees to avoid bias and misunderstanding. Nvivo™8 software was used to code, retrieve, and organize the transcripts to analyze the semi-structured interviews.

4. Findings

The inductive process of data analysis indicates that understandings of knowledge production, transmission, and purpose inherent in the traditional learning culture in mainland China are incompatible with the FC introduced from America.

4.1. Sources of knowledge

Different understandings of knowledge sources between China and America are striking. Chinese culture of learning believes that knowledge is "factual and procedural" and collective wisdom comes from sages that cannot be miscommunicated. Teachers, superiors, elder persons, or even the textbooks are regarded as the authority of knowledge. It is deeply ingrained in the minds of students that correct answers exist and can always to be found from teachers or in books (Chen, 2014; Hallinger, 2010). Seniors or leaders are the authorities in Chinese society. Students who question the

Table 1. Background information of the participants

School	School background		Informants involved
	Located	Key school	Administrators/teachers/students involved
S1	Nanjing	Yes	One vice principal;
			One grade master teachers who in charge of the whole grade teaching affairs;
			Four subject teachers.
S2	Guangzhou	No	One grade master teacher;
			One student affairs director;
			Five subject teachers.
S3	Changzhou	No	One vice principal;
			One grade master teacher;
			Three subject teachers.
S4	Qingdao	Yes	One teaching affairs director;
			Two subject teachers.
S5	Chongqing	No	One teaching affairs director;
			Three subject teachers.
S6	Fuzhou	Yes	One teaching affairs director;
			One grade master teachers;
			Five subject teachers.

correctness of teachers are disrespectful, especially in public. Hofstede (2010) refers it as high power distance. The social culture leads to the hierarchical relationship between teacher and students. Students tend to be compliant and accept the correct answers from teachers without question. They lack opportunities and courage to communicate fully with teachers.

FC is profoundly influenced by western education culture featuring constructivism and active learning. Knowledge obtained through collaborative activities from learning partners. Because of the unique experience, everybody has his/her own understanding of knowledge. Without the peer-assisted, collaborative, and cooperative learning, FC makes no sense (Bishop & Verleger, 2013). Teachers are just the guiders who help students to construct their knowledge and students are the center of the class in the FC. Because of different understandings of knowledge source, it would not be a huge surprise that Chinese teachers found that how to organize the effective discussion and group work were the most challenging parts of the FC.

It is hard to carry out the effective discussion in the classroom. Because of the high pressure from examination, discussion is inefficient in students' eyes. They prefer teacher-centered teaching style and are reluctant to participate in the discussion. In the discussion, students pay no attention to the views of their classmates and are used to waiting for the correct answers from the teacher. They believe that knowledge only exists in teachers or text-book. (The Chinese teacher in S6, 2014-03-23)

The idea of the teacher is the knowledge authority has been deeply imbedded in students' minds. In their eyes, teacher is the only source of right answers in the classroom (Nguyen et al., 2006), whose job is to lead students through a set of knowledge points included in the curriculum and will be tested in the examination. When the FC advocates the western education value of learning from each other or collaboration, students resist in their own way.

A further example is offered by a physical FC in S2 senior high school. During the observation, we found that the physical class began with a short discussion of the problems posed by the prerecorded video. Then teacher made the detailed introduction to the experimental principles, instruments, and

procedures. In order to show the good order in class, students were quiet and less likely to express their opinions. In the process of experiment, students just needed to follow the well-designed procedures introduced by the teacher to verify the experiment's result, instead of much trial and error.

We have a heavy teaching load and rigid plan in each class. In order to teach all the knowledge points in every lesson, I have no choice but to reduce students' interaction time. I do not have enough time for students to perform experiments and experience the process of trial and error in the class. In addition, process to seek truth is full of errors, frustrations, and failures. Why cannot we directly apply the rules that scientists have concluded? (The physics teacher in S2, 2013-12-03)

From the views expressed by the teacher, errors are equal to failures and should be avoided if possible. Teachers do not rely on students to generate innovative ideas or explore knowledge by themselves. They always emphasize that students need to memorize the correct answers and follow the arranged procedures to the right answers from teachers.

When we actually implemented the FC, we found that it was a bigger challenge for teachers than students. Students asked so many questions that we cannot answer. According to the traditional idea in China, a good teacher should know everything and has the right answers to all the questions from students. It seems disgraceful and offended if we are stumped by the questions from students. Therefore, teachers do not want to leave time for discussion, especially senior ones. (The grade master teacher in S2, 2013-12-04)

Many teachers are unwilling to try the FC, because the knowledge authority role reminds they try to avoid losing face all the time. It would not be of huge surprise that teachers enjoy high social status in China. As the saying goes, heaven, earth, the emperor, parents, and teachers are the five categories of superior role figures in China (Gao, 2008; Weber, 1968). According to the "2013 Global Teacher Status Index," China ranked number one in terms of respecting their teachers, compared with all other European and Anglo-Saxon countries. Parents always told their children to be submissive to the requirements of teachers in the school. The old saying like "a teacher for a day is a father for a lifetime" is still popular in modern society. Knowledge authority role of the teacher also results in the hierarchical difference between teachers and students in Chinese society.

4.2. Knowledge transmission

Different cultures of education have their preferred teaching and learning expectations. Successful FC necessitates unrestricted discussion, experience through interaction, computer-based individual instruction, and group learning activities (Bishop & Verleger, 2013). However, repetition, recitation, memorization, comprehension, and review are the main ways of knowledge transmission in China.

To be frankly, I do not like the FC. Rote learning does not equal to the ineffective or surface learning. Quite the opposite, it is a first step towards a development of deep understanding. Outstanding performance of Asian students in PISA shows the strength of the rote learning techniques. The prerequisite to develop the higher-order thinking skills is our students possess the solid foundation knowledge. Students can apply the mathematical formula in practice, only when they keep it in mind. (The Math teacher in S6, 2014-03-24)

At first glance, learning by rote has always been seen as a kind of ineffective and "surface" learning way. However, many interviewees in our study emphasized the pivotal role of repetition to deeper understanding. Research conducted by Dahlin and Watkins (2000) also showed that Chinese learners tended to pay high value on repetition. Since the deep impression and new meaning come from the repetition, it is rather arbitrary to judge that discussion is a better kind of learning styles than repetition (Kennedy, 2002). In any case, it seems unreasonable to give up our own cultural heritage in the rush to reform.

We have only one English lesson per day. How to make good use of class time and teach all my known to students are more important than others. Maybe discussion will be helpful to attract their interests. However, learning is a painful thing and students have to listen carefully, read loudly, and practice questions repetitively in the class time. (The English teacher in S4, 2013-11-24)

In contrast to the idea that students are active learners and they can learn from prerecord videos, discussion, teamwork, and role play in class, some Chinese teachers feel that knowledge exists in the book or in teachers' heads and they need to put knowledge into students' heads. Therefore, teaching process is largely didactic. Teachers transmit knowledge to students by word of mouth and expect students to memorize as much information as possible instead of constructing knowledge themselves. Moreover, diversified and joyful teaching methods are conflicting with the deeply held Confucian cultural assumption that learning is a hard thing. In fact, hard work is a good personal quality which is cherished in China. For students, they have been instilled the tolerance of hard work ethic from their children. Parents always tell them that learning is hard work instead of fun (Liu & Fisher, 2010; OECD, 2011). Individual effort is more important than the biologically gifted ability (Chen, 2014; Helmke & Tuyet, 1999). Consequently, it should be no surprise that they prefer textbook-governed instruction instead of using video, discussion, collaboration, and teamwork as the mediating tools for learning.

We have highly structured and predetermined pedagogic procedure in our class, such as the introduction, presentation, practice, and consolidation. It is generally considered as the most efficient way to transmit the knowledge. FC emphasizes a lot of teamwork in the classroom. However, there exists no compelling evidence that teamwork is a more effective way to teach in China. Students are reluctant to express their opinions and question other people publicly in order to be modest. The available teaching time is not enough for me to initiate their energies and creative powers. I am not sure what they will get after they have fun. (The teaching affairs director in S5, 2013-09-28)

In Chinese classroom, teacher's platform is a little higher than the students' desks. Teacher stands in front of the blackboard, while students sit in nice neat rows and take notes quietly. This kind of spatial arrangement is helpful to spread the knowledge, while limiting the communication and interaction among students. Coupled with the big-sized classes (more than 50 students) and the knowledge points that needed to be taught within one lesson in order to deal with the public examination conducted twice each semester for teachers in Chinese middle schools (OECD, 2012; Yin et al., 2014), it becomes easy to understand why discussion is an unwelcome teaching method for middle schools teachers in China.

In public eyes, one characteristic of good teaching is the well-designed process. To be specific, teacher helps students to learn and consolidate knowledge through the predetermined teaching procedures. Students highly focus on the knowledge points and review them after class. However, FC means that a quiet and orderly class will be disarranged. I preferred the teaching method of chalk and talk which makes me feel more comfortable and safe. I do not know how to adapt myself to the big change of teaching pedagogy. (The grade master teacher in S3, 2014-05-28)

The way of knowledge transmission is closely linked to the assessment system. In West, the evaluation criterions of the university entrance exam are diversified. Thus, the higher thinking ability advocated by the FC is appropriate. Our examination stressed the importance of foundational knowledge and the test scores. Consequently, the main responsibility of teachers is to help students achieve good results. We need to choose a certain form which is most appropriate for dealing with the exams. (The vice principal in S3, 2014-05-27)

From these excerpts, we can conclude that it might be oversimplistic to believe that the knowledge transmission is just a matter of explicit teaching method and can be easily changed. Instead, it is strongly related to the education system and social culture which is the essence of the reform.

4.3. The goal of education

Understanding education purpose in China is essential to apprehend the unshakable position of examination-oriented education system in the mind of Chinese teachers. Education is highly valued and regarded as the top priority in China. However, this kind of education is catered toward university examination which means family honor, high social status, and well-paid jobs to students. For most people, the primary purpose of education is to get a high academic performance in the examination instead of the appetite for knowledge (OECD, 2011). In order to change the examination culture and cultivate the creative students, the eighth round of curriculum reform has been carried out in mainland China since 1999. The primary goal of curriculum reform is to replace the exam-oriented education. In recent years, Ministry of Education of the PRC also advocates multiple pathways for students to go to colleges, in order to lighten the burden of examinations. However, it cannot deny that curriculum reform is loudly spoken but test-oriented education gets the real attention (Tan & Chua, 2014, p. 6).

Parents in our school openly indicated their hold the negative attitude to the FC. I am not sure whether it is helpful to promote the academic performance of students. Only when you excel in the exam will you have the limited opportunities to enter the college in China. As a key school, students' academic performance in the public examination is a high-stakes event and deeply influences the reputation of our school. (The vice principal of S1, 2012-11-12)

The initial enthusiasm of principal in implementing the FC quickly turns to frustration, because of the heavy pressure from the society. The important cause of the FC is to train students' higher order thinking skills (Brame, 2013). The dilemma between the higher order thinking skills that FC advocated and good academic performance required in the university entrance exam result in the uncertainty and confusion of the classroom teachers and principals.

Our passions to achieve success in examinations are larger than seeking application or meaning from knowledge to our daily life. Exam results dominate students' future, teachers' assessment, and schools' reputation. The intention to implement FC is admirable. However, precondition for the success of FC is that our society needs to change the system of talent selection first. (The grade master teacher of S1, 2012-11-12)

Although most of the interviewees acknowledged the importance of higher order thinking ability advocated in the FC, the national high-stakes examinations according to the exam performance made teachers teaching to the test.

The FC focuses on the ability of application, analysis, and synthesis. However, the college entrance examination is still a paper-and-pencil test. It gives more attentions on memorization and comprehension of the knowledge. (The English teacher in S6, 2014-03-23)

The dilemma between the goal of FC and the pressure from the examinations brought teachers into confusion in the process of reform.

In America, FC is closely related to pre-record video and online teaching platform. Firstly, the pre-record video cannot cover all the key knowledge points within my class. It is difficult to attract students' attentions by the video. Secondly, though my school can afford to build an online teaching system. We still do not want to have a try. Our teaching resource will be easy to leak out, if we put them online. It will threaten our leading position in the public examination. (The teaching affairs director of S4, 2013-11-24)

5. Conclusion

The present study focuses on the dilemmas that Chinese middle school teachers encountered in a global era. We present a case study (FC) to illustrate the dilemmas that can result when apply the western pedagogical method in China context. Theoretical and practical framework of CHAT was used to lead the data collection and deep analysis.

5.1. Comparison of the elements in FC from the tenets of CHAT

CHAT is comprised of seven elements which hold the cultural and historical dimensions. More detailed information about the elements related to the FC was presented in Table 2. Analysis from the perspective of CHAT makes me more clear about the differences of teaching culture in two different social contexts.

5.2. Contradictions within or between the activity systems of FC

Contradictions caused by structural tensions from elements within or without the activity system are the points to understand the human learning (Joo, 2013; Lord, 2009). That allows researchers and practitioners to consider the full spectrum of the FC. The contradictions also increase the understanding that why some educational practices borrowed from the west proved to be successful, but not work under the Chinese context. Also, dilemmas that teachers encountered are caused by the contradictions. Base on the research data, we will make a brief comparison about the FC in two different social cultures. Three major contradictions are identified in the FC in China.

Contradiction between the mediating instruments and the object of activity: In order to get the deep understanding of the knowledge, FC advocates that students can watch the videos in advance of class, then in the classroom more problem-based active learning will be possible. It is a good way to improve students' higher order thinking skill. While in China, the assessment system stresses on students' memory ability instead of applying ability. How to finish the knowledge points within the limited class time is the first priority for Chinese teachers. FC means that quiet and orderly class atmosphere will be disturbed and teachers' authority position is facing challenge. The more important is, for many teachers, if their classrooms are filled with discussion or one-on-one instruction, they will not have enough time to capture the knowledge points in the textbook. Therefore, compared with the chalk and talk, mediating instruments in the FC may be ineffective for the object of solid foundational knowledge.

Table 2. Comparison of the FC between America and China

Tenets of CHAT	FC in different social context	
	FC system in America	FC system in China
1. Subject	Teacher & students	Teacher & students
2. Object	<ul style="list-style-type: none"> • Deep understand of knowledge; • Students as the active learners can manage and construct their own understanding of knowledge; • Learning through interaction, collaboration, and experience. 	<ul style="list-style-type: none"> • Cover all the knowledge points in the textbook and curriculum; • Transmit the predetermined content to the students; • Learning through repetition, recitation, memory, comprehension, and review.
3. Goal	Higher forms of cognitive ability	High academic performance in the examination
4. Rule	<ul style="list-style-type: none"> • “Egalitarian” relationship; • Cooperative learner. 	<ul style="list-style-type: none"> • Hierarchical relationship; • Mentor & mentee.
5. Community	Teachers, school leaders, business institutions, universities, parents	Teachers, school leaders, business institutions, universities, parents
6. Division of Labor	<ul style="list-style-type: none"> • Teacher plays the role of guiders and assistors to support students' learning; • Students are active learners to manage their learning. 	<ul style="list-style-type: none"> • Teachers as the respectable authority transmit knowledge to students; • Students memorize as much information as possible.
7. Mediating instruments	Instructional video podcasts, network teaching management platform, collaboration with peers, one-to-one instruction, and discussion	Textbooks, exam, exercise, video,

Contradiction between the object and the goal of activity: Chinese education is predominantly dictated by exam-oriented system. As noted earlier, the primary purpose in Chinese middle school is to prepare students for college entrance examination. In other words, university entrance exam likes the baton that guide the behavior direction of classroom instruction. However, learning through interaction, collaboration, and experience cannot well serve the goal. Teachers working in the Chinese middle schools are under the high pressure from the exam. They pay no attention to whether students can apply the knowledge into their real life. In order to help students get good performance in the exam, how to cover all the key knowledge points in the text-book is more important in their classroom instruction. So, they experience the contradictions about the misfit between the object and the goal of activity. For the same reason, similar contradiction exists between the mediating instruments used in the FC and the real goal of education in China.

Contradiction between the evaluation system and the FC: It is obvious that FC is noisy, student-centered, and equal relationship. The most important criteria for evaluation of effective lesson in China are as follows: whether teachers finish the prescribed curriculum? Is the classroom climate quiet and orderly? Do the students well master all the knowledge points? One of the main tasks for the teachers in the classroom is to keep the order. The evaluation system of an effective class in China is not compatible with the rule, division of labor, and mediating instruments referred in the FC. Just as one interviewee in our research referred, she does not know how to persuade the parents or school leaders that out-of-order and student-centered classroom is better than the traditional teacher-centered classroom. The teachers' responses point to the ineluctable contradiction caused by the mismatch of the principle in the FC and the evaluation system in China.

6. Implications

Chinese educational system is relatively centralized. Administrative department of education controls schools in domains of hiring and training teachers, budget allocation, and enrollment policy. Not surprisingly, implementation of FC was initiated in a hasty manner by the administrative department of education and implemented in a top-down approach in most schools. Many interviewees who participated in the FC just received some times of in-service training. They tend to be less familiar with the philosophy of the FC and do not prepare well for the needed technological literacy. In our study, we explore the dilemmas that teachers and school leaders encountered during the FC and analyze the reasons. Based on the research data, we believe that culture matters in the process of educational borrowing. Also, educational practices are far more complicated and subtle than they are demonstrated because they connect closely with the social culture. Therefore, it seems too idealistic to emulate the success of FC in America through replicating their education systems or the teaching methods.

Culture is a major influence factor which needs to be deeply understood to facilitate educational borrowing. However, it does not conclude that FC is completely inappropriate for the Chinese middle schools. According to the four stages of educational borrowing advocated by Phillips and Ochs (2003), how to make the FC indigenized is the point to success. Interestingly, compromising is the most preferred method to deal with conflict management in China (Ma, 2007). It means that teachers are good at searching for a workable balance between two different cultures instead of facing an awkward dilemma. They will seek to reconstruct the imported educational practices to be consistent with their societies' educational values (Nguyen et al., 2009).

I do not think the FC is extremely inappropriate to our classroom. Inspired by the FC, our school district encourages teachers to put the key knowledge points into micro-videos. The micro-videos are the precious resources for students in impoverished areas. It is an effective solution to the unbalanced distribution of educational resource in China. Our students have more opportunities to share high-quality education. (The teaching affairs director in S5, 2013-09-29)

There is no single best way for the classroom teaching. Because of the profound influence of habits, classroom teaching is not an easy changeover. However, it cannot be denied that we are doing our best to make our classroom more attractive to students. FC is one of the options. Also, for senior high students, FC is a good way to improve the learning effectiveness. With the help of micro-videos, they can arrange their learning time more effectively. (The Chinese teacher in S5, 2013-10-04)

The success of the FC in Chinese middle schools largely depends on how to make it happen in a “Chinese” way. What is worth mentioning is that our study is just a preliminary study to explore the dilemmas that teachers encountered in mainland China and more related studies are needed. Firstly, we need to enlarge the sample size to promote the results more universal. More specifically, because of the geographic and resource advantages, schools located in the southeastern part get ahead in the basic education reform compared with the central and western regions of Mainland China. Teachers in those places have more chances to access western educational practices. Moreover, most of the good universities concentrated in the southeast and those universities will reserve more spots for local students (Fu, 2013). It is obvious that compared with the central and western students, their academic pressure is relatively small. Thus, our study sample may not represent the general population of Chinese middle school teachers. In other words, teachers in the southeastern part tend to be more open to the education reform. That is, dilemmas will be more prominent for teachers in the central or western regions. Therefore, future studies need to use the different samples to replicate this study. Secondly, we recognize the methodological limitations in our study. The primary purpose of our study focused on the content of the dilemmas that Chinese middle school teachers encountered during the educational borrowing and the action logic behind the dilemmas. Case study is the preferred strategy to answer the questions such as “how” or “why” (Yin, 2011). However, when we begin to study further on the relationship between demographic variables and teachers’ dilemmas, case study cannot provide the satisfactory answer. Further research work requires both the longitudinal and horizontal empirical methods to promote the deep understanding on the issue.

Finally, it is vital to note that this paper is mainly concerned with Chinese teachers’ dilemmas during the process of educational borrowing in the global era. As a representative, FC inevitably mirrors the importance of cultural considerations in the process of educational borrowing. Educational borrowing has become more popular in the procession of globalization. However, our study is just a point of departure. The hope is that more voices will be added to the topic in mainland China context.

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